Monika Śleszyńska

Integrating Plain English into writing activities in the PhD language programme

[Włączenie uproszczonego języka angielskiego do nauczania pisania w kształceniu językowym doktorantów]

Rozprawa doktorska napisana
na Wydziale Anglistyki
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Ja, niżej podpisana

Monika Śleszyńska

przedkładam rozprawę doktorską

pt. Integrating Plain English into writing activities
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na Uniwersytecie im. Adama Mickiewicza w Poznaniu
i oświadczam,
że napisałam ją samodzielnie.

Oznacza to, że przy pisaniu pracy, poza niezbędnymi konsultacjami, nie korzystałam z pomocy innych osób, a w szczególności nie zlecałam opracowania rozprawy lub jej istotnych części innym osobom, ani nie odpisywałam tej rozprawy lub jej istotnych części od innych osób.

Jednocześnie przyjmuję do wiadomości, że gdyby powyższe oświadczenie okazało się nieprawdziwe, decyzja o wydaniu mi dyplomu zostanie cofnięta.

(miejscowość, data) (czytelny podpis)

Table of contents

List of tables

List of figures

Abbreviations

AI	artificial intelligence
ASD-STE	Simplified Technical English of the AeroSpace and Defence Industries Association of Europe
AWCF	automated written corrective feedback
BE	Business English
BUT	Bialystok University of Technology
CEFR	*Common European Framework of Reference for Languages*
CL	controlled language
CR	contrastive rhetoric
EAMP	English for Academic Medical Purposes
EAP	English for Academic Purposes
EBP	English for Business Purposes
EFL	English as a Foreign Language
EGAP	English for General Academic Purposes
EGP	English for General Purposes
EGOP	English for General Occupational Purposes
ELF	English as a Lingua Franca
ELT	English Language Teaching
EMP	English for Medical Purposes
EOP	English for Occupational Purposes
ERPP	English for Research Publication Purposes
ESAP	English for Specific Academic Purposes
ESL	English as a Second Language

ESOP	English for Specific Occupational Purposes
ESP	English for Specific Purposes
EVP	English for Vocational Purposes
EST	English for Science and Technology
FLC	Foreign Language Centre
GE	General English
H	hypothesis
ICT	Information and Communication Technology
IF	impact factor
L1	native or primary language, mother tongue
L2	second, foreign, target or additional language
LoHES	Law on Higher Education and Science
LLS	language learning strategy
LW	learning-to-write
MOOC	massive online open course
MS	Microsoft
NES	native English speaker or speaking
NNES	non-native English speaker or speaking
p.c.	personal communication
PE	Plain English
R	rater
RA	research article
RQ	research question
STE	Simplified Technical English
TL	target language
USOS	University Study-Oriented System
WLC	writing-to-learn-content
WLL	writing-to-learn-language

Introduction

> But if thought corrupts language, language can also corrupt thought. A bad usage[1] can spread by tradition and imitation, even among people who should and do know better. The debased language that I have been discussing is in some ways very convenient. Phrases like *a not unjustifiable assumption*, *leaves much to be desired*, *would serve no good purpose*, *a consideration which we should do well to bear in mind* [emphasis in the original, MŚ] are a continuous temptation, a packet of aspirins always at one's elbow. Look back through this essay, and for certain you will find that I have again and again committed the very faults I am protesting against (Orwell 1963: 333f.).

English is now used by more people as an additional language than as a native language (L1)[2] (Paradowski 2008: 95). It has become an "academic lingua franca[3]" (Lillis and Curry 2010: 22; McGrath and Kuteeva 2014: 16), and its use as an international language of science (EILS), or International Scientific[4] English (ISE), as proposed by Wood (2005: 81), is now well documented by a growing number of journal articles[5] with broad international authorship and readership.

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[1] The term *usage* means "the way in which words are actually used in particular contexts, especially with regard to their meanings" (*CollinsDictionary.com*).

[2] The terms *native language*, *first language*, *mother tongue* and *L1* carry the same meaning and are used interchangeably in the dissertation.

[3] In the dissertation, the term *lingua franca* is used to indicate a contact language common between speakers with different L1s, whereas *English as a Lingua Franca* (ELF) refers to the English language that favours functional aspects rather than the formal ones in communication and may violate some Standard English norms (cf. Hülmbauer et al. 2008: 30f.). The terms are never used synonymously or interchangeably in the dissertation.

[4] The term *scientific* describes "things that relate to science or to a particular science" (CollinsDictionary.com.), and this definition is followed in the dissertation. The terms *scientific*, *academic* and *scholarly* are used interchangeably in the present work, even though in English *scientific* relates to *research English*, whereas *academic* and *scholarly* have a broader meaning (Duszak 1998: 284; Douglas Kozłowska 2011: 86f.; https://armacad.info/blog/difference-between-scientific-and-academic). As this dissertation discusses writing issues in the context of research in engineering disciplines, the term *scientific* prevails. For a more detailed explanation of the terminology, see Section 2.4.

[5] Scientific journals publish various types of articles. Most texts are one of the following types: reviews, research articles (RAs), notes, research news, progress reports, essays, short reports, communications (also called letters or correspondences), case studies and methodologies (Coghill and Garson 2006: 18f.; https://www.springer.com/gp/authors-editors/authorandreviewertutorials/writing-a-journalmanuscript/types-of-journal-articles/10285504). In the dissertation, the terms *article* or *paper* are used while referring to any

The importance of English for researchers is tremendous. English dominates research publication, and English-language international journals have become a hallmark of the contemporary academic world. It has become a necessity to publish in high-impact, peer-reviewed journals that promise high citation rates. In many countries and specialisations, tenure, promotion and career advancement are closely tied to writing and publishing in English. This is especially true when research is not culturally embedded. Therefore, the pressure on academics to publish research results internationally through the medium of English increases every year, and this trend is likely to continue.

Goldbort (2006: 1) notes that in order to disseminate knowledge globally and contribute to its development in a responsible and competent way, scholars need scientific English – "a communication tool, a culture of writing, and a plain[6] and readable manner of writing with specific compositional strategies and uses of language". As writers, scientists are expected to prioritise the objective information that words convey. Therefore, their communication skills should serve their purpose effectively. That is to say, the language of science should be accurate and appropriate. According to Hedge (2001: 147), accuracy involves grammatical, lexical and orthographical issues of the language as well as punctuation, while appropriacy (or appropriateness) refers to the language that is suitable for the context, function and intention; it also handles visual rhetoric. Although accuracy in relation to a scientific paper also means that new knowledge claims are justified and verifiable (Mack 2018: 13), it is worth pointing out that this dissertation focuses only on language-related issues of the scientific text and avoids discussing its conceptual value.

The Author[7] of this dissertation is neither a trained composition instructor nor an English for Research Publication Purposes (ERPP) teacher. She is a teacher of English who wishes her students – junior researchers and novice science writers in a variety of engineer-

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kind of journal text unless specifically stated otherwise because the same rigorous standards of acceptance, in terms of a writing style, word usage and organisation, apply to all types of presentations in the journals (Coghill and Garson 2006: 19). The term *manuscript* refers in the dissertation to any scientific text before publication.

[6] The word *plain* means "not complicated; clear; (…) not difficult; simple or easy; (…); clearly understood; (…) straightforward" (*CollinsDictionary.com*). The distinction between *plain English* and *Plain English* is described in Section 2.2.1.

[7] In the dissertation, the term *Author* always refers to the author of the present work, whereas *author* refers to any person who produces a written text. The terms *author* and *writer* are used interchangeably in the thesis, although there is a subtle difference in meaning between them (https://www.masterclass.com/articles/writer-vs-author-whats-the-difference).

ing disciplines – to improve their writing skills when they study the target language (TL)[8] as a curriculum requirement in the doctoral (henceforth also PhD) programme. She wants them to be able to participate in "the global research network of English" (Hyland 2009a). The Author undertook the challenging task of writing (in English) a doctoral dissertation for three (3) main reasons: to experience the craft of writing from the inside, to improve her (academic) writing skills and to encourage reflection on her own teaching practice, given that "[p]ersons who don't themselves write cannot sensitively, even sensibly, help others learn to write" (Emig et al. 1983: 141) and "the ability to teach writing is central to the expertise of a well-trained language teacher" (Hyland 2011b: xv). Since even "the composition teacher is not an authority, but a senior learner, still learning", the Author believed her students would benefit from "the increased competence of a teacher who is practicing the craft being taught" (Murray 1985: 224, 249). This echoes Emig et al. (1983: 144) when they say: "the only way they [teachers – MŚ] can help others learn to write is that they themselves become learners and writers". In doing so, they develop their own expertise as teachers of writing.

As a non-native speaker of English without explicit training in writing instruction and ERPP, the Author acknowledges the opinions that "[t]here is not a unique set of writing skills which universally defines all writing" (Raimes 1983b: 11), and that writing can be taught in many ways (Raimes 1983b: 11; Grabe and Kaplan 1998: 14). Therefore, a realistic assessment of her own strengths and weaknesses informed the design of the ERPP-based academic writing programme she had developed for her doctoral students. It also reflected her underlying beliefs and assumptions about teaching and learning, her experience as an English learner as well as her didactic intuition and experience as a teacher. Last but not least, students' expectations and needs, the local culture, realities, local educational settings and constraints, existing working conditions and, finally, time constraints played a significant role in making informed decisions about the course content designed for Polish junior researchers in engineering disciplines who wish to publish in English.

The Author decided to integrate **Plain English** (PE), a form of simplified linguistic expression, into the language programme of the Doctoral School at Bialystok University of Technology (BUT) because of the widely acknowledged value of plain language in scien-

[8] The Author has chosen to use *target language* and *TL* as cover terms for both *English as a Second Language* (*ESL*) and *English as a Foreign Language* (*EFL*) unless specifically stated otherwise (e.g. in quotations).

tific discourse (e.g. Barrass 1978, 2005; Alley 1996, 2018; Goldbort 2006; Yang 2006; Day and Sakaduski 2011; Greene 2013; Wallwork 2016; Gastel and Day 2017; Mack 2018). In addition, students' high motivation to improve academic writing skills was an equally important decision-making criterion. The use of Plain English contributes to increasing both the language quality and the content quality of the composed text. This is due to the fact that adopting simpler[9] English when writing, revising and editing the text involves a fuller grasp of its intended meaning, which can lead to the restructuring of the written text and, consequently, to the improvement of its linguistic and conceptual quality. Moreover, PE works well in the classroom with students from diverse academic disciplines and the language teacher who is neither a content area specialist nor an experienced researcher. The developmental readiness of the students to adopt PE's guidelines in their written texts also played a crucial role in selecting simplified English for the language programme in the Doctoral School. The final eligibility criterion was the English for Specific Purposes (ESP) course that each PhD student (and participant of the present study) had completed before enrolling in the Doctoral School. In the case of the study participants, it was a general course in Business English (BE) and English for Science and Technology (EST). The Author assumed, on the basis of many years of observations and practical experience in teaching novice scientists, that her students would find different subject matter more useful and relevant to their needs.

The need to teach and develop the writing skills of target language doctoral students is reflected in an extensive body of literature on:

- **writing in a target language** (e.g. Emig et al. 1983; Zamel 1983; Cumming 1989, 2001; Swales [1990] 2011; Silva 1992, 1993, 1997; Blecher and Braine 1995; Connor 1996; Kroll 1996, 2011; Grabe and Kaplan 1998; Silva and Matsuda 2001; Hedge 2001; Ferris 2002, 2009, 2014, 2017; Hyland 2007a, 2007b, 2009b, 2011b; Casanave 2004; Leki et al. 2008; Bekar 2011; Frodesen 2014; Hinkel 2015; Hirvela 2015; Harmer 2018);
- **scientific writing** (e.g. Barrass 1978, 2005; Halliday and Martin 1993; Braine 1995; Duszak 1995; Alley 1996, 2018; Młyniec and Ufnalska 2004; Montgomery 2005; Wood 2005; Goldbort 2006; Yang 2006; Day and Sakaduski 2011; Weiner 2012;

[9] The word *simple* is positively charged and has positive connotations (Peters 2004: 500).

Greene 2013; Gastel and Day 2017; European Association of Science Editors 2018; Mack 2018; Stępień 2020; Siuda and Wasylczyk 2021); and

- **English for Research Publication Purposes** (e.g. Flowerdew 1999, 2013a, 2013b, 2016, 2020; Casanave 2004; Murray 2007; Duszak and Lewkowicz 2008; Hyland 2009a, 2016a; Lillis and Curry 2010; McGrath 2015; Glasman-Deal 2016, 2021; Wallwork 2016; Gastel and Day 2017; Hryniuk 2019; Wallwork and Southern 2020; Warchał and Zakrajewski 2021).

Since the late 1980s, there has been a growing body of empirical research into writing in English as a target language for publication purposes (e.g. Flowerdew 1999, 2013a, 2013b, 2016, 2020; Reinstein and Houston 2004; Leki et al. 2008; Hyland 2009a, 2016a; Huang 2010; Moreno et al. 2012; Ingvarsdóttir and Arnbjörnsdóttir 2013; Cargill et al. 2017; Corcoran 2017; Hryniuk 2019; Li and Flowerdew 2020). Some of this research was conducted by language teachers, senior academics or editors of English-medium international journals, and focused on facilitating research writing for publication purposes by developing ERPP teaching initiatives. Other research projects investigated writing behaviours or problems that non-natives might have when writing for English-medium journals. However, none of the studies involved the didactic intervention aimed at developing writing skills by integrating Plain English into the language instruction of PhD students who wish to publish internationally. To the best of the Author's knowledge, no other research project in the Polish educational setting has investigated so far the necessity of practising simplified English in a PhD language classroom, nor has it explored the extent to which the integration of the PE's guidelines into the teaching of doctoral students at a technical university empowers them as scientific writers and upgrades their writing skills. The study described in Chapters 4-5 aims to fill this gap.

Considering the above, the Author's **main objective** in the research project was twofold. Firstly, she wished to justify the legitimacy of integrating Plain English into the PhD language education aimed at ERPP based on a review of literature. Given a growing interest in "*how* [emphasis in the original, MŚ] academics write rather than *what* [emphasis in the original, MŚ] they write about" (Hyland and Salager-Meyer 2008), this objective was worth pursuing. Secondly, she conducted an empirical study that sought to answer the question whether junior researchers, as academic writers, would benefit in different ways from the integration of the PE guidelines into writing-focused language development. The sec-

ond goal was pursued through a planned didactic intervention, both synchronic (embedded in a regular language course) and asynchronic (in the form of a self-paced massive online open course [MOOC] developed and co-produced by the Author).

The Author's need to become a more informed teacher of writing acted as a driving force for her research work. Her decision to undertake **teacher research** focusing on "local issues, local questions, local challenges" (Spada et al. 2017: 11) was geared towards finding out whether her teaching practice facilitated the polishing of students' writing competences and what could be improved. The research findings were expected to help the Author make "careful, considered, professional decisions" (Reid 1993: 68) in order to verify her teaching philosophy and effect (if expedient) changes in her didactic work. In addition, following Hyland's (2016b) claim that doing research professionalises teachers by "giving them new skills and knowledge to bring to their classrooms", the Author decided to conduct the research because the reflection it encouraged was essential to her own "educational renewal and professional growth" (Crookes 1993: 137). Her decision to prioritise writing in the doctoral language programme and to develop as a professional went in line with Hyland's (2003: vx) views that "[w]riting is among the most important skills that second language students need to develop" and "the ability to teach writing is central to the expertise of a well-trained language teacher".

The dissertation is divided into two (2) main parts: theoretical (Chapters 1-3) and empirical (Chapters 4-5).

Chapter 1 overviews the theory of writing. It opens with definitions of writing. It then describes writing as a language skill, compares writing and speaking, and explains the role of reading in the development of writing. Next, writing as a tool for learning to write, learning a language and learning disciplinary subject matter are focused on. Subsequent sections present potential difficulties that writing poses to writers; compare writing and writers in a native and a target language; discuss writing as a culture-specific act; and outline basic approaches to writing. Then, a brief introduction to the process of writing is provided. Also, writing as an act of communication with a variety of writing types is addressed. The final sections offer insights into the components of an effective[10] text, and the reasons for clarity[11] and readability[12] in the written discourse.

[10] The term *effective* means working well and producing the intended results. It is synonymous with the terms *efficient*, *successful*, *valuable*, *adequate* and *competent* (*CollinsDictionary.com*.). For McArthur (1992: 317) and McArthur et al. (2018: 216), *effective* writing is synonymous with *good* writing. The Author also uses the terms interchangeably.

Chapter 2 examines the use of language simplification[13] in scientific writing for publication purposes. It starts with a definition of language simplification and describes its various roles in communication, both specialist and non-specialist. Following a general introduction to Plain English, the concept of plain language is presented. Next, the main guidelines for Plain English are reviewed, and the use of plain language in legal, administrative, commercial and medical writing is analysed. Then, the concept, taxonomy and characteristics of English for Specific Purposes with reference to English for Academic Purposes (EAP) and English for Research Publication Purposes (ERPP) are focused on. The next sections describe the prevalent position of English as the international language[14] of scientific publication, the role of language accuracy (which non-native science writers should attend to when seeking publication in English-medium journals) and rhetorical conventions in scientific writing. The subsequent sections of the chapter present the definition, scope and characteristics of writing in the sciences. Finally, the special place of plain English in the transfer of specialist information is discussed.

Chapter 3 begins with a description of approaches to teaching EAP writing in a target language classroom. Further on, it examines the attitude towards writing in the target language classroom from the perspectives of teachers and students. Subsequent sections introduce and elaborate on discursive and non-discursive components of writing instruction: knowledge of the language system, genre-related issues and language learner strategies (LLSs). Finally, the characteristics of the teacher who both teaches and learns the craft of writing in order to maximise his or her didactic effectiveness are addressed.

Chapter 4 consists of two (2) parts. Part 1 begins with sections discussing teachers' professional development and autonomy that support innovativeness in target language writing classrooms[15] and the rationale for conducting (small-scale) teacher research. In Part

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[11] The term *clarity* is synonymous with the terms *precision*, *simplicity*, *lucidity* and *comprehensibility* (*CollinDictionary.com*.). The clarity of the written text means that the text is easily and quickly understood (Mack 2018: 14).

[12] The term *readability* means the quality of being easy and enjoyable to read (*CollinsDictionary.com*.).

[13] In the dissertation, the terms *simplification* and *simplicity* of the language are neutral and cannot be associated with linguistic poverty, which is defined as "the absence of some feature found in other languages and not compensated for elsewhere in the system" (Corder 1981: 151).

[14] The Author uses the term *international English* in contexts where it refers to a means of communication across national and language boundaries. The term *English as an International Language* is used interchangeably with the term *English as a Lingua Franca* in some publications, but the Author uses only the latter to avoid confusion.

[15] In the reality of the Polish educational context, writing in English is not often seen as a high priority, so full writing classes are very rare. They can be found in schools or faculties of English at universities and other tertiary-level institutions; *International Baccalaureate* programmes at secondary schools; bilingual education

2, the Author contextualises the research by providing the background to the study and the rationale for selecting Plain English as a vital component of PhD target language education. Next, she discusses the aims of the study and its conceptual framework. Later, four (4) research questions and nine (9) hypotheses are proposed, followed by a detailed description of the instructional tools used in the didactic intervention. The final sections of this chapter present the study, its participants and the data elicitation tools.

Chapter 5 starts with reporting the key results of the empirical study and reflecting on the hypotheses formulated for each of the research questions. The findings are presented, analysed and interpreted on group and individual levels. A cross-case qualitative analysis is followed by within-case qualitative analyses of three (3) individual cases. The final section contains a summary of the research findings, the limitations of the study and the implications of the study's findings for further research into the development of writing competence in PhD language programmes.

The dissertation closes with the **Conclusion**, which summarises the main contributions of the study and offers a number of practical implications for three (3) main groups of stakeholders: researchers studying the writing process, EAP/ERPP teachers and doctoral students. Additionally, content teachers and journal reviewers may find the research results useful for their own development as writers and referees. At the end of the dissertation, there is a list of references, followed by **Appendices A-H**. The dissertation would be incomplete without additional information on Plain English – its history and description of the main guidelines (with examples of authentic sentences reworded according to its recommendations). Sample modules of the MOOC are also presented, along with an evaluation report and students' opinions about the Plain English-based instruction. Last but not least, the questionnaire, interview questions, selected writing samples, the editing checklist and rating rubrics used in the empirical study are provided.

Echoing Orwell (1963: 333f.), the Author – the teacher, the learner and the writer – hopes that the reader of this dissertation, for certain, will not find that she has again and again committed the very faults she protests against in her students' written texts.

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on primary and secondary levels; and commercial language courses geared towards examinations with a writing component. In the dissertation, the Author uses the term *writing classroom* or *writing class* when she refers to a classroom in which a writing skill is prioritised or which includes writing development.

Chapter 1: The theory of writing: an overview

Introduction

Writing[16] is a crucial textual literacy skill in the 21st century (e.g. Brandt 2015), yet its significance was recognised in earlier centuries for various reasons. At present, it is no longer viewed as "the handmaid of the other skills" (Rivers 1968: 241). Rather, as an essential skill in its own right, it has "the overarching significance" (Hyland 2009b: 2) in the social and professional activities of many people, often determining their life chances, as they are judged on what they write and how they write. Nevertheless, writing continues to serve a valuable complementary role to other language skills.

Although the ability to express thoughts in a written text is an indispensable competence at various levels of education and stages of professional development, writing has always been considered by a large number of students to be the least popular and most challenging language skill to learn. As a consequence of the general neglect of writing in the classroom and the generally unfavourable attitudes of students and teachers towards it, students' writing skills are declining (Iluk 2012: 17; Lipińska 2016: 9). Numerous language users are unable to express themselves clearly and effectively in writing, no matter whether they use their mother tongue or a foreign language. It may stem from the fact that a lot of writing involves *composing*[17]: combining structural sentence units into a cohesive and co-

[16] In the dissertation, the term *writing* refers to generating isolated sentences as well as whole texts produced to strengthen the teaching of a new language on lexical, sentential or suprasentential (i.e. textual) levels. Apart from the act of constructing written texts, it also refers to the written text itself. Even though Halliday and Martin (1993: 42f.) distinguish between *writing* – a system of symbols and their functions in the language, and *written language* – a functional variety of the language that is used in composed texts, the Author uses both terms synonymously and interchangeably.

[17] The terms *compose*/*composing* and *write*/*writing* are used synonymously or interchangeably in the dissertation unless stated otherwise.

herent larger structure, which imposes more cognitive demands on the writer (Rivers 1968: 240; Scott 1996: xi; Grabe and Kaplan 1998: 4). The composing skill is gained through "conscious effort and much practice" (Grabe and Kaplan 1998: 6) as well as "willingness, patience, and determination" (Langan and Winstanley 2005: 4), so a number of people may never develop more sophisticated composing skills that are essential, for example, in academically valued writing. However, there are other reasons for writing: writing helps people think, learn, remember and communicate with others.

The chapter provides a theoretical basis for the teacher research project focusing on the development of the writing skills of PhD students by integrating Plain English into the language programme of the Doctoral School at BUT. As the project is based on a didactic intervention, the writing concepts are discussed in the context of a language classroom. It should be strongly emphasised that these concepts pertain to the English language, even though they may also apply to other languages.

Following definitions of writing, the chapter elaborates on writing as a language skill, and its relationship to speaking and reading. Next, writing as a tool for learning to write, and a tool for learning the language and the content are described. The subsequent section presents the potential difficulties writing poses to writers. Then, writing in a native and a target language is compared. As no discussion of writing can be complete without considering cultural influences on text production, one section is devoted to this topic. Later on, basic approaches to writing are outlined, and writing is addressed as a staged recursive process as well as an act of communication with a range of forms and functions that it can take and perform. Finally, brief insights are given into the components of effectively written texts, and the clarity and readability of the written discourse.

Although the overview does not encompass many essential aspects of writing and composing, a thorough description of the written discourse underpinned by theories, approaches and models is not the aim of the thesis. The Author, an in-service teacher, has chosen topics that relate to her professional interests and didactic activities in a local teaching-learning situation; underlie her philosophy of teaching; offer implications for her didactic actions; and finally, have the potential to inspire her teaching practice and further research.

1.1. Definitions of writing

In a large body of literature about L1 and TL writing, a plethora of definitions of the term *writing* can be found (for examples, see Table 1 at the end of this section). Some of these definitions are explored in some detail in the present section, and some are referred to in other sections of the dissertation.

According to a definition provided by Rivers (1968: 242f.), ***writing*** refers to different activities that make distinct demands upon the writer. She calls these activities *notation*, *writing practice* and *composition*. Writing viewed as notation is any conventional system of graphic symbols (e.g. letters, marks or signs) that represent the utterances of a language. From this perspective, writing is "the act of making up correct sentences and transmitting them through the visual medium as marks on paper" (Widdowson [1978] 2015a: 62). Writing practice can be used widely in any language classroom to consolidate lexical and grammatical knowledge, so it involves, for example, grammatical and translation exercises. Understood in this way, writing can be regarded as "an extension of grammar" (Hyland 2011b: 3) and means being able to produce well-formed sentences as well as manipulate or imitate model texts provided by a teacher. Composition is the most highly developed form of writing. It refers to expressing ideas in "a polished literary form" (Rivers 1968: 243), and requires more attention to linguistic (e.g. vocabulary, sentence structure) and extra-linguistic (e.g. text organisation, layout) aspects during text production.

Other definitions of writing, which stress different functions of the written discourse, can also be found. For Lindemann (2001: 10), writing is "a process of communication which uses a conventional graphic system to convey a message to a reader". Viewed in isolation, each part of this definition adds a vital element to the picture of the writing process. Writing requires a system of visual symbols (a code), a writer (an addresser), a reader (an addressee), subject matter (a message), and a channel that brings the writer and the reader together (Lindemann 2001: 18). In the classroom context, the addresser is a student writer; the addressee is usually a teacher and/or other students; the message refers to what is said about the subject or topic; and finally, the contact between the writer and the reader is achieved using the code (i.e. translating thoughts into the graphic system). Dakowska (2005: 249) also describes writing as a means of communication. In her view, it consists of the thought component which is implemented through content (i.e. facts and ideas); the composing component which is implemented while planning the text, organising ideas and

adjusting them to the writer's intentions and goals; and the coding component which handles transforming content information into the language form. Similarly, the definition of writing as "a social activity", put forward by Hyland (2007b: 152), points out its communicative value for certain purposes. A more detailed insight into writing as a communicative and purposeful activity is provided in Section 1.9.

Clearly, writing can be approached from the point of view of the writer (who uses certain processes to create a text), the reader (who plays an important role in the writer's engagement in the text's creation) and the product (which, through its organisation and/or discourse structure, conveys the intended message). Section 1.7 describes writer-oriented, reader-oriented and text-oriented approaches to writing in more detail.

Beyond doubt, writing that is most valued academically is **composing** – an act that results from thinking (Murray 1985: 3, 1993: 337; Zinsser 1988: 53; White 1993: 7; White and Arndt 1997: 3), stimulates thinking and helps clarify it (DiYanni 1985: 2). Gage (1986: 24) puts it in similar words: "[t]he road to a clearer understanding of one's own thoughts is travelled on paper". Writing as composing involves expressing ideas that convey meanings from one person to another (Gowers 1973: 1; Raimes 1983a: 261; Byrne 1996: 1). Zamel (1982: 197) defines it as the process of "exploring one's thoughts and learning from the act of writing itself what these thoughts are", which makes writing "an act of discovery" (Crystal 2009: 222). Finally, Hedge (2001: 19) sees composing as a set of processes that writers engage in before and during the act of writing.

In a large body of literature on written discourse, some authors use the terms *writing* and *composing* in the same meaning (e.g. Zamel 1982), while others (e.g. Widdowson [1978] 2015a) claim the notions belong to different domains. In other words, *writing* is connected with linguistic skills or the way in which the language system is manifested, whereas *composing* relates to the mode in which the system is realised as a communicative ability. A piece of writing that implicates composing contains "surface features which connect the discourse and an underlying logic of organization which is more than simply the sum of meanings of the individual sentences" (Grabe and Kaplan 1998: 4). Composing, especially in its mature forms like, for example, essays or research papers, is not cognitively simple. It requires several stages, such as planning, generating ideas, revising and editing, which imposes cognitive load on the writer and makes the writing task challenging. Many instances of writing that occur, for example, in the language classroom do not necessarily contribute to the development of students' composing competence. They stress other

skills rather than "the creative act of communicating meaning" (Raimes 1983a: 262). This is what happens outside the classroom too: there are modes of writing that do not involve composing (e.g. shopping lists) and those that do (e.g. letters or e-mails).

Summing up the above discussion, it can be said that no matter which definition is referred to, writing is definitely a complex, highly individualised psychological process that consists of steps engaging language, stylistic and rhetorical choices that depend on the cognitive development of writers.

Table 1. Definitions of writing: an overview.

Source	**Writing is:**
Rivers (1968: 241-244)	• "the act of putting down in conventional graphic form something which can be spoken" • "the expression of ideas in a consecutive way" • "the handmaid of other skills" • "a service activity"
Gowers (1973: 1)	• "an instrument of conveying ideas from one mind to another"
Widdowson ([1978] 2015a: 62)	• "the act of making up correct sentences and transmitting them through the visual medium as marks on paper"
Zamel (1982: 195, 197)	• "a process through which meaning is created" • "the process of exploring one's thoughts and learning from the act of writing itself what these thoughts are"
Raimes (1983a: 262)	• "the creative act of communicating meaning"
Zamel (1983: 165)	• "a non-linear, exploratory, and generative process whereby writers discover and reformulate their ideas as they attempt to approximate meaning"
Skibniewski (1984: 185, 188)	• "a highly individual, complex psychological process consisting of recursive stages which engage the linguistic, stylistic and rhetorical choices of different writers differently, depending on their cognitive development" • "an act of purpose-directed bridging of the information gap between the writer and the reader"
Murray (1985: 56)	• "indeed rewriting"
Zinsser (1988: vii)	• "a form of thinking"
Murray (1993: 337)	• "one of the most disciplined ways of making meaning and one of the most effective methods we can use to monitor our own thinking" • "an act of thought"
White (1993: 7)	• "essentially a thinking process"
Zemelman and Daniels (1993: 346)	• "a process with a series of steps or stages an author goes through to develop a piece of writing"
Byrne (1996: 1)	• "the encoding of a message of some kind"
White and Arndt (1997: 3)	• "a thinking process in its own right"

Nunan (1999: 273)	• "a complex, cognitive process that requires sustained intellectual effort over a considerable period of time"
Hedge (2001: 19)	• "a complex process with a number of operations going on simultaneously"
Lindemann (2001: 10)	• "a process of communication which uses a conventional graphic system to convey a message to a reader"
Atkinson (2003: 5)	• "a socially situated activity"
Montgomery (2005: 2)	• "a collection of skills"
Weigle (2005: 142)	• "fundamentally an act of communication and thus an inherently social act"
Zinsser (2006: x)	• "talking to someone else on paper"
Hyland (2007a: 20)	• a sociocognitive activity that involves skills in planning and drafting, as well as knowledge of language, contexts, and audiences"
Hyland (2007b: 152)	• "a social activity"
Crystal (2009: 222)	• "an exploration in the use of the graphic potential of a language – a creative process, an act of discovery"
Hyland (2011b: 27)	• "a purposeful and communicative activity that responds to other people and other texts"
Hyland (2013: 97)	• "the crucial process by which students make sense not only of the subject knowledge they encounter through their studies, but also how they can make it mean something for themselves"
Weigle (2014: 235)	• "a complex activity that involves both language ability and composing ability"
Pawlak and Mystkowska-Wiertelak (2015: 110)	• "both the text as a product, the act of composing as a process and the social influences shaping this process"
Richards (2015: 508)	• "a complex form of communication"
Hirvela et al. (2018)	• "a site for studying and promoting L2 development"
Mack (2018: 16)	• "mostly the act of rewriting"

1.2. Writing as a language skill

Language development is a process in which all four (4) skills – listening, reading, speaking and writing – are practised. When they are integrated, the learner's language competence and performance are strengthened, which enables him or her to communicate effectively both orally and in writing. Not all skills, or "languaging processes" (Emig et al. 1983: 124), are considered equal. Speaking and listening (i.e. understanding speech) – the

so-called first-order processes – are acquired naturally without any systematic instruction, whereas reading and writing – the so-called second-order processes – have to be learned (at least initially) by means of formal and systematic instruction (Emig et al. 1983: 124; Emig 1988: 85f.). The skill of writing includes control over various skills related to language, discourse and sociolinguistics. These skills translate into:

- spelling correctly;
- ensuring grammatical accuracy;
- using a range of lexical items and sentence structures;
- organising and developing ideas clearly and convincingly in well-punctuated sentences;
- linking ideas across sentences to create a cohesive text;
- observing cultural constraints and layout conventions; and
- being aware of readers (Brookes and Grundy 1991: 53; Grabe and Kaplan 1998: 220-222; Hedge 2001: 8).

Considering the above, writing or "producing a coherent, fluent, extended piece (…) is probably the most difficult thing (…) to do in language" (Nunan 1999: 271). Therefore, it is not surprising that competent writing is the last language skill to be learned both by native and non-native speakers of the language (Hamp-Lyons and Heasley 2013: 2). What is more, many highly articulate language users express themselves inadequately in writing in their native language, let alone in a TL. This fact can be confirmed by language teachers, content teachers and supervisors of diploma theses (personal communication [henceforth p.c.]).

As productive skills, writing (a manifestation of the graphological system of the language) and speaking (a manifestation of the phonological system) are often compared. Even if the written and spoken discourses are based on the same language system, these forms "exploit different features of the system, and gain their power in different ways" (Halliday and Martin 1993: 100). A deeper insight into the differences and similarities between writing and speaking is provided in Section 1.2.1. Writing is often juxtaposed with reading. In fact, both skills complement each other, and, as Kroll (2011: 193) posits, "it is not completely possible nor is it appropriate to separate reading from writing". Section 1.2.2 looks into the role of reading in the development of writing in more detail.

1.2.1. Writing vs speaking

Even though the spoken language is "no less structured and highly organised than the written" (Halliday and Martin 1993: 79), and both spoken and written texts are "highly complex multidimensional structures" (Grabe and Kaplan 1998: 18), in the past, there were two (2) conflicting approaches to the importance of speech and writing in communication. One approach viewed writing as primary (i.e. superior) and speech as the secondary medium of communication, for writing was claimed to be more culturally significant, permanent and lastingly valuable than speech. It was perceived as a faithful representation of the correct forms of language. In the other approach, the primacy of speech was strongly emphasised because speech was considered prior to writing both historically and in terms of a child's acquisition of the mother tongue (McArthur 1992: 1036f.; Crystal 2009: 180; Matsuda 2011: 16; McArthur et al. 2018: 592, 693f.). This view was strengthened by the audiolingual approach that dominated teaching instruction in the 1960s and 1970s. Its followers believed that writing was supposed to reinforce oral patterns of the language, so it was supposed to serve a subservient role in the discourse (Raimes 1991: 408; Hedgcock 2005: 604). At present, writing is not defined as an orthographic representation of the spoken language, nor does the transcribed speech provide a model of what the written language should look like (Emig 1988: 86; Halliday and Martin 1993: 41; Matsuda 2011: 16; Matsuda and Silva 2020: 279). In most communities, neither form of the language takes precedence over the other. The written discourse is no longer viewed as a secondary (i.e. inferior) means of communication either (Brookes and Grundy 1991: 16; Crystal 2009: 180). Rather, it is perceived as an indispensable component of textual literacy with "a life of its own" (Kaplan [1986] 2001: 17), and, together with speaking and singing, it is a manifestation of language users' knowledge and communicative competence (Canale and Swain 1980; Bachman 1990).

Despite demonstrating equal importance as a means of communication, Halliday and Martin (1993: 41) note that in literate societies writing is more valued than speech. As a result, most language users prefer to speak in the same way that they write, instead of writing as they speak. They realise, however, that the clarity and accuracy ascribed to the written language can make their speech too book-like and less natural. It contrasts with the opinion once voiced by Flesch (1962: 113): "write as you'd talk to your reader". Decades later, a similar view was expressed by, for example, Bailey (1996: 10), who supported the

use of plain English (discussed at length in Chapter 2) in business writing and put forward the following recommendation: "write the way you talk". Currently, Mack (2018: 14) offers a comparable piece of advice: "do not write with words you would never say". A deeper insight into selected language-based concepts promoted in writing according to the guidelines of Plain English (which "reads as if it were spoken" [Goldbort 2006: 9]) is given in Appendix B, p. 369. There are still examples of speech that resemble written prose (e.g. BBC news broadcasts) and examples of written texts that resemble oral discourse (e.g. informal notes or short text messages). Many text types[18] are very informal and borrow language forms from speaking (e.g. text messages, Internet chats, informal emails).

Speaking and writing play different roles in a literate society. Each system fulfils particular communicative needs and serves different sociolinguistic purposes. Therefore, for example, grant/fellowship or patent applications are always in written form, unlike conference presentations, which are always oral. Similarly, job interviews, poster presentations or diploma examinations have their favourite (i.e. spoken) mode. Legal statutes have never intended to be spoken. Likewise, tables, graphs and formulas take only a written form. Sermons straddle oral and written forms; they are written and delivered orally. Messages are not only written; they can be spoken, recorded and sent to the receiver in virtual environments. Professional (e.g. medical, legal) and academic registers are mostly written, and they often retain the written-mode character, even if they are spoken (Brookes and Grundy 1991: 16; Halliday and Martin 1993: 100; Grabe and Kaplan 1998: 180; Crystal 2009: 181). There are communities whose spoken and written forms of communication have moved very far apart to form completely different languages. The linguistic diglossia or triglossia (i.e. using two [2] or three [3] varieties of the language by a single language community) is still present in, for example, Greece (Katharevousa vs Demotic Greek), Arabic countries (Modern Standard Arabic vs local varieties of Arabic) and Northern India (Halliday and Martin 1993: 41f.). Also, it was possible for a spoken language to develop from a language that had been originally limited to writing (e.g. Hebrew) (Graddol et al. 1994: 193).

Regardless of having equal importance as means of communication, the skills differ in many respects. The remainder of the section discusses the differences and similarities between these forms of discourse. For the summary of this discussion, see Table 2 on p. 22 and Table 3 on p. 23.

[18] In the dissertation, the terms *text type* and *genre* are used synonymously and interchangeably.

As regards the **differences**, speech is universal: people, in general, acquire their native languages in the first years of life without formal instruction, but they need to be taught to write them. Writing is not a natural ability that accompanies maturation, nor is it acquired by exposure (Grabe and Kaplan 1998: 6; Tribble 2009: 11). Besides instruction, writing requires practice and experience because it is "neither universally distributed across the species nor even universally distributed in societies that possess it" (Grabe and Kaplan 1998: 180). In fact, not everyone learns to write, and many adult native speakers of a language find writing difficult or never learn to write with confidence (Raimes 1983b: 4; Grabe and Kaplan 1998: 5f.; Tribble 2009: 11). This literacy problem also results from the fact that a written text should conform to "correct linguistic etiquette" (Widdowson 1983: 42), which often raises the difficulty in composing it, especially for non-native users of the language. Therefore, many language users do not always master both forms of discourse equally well. Successful speakers may be less proficient writers, and effective writers often feel insecure and hesitant while communicating a message orally, so these competences should not be considered "mirror images" (Scott 1996: 13).

Moreover, the written language, unlike spoken, has no dialect variations; it uses standard forms of vocabulary, syntax and grammar (Widdowson 2015b: 52-55). Next, since writing results in a visible graphic product, the written text is often a source of knowledge and learning in most communities. Speaking has no visual representation, and its role in knowledge transfer (in literate communities) is secondary. Additionally, the spoken language is said to be more concrete and context-dependent. It requires an interlocutor and shared references. When addressing the audience, the speaker can adjust, clarify or retract the message if some ambiguity arises or if an interlocutor signals problems with understanding. S/he can use, for example, pitch, rhythm, pauses or intonation as well as body language (gestures and facial expressions) to express ideas exactly and cogently (Hedge 2001: 4). In contrast, the written language does not depend on the context. It is more abstract and permits communication with an unknown or absent reader. There are no face-to-face interactions or non-verbal behaviours that facilitate perception of the delivered message. The writer receives no immediate response to the text; it can be either delayed or non-existent. Authors rely on words to convey exact meanings, and writing contains many signals – spelling, hyphenation and punctuation – that can resolve several lexical and syntactic ambiguities (Rivers and Temperley 1978: 7; Emig et al. 1983: 125; Raimes 1983b: 4f.). Consequently, the need to convey accurate and precise information is fundamental to the

written discourse, for there is no possibility to modify or change the wording in the text already shared with the readers. That is why it "has to be tidy, correct, well formed. It must keep up appearances", as Widdowson (1983: 42) once put it. What may eliminate the difficulties of the reader in understanding the text is the linearity of writing, as it helps convey information in a more orderly manner than in spoken discourse. Additionally, writing enables the author to analyse, shape, evaluate and edit thoughts before they are delivered to readers. The writers can go back and reword their sentences until they are satisfied with the way they express meaning. The speaker, especially in a spontaneous speech, does not have the same opportunities (Rivers and Temperley 1978: 7; Reid 1993: 67; Byrne 1996: 3; Johnson 2016: 36-38). Nevertheless, listeners seem to tolerate, on average, breakdowns in vocabulary, sentence structure or pronunciation unless communication is disrupted.

In terms of grammar, the written language differs from the spoken one in a number of ways, even if, according to Crystal (2002: 25), over 95% of grammatical constructions in English may appear in spoken and written languages, for both means of communication draw on the same lexical and syntactic stock. However, speech is said to carry richness and subtlety of meaning, which writing is devoid of (Chase 1954: 94). This is what Emig (1988: 87) posits: "[w]riting is stark, barren, even naked as a medium; talking is rich, luxuriant, inherently redundant". On the other hand, "people talk plainly in conversation" (Flesch 1946: 24) when it is spontaneous; they "compress and condense" (Widdowson 1983: 42) to remove irrelevant words. At the same time, spoken texts "tend to be untidy, to exhibit syntactic irregularities, incomplete and overlapping expressions, false starts and so on" (Widdowson 1983: 42). They lack the intricate structure that is often found in writing; they contain more rephrasing, duplications and repetitions than the written medium, which is generally less redundant. While writing uses a wide range of vocabulary whose meaning is precise, in speaking, the vocabulary of everyday speech can be informal and less versatile. Also, there may be slang, taboo and empty nonsense words used in everyday speech, but such lexical items are not found in writing[19] (Crystal 2002: 92). The written language displays a much higher ratio of content words to function words in total running words than the spoken discourse, regardless of the subject matter, which makes writing lexically dense (Halliday and Martin 1993: 61; Nunan 1993: 12). The written language favours nominalisa-

[19] It needs emphasising that at present a lot of writing takes place in virtual environments where, in some contexts (e.g. discussion fora, YouTube comments, informal emails), written discourse is more conversational and resembles speech.

tion; it relies on nouns and noun groups to carry meanings, whereas speech relies heavily on verbs. In addition, sentences in the written language are also more densely packed with information, which can pose problems for readers who are non-native speakers or outsiders in the field (Nunan 1993: 14, 1999: 279). Finally, grammatical correctness in the written texts is often higher than in the spoken texts, as the writers need to make their language "sufficiently clear and precise" (Crystal 2002: 92) to ensure valid interpretation. For more information about clarity in writing, see Section 1.9.3.

Table 2. Differences between writing and speaking.

Writing:	**Speaking:**
• is manifested by the graphological system of the language	• is manifested by the phonological system of the language
• is not present in all languages	• is present in all languages
• is learned by formal and systematic instruction	• is acquired naturally by exposure
• uses standard forms of vocabulary, syntax and grammar	• has dialect variations
• is not available to everybody	• is available to everybody
• is permanent	• is transient
• is represented visually	• is not represented visually
• is more important in knowledge transfer	• is less important in knowledge transfer
• is not context-dependent	• is context-dependent
• is directed towards an interlocutor who is usually absent. so the feedback is delayed or non-existent	• is directed towards an interlocutor who is usually present, so the feedback is immediate
• involves no paralinguistic or extra-linguistic features that make the delivered message easy to understand	• involves paralinguistic and extra-linguistic features that make the delivered message easy to understand
• is more linear, without false starts, overlapping expressions and repetitions	• is less linear, with false starts, pauses and filler words
• employs a wider range of vocabulary	• employs a narrower range of vocabulary
• favours nouns	• favours verbs
• is denser (uses more content words than function words)	• is less dense (uses more function words than content words)
• has fewer repetitions and duplications	• is more redundant
• is more coherent and has complete sentences	• may be ungrammatical and fragmentary

Despite distinct variations between the systems, some **similarities** can be observed too (see Table 3). According to Widdowson ([1978] 2015a: 57-60), speaking and writing are parallel activities. On the level of usage (or language competence), they are both productive manifestations of the grammatical system of the language. On the level of use (or language performance), they are perceived as receptive activities; they both depend on the understanding of what proceeds with the actual speaking and writing, and on how what has been said or written will be understood by the listener or reader. Similarly, Dakowska (2005: 249) posits that both systems involve "hierarchical decisions in content, planning and lexical insertion with syntactic adjustments" that are necessary to produce linear discourse.

Table 3. Similarities between writing and speaking.

Writing and speaking are:
• productive/active skills
• highly complex and multidimensional skills
• valuable means of communication
• almost always directed towards an audience
• manifestations of the grammatical system of the language
• receptive activities

As regards the teaching of writing, learners who need English mainly for writing purposes should discuss grammatical features of the written language (e.g. subordination, sentence connectors, passive voice). Those who need to be able to speak English will appreciate the spoken grammar more (e.g. language functions), so in the classroom, the choice of forms to teach depends on the preferred discourse and learners' needs (Thornbury 2008: 8). Undeniably, "writing is not simply speaking in another modality" (Weigle 2014: 224), but a skill that requires different language structures to serve particular functions. Therefore, a writing-oriented classroom may be the right place to enhance composing skills for those who wish to pursue their academic or professional careers through writing.

1.2.2. The role of reading in the development of writing

Although reading and writing are graphically recorded processes, the former used to be perceived as passive and receptive, whereas the latter was perceived as active and productive. Currently, researchers recognise reading as active in nature. Both reading and writing are viewed as equal processes in the construction of meaning and as acts of composing (Hirvela 2015: 29f., 38). They are complex and interactive skills that depend on the background knowledge of learners, their individual past experiences and cultural factors. Also, many aspects related to the learner in a social context play a role in TL reading and writing (e.g. sex/gender, age, personality, religion, class) (Oxford 2017: 272f.). The skills complement each other: while reading involves decoding and interpreting the message the writer conveys to his or her readers, writing covers planning and producing language so that it can be decoded by the intended audience (Byrne 1996: 1; Crystal 2009: 215; Oxford 2017: 282). Neither skill is acquired; they both have to be learned (at least initially) by means of formal instruction. This instruction may be partially successful, for some language users have an inherent difficulty in reading (e.g. learners with dyslexia), whereas others have a permanent handicap in writing (e.g. learners with disorthography or dysgraphia)[20] (Crystal 2009: 274f.). Last but not least, reading is no longer viewed as "a precursor to writing development" (Hirvela 2015: 29). Rather, both skills develop in a parallel way, and "[e]arly writing is an avenue for reading development" (Hirvela 2015: 29).

The perception of the role of reading in the teaching of writing has changed throughout the ages. In the past, imitating great authors was a frequent teaching technique. Learners were guided by books of models designed to facilitate writing skills (Kelly 1976: 164). Until the 1950s, in order to learn how to define, classify, compare and contrast ideas, students followed a pattern given in a model text (Kroll 1991: 245f.; Grabe and Kaplan 1998: 84f.). Exposure to texts through reading contributed to understanding and acquiring features that constituted writing (e.g. cohesive devices, writing norms) and particular text types (Hirvela 2015: 2). The role of reading in an L1 and, subsequently, TL writing class-

[20] Dyslexia is a form of learning difference often linked to particular reading difficulties. It manifests itself with extreme difficulties in acquiring basic reading subskills, such as word identification and phonological (letter-sound) decoding (Vellutino et al. 2004: 2). Disothography and dysgraphia are language disorders that affect writing. Students with disorthography are unable to write words that are orthographically and grammatically adequate; learners with dysgraphia demonstrate impaired motor skills that cause problems with legibility, sizing and spacing of letters (Crystal 2009: 274f.).

room started to change in the 1970s, when the so-called process approach (referred to in Sections 1.8 and 3.1) in the writing instruction was introduced. What became dominant in the classroom was the practice of writing, and texts that had to be read, discussed and written about were no longer employed in the instruction. Later, this approach was revised, and the importance of reading as a prerequisite in the process of learning how to write gained wide recognition both in L1 and TL theory and practice (e.g. Kroll 1991: 253f.; Ferris 2017: 330). At present, both skills are considered interrelated, and learners are encouraged to read and write in order to improve their language development (Grabe and Zhang 2016: 341; Oxford 2017: 273).

The studies on reading-writing connections in the first language and a target language have examined the role of one of the skills in supporting the development of the other. In Murray's (1985: 243) words, "[y]ou can read without writing, but you cannot write (…) without reading". Hirvela (2015: 1), more recently, partially opposes this view when he asserts that "the student's ability to write is heavily dependent on and influenced by their ability to read, and vice versa". He agrees that reading enables writers to become familiar with the way native authors express themselves in writing in terms of vocabulary choice, sentence structures, cohesive devices, rhetorical conventions, organisation and content development. Consequently, this leads to an improvement in the authors' own writing. It is valuable, especially in the case of TL learners, who, through reading, can build "a knowledge base of the rhetorical and linguistic properties and operations" (Hirvela 2015: 22) that cannot be built otherwise due to limited (or non-existent) meaningful exposure to TL input. However, if students need to write a text and refer to additional sources to, for example, support their arguments, they analyse the source very deeply to understand its meaning so that they can summarise or paraphrase it in an adequate way in their own compositions. This, in turn, leads to more focused reading and results in a better understanding of the reading material (Hirvela 2015: 7). Undeniably, reading and understanding what has been read are prerequisites to writing well, as they can help shape and revise written output. Kroll (1993: 75) expresses the following view: "[t]eaching writing without teaching reading is not teaching writing at all". She believes the goal of the writing class should be to aid student writers to "become informed and independent readers of their own texts with the ability to create, revise, and reshape papers to meet the needs of whatever writing tasks they are assigned" (Kroll 2001: 223). That is why these skills should be developed "in close collaboration" (Byrne 1996: 9). Nevertheless, regardless of reading-writing connections,

each of the skills has its own unique characteristics, and there may be instances in the classroom time where students focus on one of the skills. The role of writing in the development of reading has not been further discussed in the dissertation, even though it is acknowledged that through writing, learners gain a fuller grasp of what they read.

In the remaining parts of this section, the Author focuses on the prominent role of reading in writing development. She elaborates on the following issues:

- Reading helps students recognise different generic forms with their characteristics, which makes organising their own texts easier.
- Reading gives students an insight into TL writing conventions, which enables them to compose texts that meet the expectations of TL readers.
- Reading helps students expand vocabulary and sentence structures as well as notice form-function relationships, which leads to choosing adequate constructions, and composing more cohesive and coherent written products.
- Reading provides gains in students' writing competence and performance, which assists in their development into better writers.

Firstly, reading is a common source of input for writing activities in academic settings, and reading materials provide models of what English texts in different genres look like. Readers get acquainted with how the written material is organised (Brookes and Grundy 1991: 31). This knowledge can be later utilised in the readers' own writing. By analysing the models, student writers **develop genre awareness**, which enables them to assimilate the conventions of particular genres and, consequently, produce a variety of text types. In Grabe and Zhang's (2016: 341) words, "[u]nderstanding the organizational structure in reading texts will not only improve students' reading comprehension but also writing production". Genre awareness can assist in learning, for example, how to summarise, paraphrase, interpret and synthesise ideas (Kroll 1991: 254, 2001: 225). Such skills are required for many writing assignments in the classroom and other learning spaces, no matter the content area.

Secondly, reading TL texts informs students of writing norms that they are expected to adopt while composing in a target language. Hyland (2007b: 149) describes it in the following way: "[w]riting is a practice based on expectations: the reader's chances of interpreting the writer's purpose are increased if the writer takes the trouble to anticipate what

the reader might be expecting based on previous texts they have read of the same kind". Therefore, anticipating readers' needs and meeting their expectations in order to produce understandable and approachable texts is a vital component of learning how to write (Kroll 1991: 253f., 2001: 225; Zemelman and Daniels 1993: 348). However, if two (2) writing cultures are very different, copying the writing style of one culture may lead to a written production that fails to **match the target audience expectations** of the other culture. For example, in French, Spanish, Italian and Japanese, a writing style is reader-responsible, i.e. readers draw their own conclusions based on the information given, whereas in English, it is the writers' responsibility to make their texts understandable to the reader (Brookes and Grundy 1991: 32; Swales and Feak 2003: 16; McKinley 2013: 4). Writing in these languages is also inductive, which means that the main idea of the paragraph appears at the end. It contrasts with a deductive style, preferred by native English authors, in which a topic sentence starts the paragraph and is supported by evidence that follows it (McKinley 2013: 4). If the rhetorical style of L1 is embellished (like in Portuguese and Arabic), the same tendency is likely to prevail in TL writing, even if the targeted language is less ornate and prefers simple direct prose (Brookes and Grundy 1991: 33; Bennett 2013: 175). Nevertheless, anticipating readers' needs and meeting their expectations in order to produce understandable and approachable texts is a vital component of learning how to write (Kroll 1991: 253f., 2001: 225; Zemelman and Daniels 1993: 348). Sections 1.6 and 2.3.2.1 provide more insights into culture-specific differences between texts written in a native and a target language that result from differences in writing conventions typical of a given culture.

Thirdly, reading helps **increase vocabulary** and **enrich a range of syntactic** and **semantic structures** that a writer can use. As Raimes (1983b: 50) once stated, "[t]he more students read, the more they become familiar with the vocabulary, idiom, sentence patterns, organizational flow". In other words, by reading, they are provided with a valuable source of linguistic, stylistic and rhetorical input for their own writing (e.g. informal and formal vocabulary, transitional words and phrases, and the location of such staples of writing in English as topic sentences). This is why regular readers are often writers who can produce more syntactically mature texts (Reid 1993: 64; Johnson 2016: 37). According to research described by Krashen (1984: 13), adding reading to classroom activities improves writing more than grammar study because learning grammar and usage are useful to edit the text, not to create it. Therefore, in order to learn to write effectively in English, it is recommend-

ed to read written texts instead of solely learning grammatical and rhetorical rules for writing in English (Leki 1992: 17).

Reading also helps notice markers of coherence and cohesion to understand how ideas are organised and developed, which, consequently, makes student writers realise that what they write becomes another person's reading. Krashen (1984: 20) posits that "[i]t is reading that gives the writer the 'feel' for the look and texture of reader-based prose". Also, by reflecting on other writers' prose, writers can see themselves as "active meaning-makers" (Weigle 2014: 226) in the process of composing their own texts, which subsequently may lead to conceptually better-developed compositions.

Lastly, because "it is highly unlikely that anyone who is a non-proficient reader can develop into a highly proficient writer" (Kroll 1991: 254), including a reading component in a writing classroom can positively influence the **gain in writing competence and performance**. Back in the 1980s, Krashen (1984: 4, 25), opined that the best way to learn to write is to get comprehensible input by reading materials of personal interest at a level of difficulty roughly tuned to one's ability to understand them. He noted that "[w]e gain competence in writing the same way we gain competence in oral language; by understanding messages coded in written language, by reading for meaning. In this way, we gain a subconscious 'feel' for written language" (Krashen 1984: 28). Two decades later, Montgomery (2005: 7) claimed that writers who read in their chosen fields have "a critical eye and an ear for quality", so they are able to imitate adequate forms and language in their own texts. He believes that good prose in the writer's field is his or her "best teacher" (Montgomery 2005: 166) of writing. More recently, Warchał (2019: 81) voices a similar view when she addresses academic contexts. In her opinion, there is "an inherent relationship between writing and reading for academic purposes", and being unaware of this relationship impairs the development of academic writing skills. If students read like writers, i.e. they carefully analyse features of the texts in their disciplines, such as rhetorical organisation and content development, the chance of improving their own composing skills is much higher. Also, if they are supposed to summarise, paraphrase, synthesise or respond to the text – which is a common practice while using additional sources in academic writing – they need to engage in the reading process more skilfully. Developing reading ability and, thus, writing ability should be supported by classroom instruction that focuses on typical features of a cohesive and coherent text, and the way it is produced (Hinkel 2015: 73). It bears emphasising, though, that "an automatic transfer of knowledge of writing gained from reading to the act

of writing" (Hirvela 2015: 137) cannot be taken for granted, as several aspects of writing may be challenging for some TL students. Therefore, explicit instruction on carefully selected rhetorical and linguistic devices supported by the deployment of metacognitive strategies can positively affect TL writing development in a reading-for-writing context. If student writers become "informed and independent readers of their own texts with the ability to create, revise, and reshape papers to meet the needs of the task" (Kroll 1991: 252), a desirable goal of the writing class – the upgrading of their writing skills – is likely to be reached.

Although there are studies supporting the hypothesis that reading has a stronger influence on the improvement of writing than practice in writing, it is believed that adequate exposure to the written language is not sufficient to become a skilled writer. As some research findings indicate, in order to write more effectively, writers also need adequate practice (Krashen 1984: 7f., 27; Byrne 1996: 14; Ferris 2002: 46). Some researchers confirmed skilled writers do more writing both in class and outside of class, whereas other scholars did not relate writing improvement to the amount of writing practice. They claimed an increase in writing frequency does not result in significantly increased writing proficiency. However, writing practice, per se, helps writers discover efficient steps in the composing process (e.g. the necessity of planning, revising or editing). This discovery may help learners perceive writing as a learnable skill available to anyone, not a talent that is given to the chosen few.

Beyond doubt, reading to write contributes to the rise in writing competence and performance, and because of that, this dimension of reading-writing connections should be put at the core of a writing curriculum. As the skills support each other, the classroom instruction that links reading and writing would offer "greater literacy power" (Oxford 2017: 282) to TL students. "Teaching writing IS [emphasis in the original, MŚ] teaching reading", as Kroll (1993: 61) once asserted, so writing and reading are now usually combined in TL composition classes, and the teacher of writing is at the same time a teacher of reading (Grabe and Zhang 2013: 109). In her classroom, however, the Author focuses on other aspects of writing – both discursive and non-discursive – that she considers important in fostering the development of the writing competences of her students (see Sections 3.3.1-3.3.3). Nevertheless, she fully acknowledges the fact that, as Hirvela (2015: 40) notes, "to learn about writing without learning about reading – and how reading contributes to writing

– is to deprive our students of a true *composing* [emphasis in the original, MŚ] experience that is at the heart of writing".

1.3. Learning to write vs writing to learn the language and the content

Language is essential in the educational process, and most of what people learn, they learn through language by listening and speaking as well as by reading and writing. Some learning takes place more effectively through the spoken medium and some through the written one, which, in a classroom setting, also depends on individual differences in learning and teaching styles (Halliday and Martin 1993: 96, 98). There are three (3) orientations in TL writing that have developed independently from each other, that have been informed by different theoretical frameworks and that have led to different approaches to the teaching and learning of TL writing (Hirvela et al. 2018). These orientations are briefly described in the paragraphs below.

There is a clear-cut distinction between writing to learn (a language) and learning to write (in a language), i.e. learning to communicate in writing. In **writing-to-learn-language** (WLL) activities, whose aim is to practise a target language, writing is devoted to extended language training in the use of learned vocabulary and sentence structures, thus producing accurate language forms with no attention paid to generic issues or the communicative purpose of the text (Harmer 2011: 330). Writing tasks can also act as preparation for a speaking activity. When students write, not only do they consolidate TL knowledge that they previously acquired, but they also monitor their language production, which is not always feasible in oral communication contexts. This, together with feedback from peers or teachers, results in deeper linguistic processing and has considerable potential to help students develop as language learners. This is what the majority of Hryniuk and Ene's (2023: 273) study participants consider the purpose of writing in English. Hirvela et al. (2018) also support this claim, stating that "writing is a site for studying and promoting L2 development". This opinion can be found in a substantial body of literature on the connection between TL writing and learning (for an overview, see Hirvela et al. 2018).

In **learning-to-write** (LW), an act of writing is seen as "a social practice, embedded in the cultural and institutional contexts in which it is produced" (Hyland 2011a: 31). As students learn to communicate through writing, they develop the ability to make appropri-

ate linguistic choices, not only within individual sentences but also throughout their work as a whole. Teachers can facilitate this process by offering an explicit grammatical framework and presenting effective text models (Hyland 2002: 126). When writers learn to write, they learn to participate in one or more discourse communities (Weigle 2014: 223). Matsuda and Silva (2020: 289) confirm this when they say that learning to write is "part of becoming socialized into the academic community". It means, for example, having to learn how to follow culturally required and discipline-specific writing conventions. Such features of writing may differ across languages and cultures, and across text types within the same discourse community, which makes the transfer of rhetorical knowledge from their native language to English challenging. In an LW classroom, teachers take on the roles of students' assistants in the writing process and development of language proficiency; strategy trainers; readers of what students communicate through writing; and objective evaluators of the overall performance of student writers and their texts (Tribble 2009: 118-120).

Apart from WLL and LW, attention must be called to another orientation in TL writing, namely, **writing-to-learn-content** (WLC), in which the act of writing is instrumental in learning disciplinary subject matter in content areas. That is to say, writing is an exercise in thinking that leads to learning, for students can understand a subject much better by having to write about it (Zinsser 1988: ix, 46; Hyland 2013: 95). Through writing, student writers can show their mastery of content knowledge and maximise their learning outcomes through the resources that the act of writing provides. This knowledge can be acquired by means of writing-for-reading activities, such as summarising or synthesising. These activities demonstrate how well the students have understood what they have read and enhance learning the content. Also, WLC can be seen as an act of transferring writing skills from a TL writing course to the content classroom, in which, for example, synthesising information from multiple sources – commonly practised in TL academic writing courses – is required. Whether this transfer is successful or not depends on multiple variables, for example, a close resemblance of situations in which writing knowledge is used or the ability of students to adapt what they know about writing from a writing classroom to an unfamiliar writing context (Hirvela et al. 2018).

It needs emphasising at this point that because writing serves an ancillary function in the process of learning, there is a close relationship between writing and the cognitive development of writers. According to Murray (1985: 3, 1993: 337), writing constitutes a central part of the intellectual life. Barrass (2005: 17) supports this opinion and adds that

"[w]riting helps you to think". Undoubtedly, writing and thinking are related: writers take intellectual effort to express ideas with the right words and sentence structures, which, subsequently, fosters their intellectual development and reinforces learning. While communicating through writing, learners stimulate their intellectual growth by selecting and evaluating the information they need to produce the text. It may happen, for example, when they put down their thoughts and discover their ideas are incomplete, imprecise or vague. When they reflect on what they have composed, they can reshape it and convey the intended senses. While reflecting on their products, the authors can explore the ideas even further, which facilitates the conceptual development of the written text. As a result of the whole process, they deepen their thinking and upgrade their critical-thinking skills. Also, they develop intellectually and become better writers (Rivers and Temperley 1978: 322; Raimes 1983b: 3; Skibniewski 1984: 181f.; Gage 1986: 24; Scott 1996: xi, 155). That is why writing is viewed as "a developmental process" (Dyson and Freedman 2003: 967) or "an integral part of the process of learning" (Crystal 2009: 256), not just "a service activity", as Rivers (1968: 258) once claimed, to other language skills with little impact on the intellectual development of those who write.

The developmental role of writing is stressed by adherents of the mimetic philosophy of composition proposed in 1979 by Richard Fulkerson. It says there is a connection between good writing (whatever this term implies) and good thinking, so "the teaching of sound reasoning as a basis for good writing" (Fulkerson 1979: 345) is essential. Also, writing students need to broaden their knowledge in the pre-writing stages so that they know enough about various topics to have something worth saying in their texts, which improves the overall value of the written text (Fulkerson 1979: 345). In addition, Moffett's (1983) theory of discourse exemplifies how writing and learning are related. On the one hand, students need to be taught to reason and think logically in order to write well. On the other hand, the act of writing develops in students the ability to do that.

In an average TL classroom, a great deal of writing belongs to the WLL domain; it reinforces the teaching of particular structures instead of developing skills that aid students to compose effectively in English. It helps students remember new language items and consolidate vocabulary or syntax structures, and gives them an opportunity to experiment with what they have learned. It is also used as a preparation for a speaking task (Raimes 1983b: 3; Hedge 2001: 7; Drożdział-Szelest and Domińska 2016: 60f.). Scott (1996: x) calls such writing "a support skill". Although the popularity of "language-based writing" (Reid 1993:

27) diminished in the 1980s, it is still exercised in many TL writing classrooms. However, if students are "left unchallenged intellectually by writing tasks" (Gage 1986: 18), they may start treating writing as unrelated to the rest of their education. This may be prevented by broadening the content of the writing programme. For example, alongside language skills, students can grow as writers by raising their metacognitive awareness and exploring the writing strategies employed by the writing-as-process approach, which involves planning, generating ideas, drafting, revising and editing the written text. Also, as discussed in Section 1.2.2, the integration of reading into the writing instruction will bring substantial benefits for student writers.

1.4. Difficulties in writing

There are four (4) main areas of literacy: reading, writing, speaking and understanding speech, and writing is one of the last skills to develop. As noted earlier in this chapter, learning how to write effectively has always been considered one of the biggest challenges. This is because writing, unlike speech, is not a product of natural cognitive development, nor is it acquired unconsciously. Rather, it is a productive skill that has to be learned or a "provoked activity", as Widdowson (1983: 44) once put it. In the words of Nunan (1999: 273), writing is "a complex, cognitive process that requires sustained intellectual effort over a considerable period of time". Beyond doubt, the difficulty in writing stems from the coordination of cognitive, psychological, social and rhetorical aspects, and the writer's control over his or her language, discourse and sociolinguistic skills (Grabe and Kaplan 1998: 216; Murray 2007: 7). Combining the building blocks of every written text may be a hard struggle for several writers, regardless of their age, experience and language proficiency. The remaining paragraphs of this section describe these aspects in more detail. Table 4 on p. 35 summarises the discussion that follows.

Firstly, the ability to write is a demanding task, no matter whether it is done in a native or target language (Skibniewski and Skibniewska 1986: 150, 154, 156; Byrne 1996: 5). Certain writing problems may "transcend language factors" (Zamel 1983: 168), and "the ability to write well seems to be independent of the particular language one is composing in" (Skibniewski and Skibniewska 1986:156). The potential difficulty of composing comes from successfully combining the way of expressing thoughts (*how to say*) and the organisa-

tion of the text's content (*what to say*). This difficulty can be experienced by both native and non-native users of the language.

Next, writing is, in general, a solitary act. Outside the classroom, writers often work on their own with no possibility of interaction or immediate feedback, which makes the act of writing psychologically difficult. If writing is imposed (e.g. by teachers), the writers may complain about a writer's block (i.e. being at a loss for ideas), which hampers the writing process and may affect the overall quality of the text (Byrne 1996: 4f.; Weigle 2005: 129).

What places an additional burden on the act of composing is the fact that writers must be able to choose appropriate lexis and syntactic structures to convey their message in an appropriate way. Also, they must attend to the mechanics of writing (i.e. spelling, punctuation and formatting), for, in certain contexts, misspelt words, faulty punctuation and an inconsistent format are unacceptable or perceived as unprofessional. These difficulties can be adequately coped with if, for example, writers postpone their attention to the grammatical accuracy of the text until the ideas that convey intended meanings are adequately developed.

As regards writing as composing in a TL, Byrne (1996: 6) posits that the ability to compose in the mother tongue can be transferred to the target language. For example, highly literate L1 users often become highly literate TL users. Nevertheless, target language writers may have problems how to "textualize discourse in a different language" (Widdowson 1983: 45), even though they generally know from their L1 experience how to communicate through writing. What they may not know is how to produce a text that complies with the rhetorical conventions that are expected by the target audience. This poses a challenge for TL writers who lack the cultural knowledge needed to generate effective content and develop powerful arguments that are convincing and acceptable to Anglophone readers. For example, non-native English-speaking (NNES) writers often give a one-sided presentation rather than a balanced argument, which results from their native language discourse traditions, writing norms and rhetorical value systems (Hinkel 2009a: 90). However, if they compose in English, they need to know the patterns used for organisation and argumentation in order to cater for their readers' rhetorical expectations and produce a reader-based text. This aspect of writing is further referred to in Sections 1.6, 2.3.4.2 and 3.3.1.4.

Finally, in a TL writing classroom, students may find typical instructional techniques (e.g. generating ideas, multiple drafting, revision), peer feedback or teacher-student conferences confusing or threatening if these activities are different from what they typical-

ly experience in their L1 writing contexts (Ferris 2012: 227). In some instructional settings, final drafts are the only drafts in composition writing, and receiving critical remarks from peers on one's text is perceived as loss of face.

Table 4. Difficulties in target language writing.

What makes TL writing difficult:
• sustained intellectual effort over a long period of time
• no interaction with other people if the task is completed outside the classroom
• no immediate feedback
• experiencing the writer's block
• low motivation to write
• lack of knowledge about rhetorical conventions in a TL
• lack of knowledge about TL culture
• limited knowledge about lexical, syntactic and textual tools in a TL
• dissimilar instructional techniques and peer/teacher response activities in a TL classroom

Considering all these difficulties, it comes as no surprise that university students, as a group, do not display writing skills that meet the expectations of academia. In general, lecturers often complain about the level of the writing competence of secondary school leavers who become their students. "Erosion of literacy skills" (Grabe and Kaplan 1998: 86) and a descending level of the writing ability of many undergraduates are widely observed by content teachers (Gajda 2022: 194; p.c.). In Poland, the ability to write effectively, expected from a university student, is taken to be self-evident, and minimal support is provided from academia, even if a decrease in the academic skills of an average student has been noticed in recent years. Secondary school graduates demonstrate little (if at all) recognition of what distinguishes academic prose from non-academic prose and what constitutes a well-written academic text. They are unaware of linguistic devices, genre-oriented patterns and rhetorical conventions that are typical of a scholarly text in Polish, let alone in English (Warchał 2019: 79f.). Unfortunately, they get little opportunity to broaden their academic writing experience as university students. Zalewski (2011: 11) contends, "there is no tradition of composition instruction in our country [Poland – MŚ], and our students actually do very little writing throughout their secondary and tertiary-level education". Hryniuk (2019: 8) makes a similar point: "the education in the area of academic writing

seems to be insufficient in Poland". Sadly, the need for explicit composition instruction, from the point of view of content teachers in engineering disciplines, is not considered paramount unless students are able to prepare semester papers (if required) in their content-area courses and do other writing (e.g. laboratory reports). It stems from the fact that spoken rather than written discourse plays a far more important role in Polish academic institutions, and students do not have the end-of-semester paper requirement, which is common at Anglophone universities.

As regards the English language, in Polish tertiary-level institutions, writing courses are offered mainly by language faculties or departments. Whether they focus on language-based concerns, or metacognitive dimensions of meaning-making and composing skills, they provide students with a fair chance to talk about and practise academic written discourse that is essential in developing general academic literacy skills. However, writing centres (also called *writing labs*) aimed at improving academic textual literacy skills in English that are popular in Anglophone educational institutions are being established at Polish universities. They can be found at the University of Lodz (The English wRiting Improvement Center [E.R.I.C.]), the Medical University of Lodz (The Writing Centre), the University of Silesia (The Writing Centre) and Poznan University of Technology (Pracownia Języka Pisanego [The Written Language Lab]). They offer assistance from English language consultants on writing projects, for instance, essays, reports and research papers written by students and faculty members; they also run courses in academic and, more specifically, scientific writing. Their goal is to assist members of an academic community to develop into more confident, effective and independent writers in English (e.g. https://www.clc.put.poznan.pl/jezyka-pisanego).

1.5. Differences and similarities between native and target language writing and writers

There has been a large body of empirical studies comparing writing processes, written products, and writers in L1s and TLs (e.g. Widdowson 1983; Hinkel 2003, 2011a; Hedgcock 2005; Leki et al. 2008). These studies address various cognitive, cultural, linguistic and social factors in the theory and practice of L1 and TL writing, for example, student writers' language proficiency and intuition about the language; learning experience

and classroom expectations; preferences for ways of organising written texts; audience awareness; and the social value of different text types.

As for the writing processes, early studies (e.g. Zamel 1982, 1983; Skibniewski and Skibniewska 1986; Skibniewski 1988) revealed that general patterns of the composing process are comparable in native and target languages. However, the reviews of subsequent findings from SLA research into writing in a native and non-native language indicated a number of salient differences related to the writing processes as well as fluency and accuracy of texts produced by L1 and TL writers (e.g. Leki 1992: 27-30; Silva 1993: 671, 1997: 218; Kroll 2001: 230; Hyland 2011b: 31). Silva (1993), who examined 72 studies comparing research into writing in L1s and TLs in order to understand "the distinct nature of L2 writing", noted that while L1 and TL writing "are similar in their broad outlines, they are different in numerous and important ways" (Silva 1993: 657, 671). More specifically, he underscored that quite a few disparities exist between L1 and TL uses of language, which makes "L2 writing (…) strategically, rhetorically, and linguistically different (…) from L1 writing" (Silva 1993: 669), whether the writers are basic or skilled. These differences lie in the texts' length, lexical control and a level of overall sophistication (Silva 1993: 668). Reid (1993: vii) confirmed Silva's conclusion and added that "needs, backgrounds, learning styles, and writing strategies of most ESL students differ dramatically from those of NESs [native English speakers – MŚ]". Undoubtedly, each writer uses writing strategies that are, to some degree, unique, for they result from individual experience and learned behaviour. Also, cultural backgrounds and learning styles play significant roles in differentiating between NES and NNES writers.

According to the studies pointed out by Hinkel (2004: 10, 2015: 94f.), for instance, the differences and similarities between L1 and TL writing and written products regard the following issues:

- composing processes (e.g. planning, drafting, revising);
- discourse and rhetorical organisation of the text;
- ideas and content of the text;
- text cohesion;
- employment of surface-level features of the written text (e.g. passivisation, nominalisation, lexical variety, syntactic complexity);
- employment of writing conventions;

- references to sources of knowledge and information;
- reliance on external knowledge and information; and
- the role of audience in discourse and text production (writer- vs reader-responsible writing).

All these differences should be acknowledged by TL writing teachers if their students are to be effectively taught and fairly treated, and thus given a fair chance to succeed in writing-oriented academic and professional endeavours.

The basic differences and similarities between the L1 and TL writers are described in more detail in the reminder of this section. They are summarised in Table 5 at the end of this section and further explored in the paragraphs that follow.

As regards the **differences between the L1 and TL writers**, the latter face constraints that derive from their limited linguistic resources in the target language, as NNESs do not have the same command of English that most NES writers do. On a lexical level, they encompass a narrower range of vocabulary and exhibit less lexical control and variation; they often rely on conversational vocabulary. On a syntactic level, they write short or overlong sentences, use more coordination than subordination, adopt fewer cohesive devices and use less passivisation. On a textual level, they compose structurally simpler texts that lack the coherence and overall sophistication expected by TL readers (Leki 1992: 28; Silva 1993: 698; Hinkel 2011a: 529, 2015: 94f.; Hyland 2011a: 36, 2011b: 34). When it comes to coherence in L1, it does not guarantee being coherent in a TL because, in fact, the perception of coherence varies across discourse communities, languages and cultures (Matsuda and Silva 2020: 284). This analytic competence is not automatically acquired but needs to be learned (e.g. by imitation). It can also be transferred from native to target language writing and thus either facilitate or inhibit it (Ferris and Hedgcock 2011: 23).

Even though general composing patterns are similar in L1 and a TL, for various reasons, TL composing is reported as slower, more difficult (in generating and organising ideas) and not effective enough (i.e. compositions receive lower holistic scores in the eyes of L1 readers) (Silva 1993: 698; Hinkel 2011a: 529). L1 student writers, having a much wider range of lexis and grammatical structures at their disposal, and employing more complex language patterns, can concentrate on the content, personal voice and style first (Murray 1993: 338), which results in more effective texts. Another difference between the L1 and TL writers lies in the fact that the latter do not reflect much on the written texts. In spite of

revising more, they are less able to do it intuitively (i.e. using their implicit knowledge). Also, they seem to expect and accept assessment of their final product, so they are less inhibited by teachers' feedback and correction (although it may vary between cultures); they also improve on their writing when they get the feedback (Raimes 1985, as quoted in Grabe and Kaplan 1998: 142). Moreover, what distinguishes the TL writers is their prior language and cultural experience as well as the topical knowledge that they bring to the classroom. They may have different views from the L1 writers on, for example, academic integrity (e.g. citation practices, plagiarism) and audience awareness (Grabe 2000: 45; Hyland 2011b: 34; Brick 2012: 173f.). Whether or not all of these differences should be removed is debatable. On the one hand, writers in the target language have "legitimate rights" to them, and teachers should teach their students "effectively and fairly" (Grabe 2000: 46) within their cultural and social framework because "[c]ultures are fluid (…) and non-determining", as Hyland (2011b: 37) puts it. On the other hand, cultural schemata typical of a target language can be explicitly taught to its learners so that they become aware that what they compose and how they compose are affected by them (Hyland 2011b: 50). In the course of the instruction on TL writing, the differences between the L1 and TL writers are likely to diminish or even disappear.

When it comes to **similarities between L1 and TL writers**, research findings have validated the assumption that skilled (or expert) writers compose differently from unskilled (or inexpert) writers, regardless of the language (Zamel 1982: 83; Skibniewski and Skibniewska 1986: 151). They engage in "the discovery and creation of meaning by planning, rereading, and revising" (Scott 1996: 38), as they realise the importance of making meaning should take precedence over linguistic accuracy. Less experienced writers focus prematurely on micro-level features (e.g. lexical, grammatical and mechanical accuracy) rather than discourse-level features (e.g. audience, purpose, cohesion and coherence), which leads to less satisfactory results. Competent writers, both native and non-native ones, display a sense of purpose (they have something to say), a sense of direction (they know how to develop ideas) and a sense of audience (they are aware of the reader). They use their unique personal styles to apply particular strategies in order to plan subject matter, to solve problems while writing (e.g. leaving a blank space, writing a word in L1), to produce more effective and well-organised content in their texts, and to revise their written output (Skibniewski 1984: 177, 185; Skibniewski and Skibniewska 1986: 153f.; Cumming 1989: 119;

Scott 1996: 38; Hedge 2001: 9, 146). Yet many learners, regardless of the language, still need assistance in composing specific text types and developing writing fluency.

Table 5. Findings of research into L1 and TL writing and writers (adapted from Hyland 2011b: 36).

Differences and similarities between L1 and TL writing and writers
• General patterns of the composing process are similar in L1 and a TL.
• Skilled L1 and TL writers compose differently from unskilled writers.
• Advanced TL writers lack composing competence rather than language competence.
• L1 writing strategies may or may not be transferred to TL contexts.
• TL writers produce shorter texts that are less accurate and effective.
• TL writers revise more but reflect less on their writing.
• TL writers are less fluent in writing.
• TL writers are less inhibited by teachers' editing and feedback.

In sum, writing competence is independent of the language of expression, which means being a good L1 writer often translates into being a good TL writer. The competence is also independent of other competences, for example, speaking competence or grammatical competence, which means a successful speaker may have problems conveying an accurate and appropriate message in writing. Therefore, a TL composition teacher should bear these preconceptions in mind while designing the writing-based course for his or her students.

1.6. Writing as a culture-specific activity

As discussed in the preceding section, an important area of difference between L1 and TL writing lies in the fact that languages have different discourse traditions, writing norms and value systems. These aspects of writing should be carefully considered when composing in a non-native language, as they translate into creating prose that is expected by a native TL audience.

This area has been explored and explained by contrastive rhetoric (CR), which, in essence, seeks to understand varying patterns of organisational preferences in TL student writing, and looks at ways in which TL texts are constructed and how these texts differ from what L1 students produce. In addition, CR explores how and why written texts vary

among TL students representing different language communities (Grabe and Kaplan 1998: 28). The term was first used by Robert B. Kaplan in his seminal 1966 article "Cultural thought patterns in inter-cultural education". This pioneering study analysed the organisation of paragraphs in TL student writing and associated rhetorical differences with various patterns of thinking. Kaplan's model was influenced by classical (Aristotelian) rhetoric and logic, whose primary concern was presenting a coherent and persuasive argument to a reader (Kaplan 1972: 247; Connor 1996: 6, 10, 15f.). Later, Kaplan modified it, claiming that rhetorical conventions, unique to each language and culture, reflect writing norms learned in this culture. He noticed that teaching non-native students how to write in a target language differs from teaching writing to native speakers (Kaplan 1972: 245-247). The difference lies in the way speakers of different languages use rhetorical devices to present information, establish relationships among ideas and select the most effective means of presentation. The rhetorical system of one language is different from that of other languages, and this difference does not only arise from variations in vocabulary, grammar and sentence structure. It arises from thought patterns that evolved out of the cultural patterns of a given culture and time within a given culture. In other words, the language offers its users interpretations of the world, which are embodied in utterances[21]. Also, back in the 1970s, Rivers and Temperley (1978: 317) claimed that "writing well in another language means thinking in the forms of that other language". They believed that there are culturally acquired differences in writing styles, and even good writers in their mother tongue need guidance in adopting the rhetorical style of the target language. The difference in style may relate to a linear way of building up ideas in a logical way or employing digressions from the main line of thought. These beliefs are still valid and inform TL writing instruction by recommending principles for guiding NNES writers towards composing texts that meet the expectations of the target language audience (Hedgcock 2005: 599; Hinkel 2009a: 90).

Because logic-based rhetoric is not universal, writers feel most comfortable applying the rhetoric of their own language when writing. For example, English has a linear development of a paragraph: its main idea, which starts or ends the text, is supported by examples and illustrations. Supporting ideas flow in a straight line without wandering away from the main idea, and every sentence in a paragraph is related to it. There are no digres-

[21] For example, both English and Polish speakers can say: *I've lost the wallet*, but sometimes their perception of perpetration differs, and the former say: *I missed the bus*, whereas the latter say: *The bus drove away* (cf. Drożdział-Szelest 2016).

sions either. In Spanish and Portuguese, authors include information about subjects unrelated to the central idea of the paragraph to make writing more interesting. Such digressions, however, give an English-speaking reader the impression that a piece of writing is disorganised (Kaplan 1972: 250-254; Connor 1996: 34-46). In Arabic, writers tend to use coordinators rather than subordinators to combine sentences, while for English readers, authors who use more constructions of coordination than of subordination seem less mature. Persian writers value stylistic embellishment, and they use the same rhetorical style while writing in English. In Japanese or Korean, writers never deal directly with the subject but circle around it. They describe it in terms of what it is not rather than what it is, which English readers find vogue and confusing. But in the Japanese rhetorical paradigm, ambiguity and vagueness have considerable value. Chinese writers prefer shorter sentences, for the brevity of sentences is greatly appreciated in Chinese writing. They evaluate what they write about less critically and never question the so-called common knowledge; they are not used to expressing subjective opinions and stating their point directly in L1, and subsequently, in a TL (Grabe and Kaplan 1998: 190).

It goes without saying that rhetorical conventions and linguistic patterns of a native language are often transferred to target language writing (Connor 2011: 218). It may create a false impression about the personal inadequacies of the writer because, as pointed out earlier, an excellent rhetorical style in one language can be poor, inadequate or too intellectualised in another, no matter how good the command of its vocabulary and grammar the user may have. It can be labelled as "illogical", "basic", "inexperienced" or "unskilled" (Kachru 2009: 76) only because it does not comply with the Aristotelian rhetorical paradigm favoured in the English style of writing. Additionally, many articulate learners have problems expressing themselves as they would like to in a TL. This difficulty may also result from rhetorical conventions that do not transfer successfully across languages or that may interfere with writing in a non-native language (Hyland 2011b: 35). Non-English authors compose texts that may lack proper organisation, cohesion or coherence, and thus violate the expectations of native readers. If, for example, directness is more valued in the first language than in the second, requests in letters written in a TL can be interpreted as too direct and cause misunderstanding or confusion (Connor 2011: 227, 230). Consequently, whether the text is perceived as effective or not depends on the expectations of native readers. Since the concepts of writer- and reader-responsibility are viewed differently in differ-

ent languages, the necessity to comply with rhetorical conventions typical of the target language seems even more pressing.

Considering the above, TL writers need to adhere to writing norms that are appropriate in the TL, and teaching such norms is as important as teaching grammatically accurate English, for accurate English alone will not ensure satisfactory English writing results (Broughton et al. 1981: 120). Ventola and Mauranen (1991, as quoted in Connor 1996: 169) assert that "[l]ack of awareness of (…) cross-cultural differences in text characteristics and reader expectations is the main cause preventing non-native writers' successes in the international community". A similar stance is taken by Weigle (2005: 132) who notes that for TL writers, limitations in language proficiency and a lack of familiarity with writing conventions in the TL make the process of writing "more constrained, more effortful, and generally less effective than for first language writers". However, this attitude towards writing has been widely criticised for being culturally deterministic and ethnocentric, and for privileging the writing of native speakers of English (Connor 1996: 16, 2003: 223; Brown 2007: 232). Additionally, emphasising cultural differences in writing is viewed as promoting the superiority of Western writing (with its coherence and linear structure) over that of other languages (Connor 2011: 233). That is why, for example, European Union (EU) grant proposals, written in English and rated by experts from all EU countries, may no longer necessarily comply with norms and standards of English but with a kind of *Eurorhetoric* that does not privilege any conventional model (Connor 2011: 235).

To conclude, writers vary in different cultures, for they have different preferences that "make greater use of certain options among linguistic possibilities" (Grabe and Kaplan 1998: 184). The differences in writing do not draw on inherent variations in thought patterns but on cultural preferences that are promoted through education. These variations may be learned explicitly, in a TL classroom, or implicitly, through exposure to culture-specific patterns of discourse (Weigle 2005: 139). If language teachers are not trained in contrastive rhetoric, they can only provide their students with surface-level revisions and basic language-related feedback (Connor 1996: 170). Yet, because many language teachers are not professional writing instructors, CR is rarely addressed in an average general English classroom outside Anglophone institutions, and students are not fully aware there are differences in rhetorical styles between languages. It may draw on the fact that errors in rhetorical styles are not as distinct (or visible) as errors in vocabulary, grammar, punctuation or spelling, and attract less attention (Leki 1992: 90). The concept of CR is also turned to in

Section 2.3.4.2, where cultural differences in writing for international scholarly publications are discussed, and in Section 3.3.1.4, where the role of teaching rhetorical conventions in a target language classroom with writing development is addressed.

1.7. Approaches to writing

Approaches to TL composition reflect parallel developments in L1 composition and rhetoric. Basically, there are three (3) main approaches to writing: text-oriented, writer-oriented and reader-oriented, which are related to various schools of thought and ideologies (e.g. Fulkerson 1979). In writing pedagogy, they translate into methods that focus on the end product of writing and the means by which writers reach this product. The paragraphs that follow describe these approaches in more detail.

In the **writer-oriented approach**, composing is associated with a form of personal expression or "a creative act of self-discovery" (Hyland 2011b: 8) rather than an act of communication aimed at a particular purpose. As a result of this approach, students develop as writers and humans (Hyland 2009b: 19, 2011b: 8; Ferris and Hedgcock 2011: 11). This approach is based on the expressivist view of writing, originated by L1 composition theorists (e.g. Murray 1985; Elbow 1998), in which emphasis is put on the personal content and personal voice. This view coincides with what Fulkerson (1979: 344f.) earlier called the expressionist philosophy of composition. Its emphasis on free writing about personal subjects (in order to discover one's personal voice) allows writers to develop emotionally and intellectually. In the writing classroom, writer-centred writing is associated with the process approach. Although the expressivist view ignores communication in real-world contexts, it was dominant in L1 composition classes in the 1980s. It is still influential in many L1 classrooms and creative writing classes (Reid 2007: 29; Hyland 2009b: 20). It has also attracted followers in TL writing pedagogy, even though ignoring, for instance, culture-specific TL writing norms, expectations of the target audience and purposes of communication in the real world are considered its serious weaknesses (Hyland 2011b: 7, 10; Hirvela et al. 2018).

The **text-oriented approach** views writing as "an outcome of activity rather than as an activity itself" (Hirvela et al. 2018). In other words, this approach, related to Fulkerson's (1979) formalist philosophy of composition, favours the composed product rather than the

composing process. The act of writing results in a textual product that can be examined through its formal surface elements (i.e. forms) and its discourse structure (i.e. functions). The former perceives the text as an autonomous entity, or "a coherent arrangement of words, clauses, and sentences, structured according to a system of rules" (Hyland 2011b: 3), which can be analysed independently of writers, readers and contexts. Its grammatical accuracy and clear exposition of ideas are most important and ensured, so writers assume that readers should be able to understand and interpret the intended meanings. The latter sees the text as discourse – a way the language is used to communicate and achieve certain goals in particular social situations. That is why this approach prioritises composing coherent and purposeful prose, so texts can reach their communicative goals by linking language forms to functions. If the writer focuses exclusively on the form or on the function, the written product is detached from the practical purposes, contexts and personal experiences of writers and readers (Hyland 2009b: 8-15, 2011b: 7). It is judged as a piece of writing primarily by its internal forms and grammatical correctness. In this approach, learning to write a text means learning to control grammar and demonstrate language accuracy. In classroom contexts, writing instruction is aimed at grammatical correctness and style (e.g. economy of expression, clarity) (Fulkerson 1979: 344; Skibniewski 1984: 179f.; Hirvela et al. 2018). Product- and genre-focused approaches to the teaching of writing are considered text-based.

Finally, the **reader-oriented approach**, related to the rhetorical philosophy of composition (Faulkner 1979), views writing as an interaction between writers and readers rather than "an act of an isolated individual" (Hyland 2009b: 31). Hirvela et al. (2018) state that "[t]he text is where readers and writers meet". Writers are supposed to select the right language tools to carry the intended meaning in order to achieve "the desired effect on the desired audience" (Fulkerson 1979: 346). In this approach, the writer's voice and creativity are unimportant, as the text is supposed to comply with writing conventions expected by the reader (McArthur 1992: 317f.; Reid 2007: 29; Ferris and Hedgcock 2011: 13; McArthur et al. 2018: 216). What is considered essential is the writer's audience and transforming the text into "a rhetorical structure built on the logical and hierarchical relationships between ideas and organised around the purpose for writing, rather than the writer's process" (Flower 1996: 80). Writing instruction is intended to prepare students to "anticipate, satisfy, and even challenge the demands of academic readers (i.e., their instructors and other authorities)" (Ferris and Hedgcock 2011: 13) when they produce their texts.

In the classroom, teachers usually adopt an eclectic range of methods that draw on various theories, approaches and models. The approach or a combination of approaches the teacher favours in his or her writing-oriented classroom depends on a variety of variables, for example, educational settings, students' age, TL proficiency, reasons for learning how to write, motivation, expectations and needs of prospective readers as well as instruction-time constraints and curriculum demands. Section 3.1 describes in detail the approaches popular (now and then) in the teaching of writing in English for Academic Purposes.

1.8. Writing as a process

People write in different ways because of their personalities, experiences and the nature of the task. Not only do these differences affect the final written product, but also the stages a writer goes through in order to produce it. These stages may be influenced by the content of writing, the type of writing and the medium of writing (Harmer 2018: 4).

Since "[w]riting is primarily a process and only secondarily a product", as Weaver (1979: 56) once put it, the writer must juggle several mental operations before the final product is produced. The writing process can be defined as "an orderly yet flexible sequence of interrelated tasks that leads from topic selection through revision to the finished composition" (Bloom 1983: 2). Many experienced writers agree with this statement and confirm that writing is not producing a text "from start to finish in one smooth linear flow" (Krashen 1984: 18). Rather, it "appears to be a highly recursive process" (White 1993: 7) or, as Figure 1 below shows (after Harmer 2011: 326, 2018: 6), "a series of recursive processes" (Murray 1993: 337) in which some steps are repeated.

There are comparable views on what stages writers go through when composing a text (White and Arndt 1997: 3; Hedge 2001: 22; Tribble 2009: 39). A typical model identifies four (4) stages: pre-writing, composing/drafting, revising and editing. Pre-writing is related to the purpose or function of the text and its audience; composing or drafting is related to what the writer wants to say and how to say it most effectively; and revising focuses on reorganising ideas, changing words and removing parts of the text to clarify the content. Finally, editing involves checking grammar, punctuation and spelling, and making final revisions in search of language with which to express exact meanings (Robertson 1988: 14; Garrison 1997: 7; White and Arndt 1997: 3; Hedge 2001: 22; Tribble 2009: 39;

Frodesen and Holten 2011: 144). In scientific writing, writing stages depend on the type of the end-product as well as the preferences and skills of an individual scholar (Penrose and Katz 2010: 123). As regards manuscripts prepared for journal submission, another stage in the writing process is responding to referees' reports or editors' recommendations, so revising includes integrating editorial changes that are put forward by authentic readers. The final stage is publishing the manuscript. Clearly, every stage plays a role in the writing process, either by contributing to generating ideas and developing them, or by ensuring their accurate and appropriate delivery.

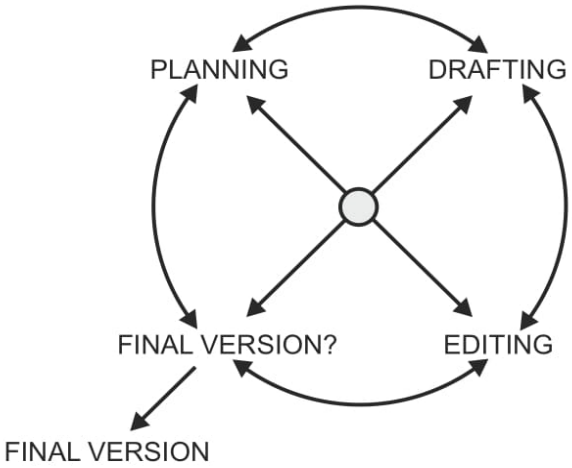

Fig. 1. The process wheel (after Harmer 2011: 326, 2018: 6).

Matsuda and Silva (2020: 288) refer to writers' behaviours (or strategies) that are also examined in composing-process studies: translating, backtracking, restructuring, monitoring, the use of L1 when writing in the TL, language switching and the use of dictionaries and background texts when composing. It is worth remembering that not all writers go through the same stages and deploy the same writing strategies when they compose because, as noted at the beginning of this section, writers and their ways of composing vary. For more details on writing strategies, see Section 3.3.3.2.

In the L1 or TL classroom, the writing process becomes for students a process of "discovery of new ideas and new language forms to express those ideas" (Raimes 1983b: 11), for they go through several stages of composing before they reach the end product. Unlike **product writing** (which primarily focuses on the appropriate use of vocabulary, sentence structures and cohesive devices), process writing enables students to focus on flu-

ency and self-development: the planning and drafting stages are associated with developing confidence and ease in writing; the revising stage is related to achieving clarity and coherence in the text; and editing is connected with attending to the conventions of standard written English and becoming a more self-reliant writer (Carter and Nunan 2007: 225).

The process-based approach is recommended in the writing instruction (both in L1 and a TL) for different reasons. For example, going through different stages that the process of writing entails may change a negative attitude towards written production, which is not rare among students (Brookes and Grundy 1991: 22). Moreover, as putting ideas into a meaningful whole can be difficult, breaking up the writing into phases may prove highly beneficial to less skilled writers. When teachers break a writing task into stages, the students find generating ideas and selecting linguistic forms to express these ideas easier, and their final written production improves (Raimes 1983b: 11; Zemelman and Daniels 1993: 346f.). The writing-as-process approach also stresses the importance of students' collaboration and the feedback they receive from both their teacher and peers during intermediate and final stages of producing a piece of writing. The approach can lead to long-term gains to students' development as writers (Ferris 2009: 31). This view contrasts, however, with Hyland's (2003: 17f.) claim that "there is little hard evidence that they [stages in the writing process – MŚ] actually lead to significantly better writing in TL contexts". Nevertheless, it cannot be neglected that through planning, drafting, revising and editing, students are able to develop self-monitoring skills, which makes them more independent and autonomous[22] writers.

The process approach attracted critical remarks because writing instruction based on the process was believed to fail to prepare students for language proficiency examinations with procedural time constraints and single draft restrictions (Leki 1992: 7). Additionally, **post-process**[23] theorists criticised it for focusing too much on the personal experience of writers and creating the false impression that grammatical accuracy is of less importance (e.g. Atkinson 2003; Kalan 2014). Also, it was viewed as "a solitary, asocial, and decontextualized activity" (Ferris and Hedgcock 2011: 7), with a teacher being a bystander rather

[22] Autonomy, understood as "the ability to take charge of one's own learning" (Holec 1981: 3), is not context-free, nor is it a steady state achieved by learners. That is, the extent to which autonomy can be practised depends on learners' personalities and motivations, language learning needs as well as the educational environment within which learning takes place. Section 4.1.2 discusses teacher autonomy in more detail.

[23] According to Casanave (2004: 85), post-process proponents do not reject process theories or pedagogies. Rather, they reject the dominance of the process-focused approach over other writing approaches.

than an actively engaged composition instructor. In educational settings, however, implementing both a product-based and a process-based approach positively affects the writing competence of the students. Therefore, they should be seen as "both/and" rather than "either/or" (Raimes 1991: 415) entities. It is important to sensitise students that "[t]here can be no product without a process of getting there, and there can be no process without some kind of resulting product" (Casanave 2004: 2). Nevertheless, in the classroom, there are times when process writing is not necessary or appropriate, as an activity may require, for example, a short written text for a warm-up communication game (Harmer 2011: 326). Similarly, in looping, the focus is on fluency and developing multiple ideas spontaneously, which facilitates text production.

NNES novice scientists planning to publish in English-medium journals may specifically benefit from explicit instruction on how to revise and edit any text (which the process-based approach strongly emphasises), for it is definitely helpful in gaining confidence and developing independence in TL writing. Also, in the process of scientific writing, feedback is provided by authentic readers (e.g. colleagues who respond to drafts, journals' referees or editors who assess a manuscript before accepting it for publication, evaluation committees of research, grant or fellowship proposals, patent boards), which motivates novice writers to attend to content and language issues more carefully in the process of text production.

1.9. Writing as communication

In a modern, literate society, a vast majority of language users participate "in the exchange of meanings through written language" (Halliday and Martin 1993: 41). Since the mid-1990s, writing has no longer been viewed as "an abstract skill separable from people and the places where they use texts" (Hyland 2009b: 48) but as "a socially situated, cognitive, communicative activity" (Manchón et al. 2014: 229), which takes into consideration the background knowledge of readers, their needs and their interests. Texts are written to bridge an information gap between writers and their audience. Because the audience is not physically present, what the writers produce must be "as clear, precise and unambiguous as possible" (White 1986: 16). Likewise, Grabe and Kaplan (1998: 41) posit that written texts need to be "informative, factually correct, relevant, and clear". If the text contains infor-

mation that the reader does not need or finds uninteresting, the text may be ignored. Similarly, if the reader perceives the text as difficult to comprehend, because of the complexity of the content matter or faulty language, s/he may abandon reading it.

In the language classroom, in order to effectively teach this "socially contexted" (Grabe and Kaplan 1998: 14) skill, student writers should be provided with contextualised practice that can build their communicative potential more competently. Therefore, writing teachers should bear in mind that producing a text is an interactive or purposeful activity for their students. Otherwise, writing can become merely "an exercise in linguistic composition" rather than "a communicative activity" (Widdowson 1983: 44). If the writer's sole audience is the teacher, who is little concerned with the text's content, writing may be treated by students as a class exercise only, not as an act of interpersonal communication. Conversely, when writing is purposeful or "situated in meaningful contexts with authentic purposes" (Hyland 2011b: 27) and when it involves producing a final product for a specific (or real) purpose and a specific (or genuine) audience, as in the case of, for example, abstracts, research articles or cover letters for journal submissions, student writers feel more motivated to carefully attend to the text's organisation and its language accuracy.

As "fundamentally an act of communication" (Weigle 2005: 142), writing takes many forms and performs different functions in order to adequately convey information or knowledge to the intended audience. The sections that follow provide a more detailed insight into the types of writing and texts (Section 1.9.1) as well as into the components of an effective, clear and readable written text (Sections 1.9.2-1.9.4).

1.9.1. Types of writing and texts

Writing is used for a large number of purposes, for example, to keep records, to express feelings, to report events or, in educational settings, to demonstrate knowledge. A writing style can be, for example, expressive (if it focuses on the writer's personal feelings), transactional (if it focuses on conveying information to a reader through the text) or poetic (if it shares with the reader imaginative experiences) (Crystal 2009: 256). Plenty of school writing is transactional and is done for a teacher audience. At present, a lot of written communication outside the classroom is performed in virtual environments and is aimed at a wide range of readers.

The writing skill can be exercised in a vast selection of forms. They can be personal (e.g. to-do lists) or public (e.g. business correspondence); they encompass written texts that, for example, aid memory and learning (e.g. lecture notes), or are produced for general and occupational purposes (e.g. inquiries). The written communication that an average contemporary language user produces ranges from traditional (i.e. paper-based) modes (e.g. school compositions, notices or reminders) to digital ones (e.g. e-mails, posts or comments in online discussion fora). They all differ, for example, in the level of formality (text messages vs grant or fellowship proposals), length (e.g. shopping lists vs monographs), purpose (e.g. newspaper articles vs product recalls) and intended audience (e.g. Facebook posts vs research articles). As the forms of writing vary according to context, purpose and audience, their functions differ. They are written to promote retrospection (e.g. diaries), to remind (e.g. memos), to communicate (e.g. notices), to call to action (e.g. letters of complaint), to satisfy requirements (e.g. diploma theses) and to create (e.g. short stories) (Grabe and Kaplan 1998: 3, 217-219).

Typologies of writing modes are proposed by, for example, Rivers and Temperly (1978), Kinneavy (1980), White (1986), Pincas (1993) and Hedge (2001, 2019). The typology offered by Hedge (2001: 96, 2019: 322), for instance, includes the following categories:

- personal writing (e.g. diaries, journals, shopping lists);
- study writing (e.g. lecture notes, summaries for examination revision, reports of experiments);
- public writing (e.g. letters of inquiry, applications, forms);
- institutional writing (e.g. agendas, reports, legal contracts);
- social writing (e.g. postcards, letters, short-text messages); and
- creative writing (e.g. stories, poems, songs).

Another typology of writing stems from four (4) elements in a communicative act: reference discourse, expressive discourse, persuasive discourse and literary discourse (Kinneavy 1980). These types of discourse can be translated into the following text types:

- static description (describing a system, place, etc.);
- exposition (explaining or clarifying a topic or subject);

- narration (telling a sequence of events in a report or biography);
- discussion (putting forward arguments, evidence, examples, etc.);
- argumentation (persuading readers to understand and support a writer's point of view);
- cause-effect interpretation (explaining how events are linked, how one thing leads to another and giving reasons for outcomes);
- comparison/contrast (comparing and contrasting ideas);
- division and classification (organising a description into a hierarchy of categories);
- definition (defining, explaining and exemplifying a concept); and
- process analysis (describing a sequence of steps to show how something is done or works);
- fact-based exemplification (clarifying points with examples to illustrate their meaning and importance (e.g. Hedge 2001: 99; Hinkel 2004: 27f.; Langan and Winstanley 2005: 131f.).

As research shows, writers have different levels of ability in different modes of writing. Regardless of individual variation in language proficiency, narration is ranked the easiest and argumentation the most difficult mode of the written discourse (Scott 1996: 13).

Lastly, Richards (2015: 482) classifies writing by:

- genres (e.g. advertisements, essays, songs);
- text types (e.g. letters, instructions, memos);
- types of paragraph development (e.g. narration, persuasion, description);
- contexts (e.g. school, home, work);
- audiences (self, teachers, peers);
- purposes (inform, entertain, persuade);
- writers (e.g. employees, employers, colleagues); and
- media (print, electronic).

This classification combines the components of the rhetorical situation, and the media of text transmission, thus broadening its scope.

Constantly emerging technological innovations have revolutionised the nature of writing, and the Internet serves as a main publishing venue for a great many sectors of the

writing world. Some of the writing types pointed out above are not only paper-based; they can take the form of digital (or online) writing that is intended for reading on digital devices (e.g. computers, e-book readers, smartphones, smartwatches). Digital writing includes formats like texting, emailing, tweeting, blogging, writing wikis and posting comments on social media (e.g. Facebook, Instagram, TikTok, X). Whether a piece of writing is paper-based or electronic, its major function is to transfer information. Not only does writing for the Internet or in electronic environments often require "a strong literacy in the latest digital technologies" (Baehr and Schaller 2010: 3), but it also requires handling language-oriented concepts so that it caters for the expectations and needs of online readers. In fact, these expectations and needs do not radically differ from those of the offline audience: the content, written in a simple and clear way, needs to be organised in small sections; the sentences (about 15-25 words in length) should contain transitional expressions to establish logical connections between the sections; and the excessive number of words should be avoided (Mill 2005: 7, 18). A self-editing checklist for online writing can be found in Mill (2005: 17f.). It can be compared with the checklists compiled for paper-based writing (e.g. Bloom 1983: 184f.; DiYanni 1985: 205; Hammond 1989: 11; O'Connor 1992: 98; Ferris and Hedgcock 2011: 213f.).

1.9.2. Features of an effective text

English has established itself the global language of research. Its use as an international language of science is now well documented by a growing number of journal articles with broad international authorship and readership. Thus, "without a capacity to write effectively in the target language, foreign language learners will not have access to roles that would otherwise be available to them, for example, in an international community which uses that language for trade or other types of contact" (Tribble 2009: 12). Therefore, it is important for NNES researchers to be able to disseminate knowledge across the globe and contribute to its development in a responsible and competent way. They can be successful if they write effectively. The remaining paragraphs of this section focus on what plays a vital role in effective texts.

In essentials, effective writing means being able to express oneself convincingly in the written text. To achieve this goal, an author needs to control quite a few language issues

and shape the discourse for a particular audience and purpose (Kroll 1991: 261; McArthur 1992: 317; McArthur et al. 2018: 216). Figure 2 (after Raimes 1983b: 6) specifies what writers have to deal with if they want to produce a "clear, fluent, and effective" (Raimes 1983b: 6) piece of writing. Clearly, vital components in text production belong to both linguistic and extra-linguistic domains.

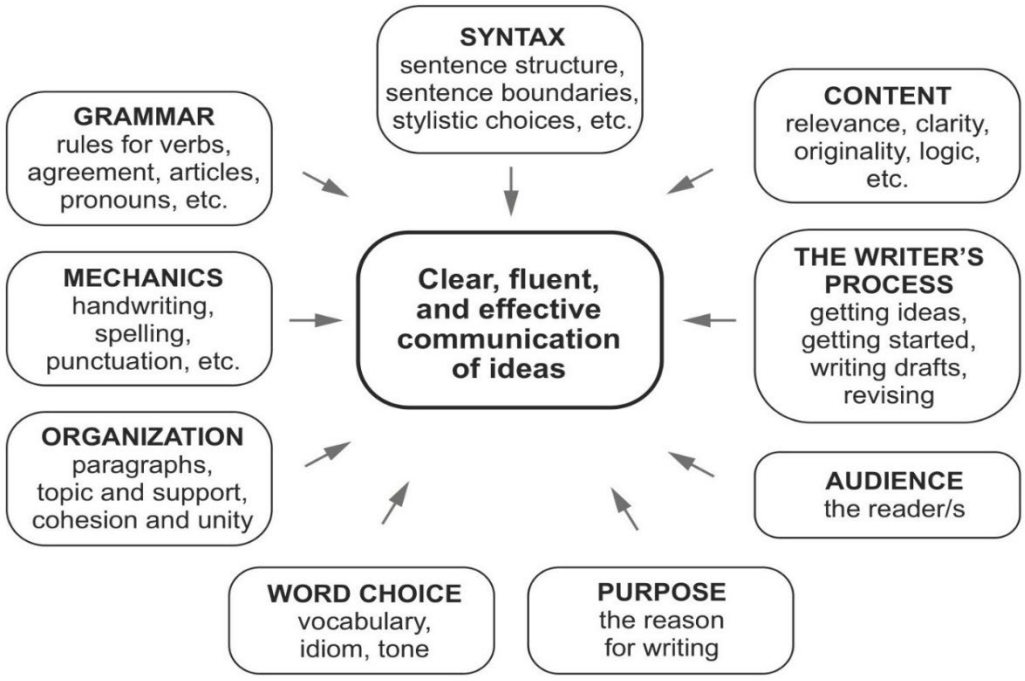

Fig. 2. Essential components in text production (after Raimes 1983b: 6).

Basically, effective writers need to demonstrate the following types of knowledge:

- content knowledge (i.e. the knowledge of concepts involved in the subject area the text addresses);
- language system knowledge (i.e. the knowledge of language-oriented issues necessary to complete a task, e.g. lexis, syntax, writing conventions);
- genre knowledge (i.e. the knowledge of the communicative purposes of a particular text type and its value in particular contexts);
- context knowledge (i.e. the knowledge of the context in which a text will be read, e.g. of readers' expectations and organisational preferences, and of cultural factors that influence the nature of the written text); and

- process knowledge (i.e. the knowledge of the most appropriate ways of preparing for a writing task and carrying it out) (Hedge 2001: 5, 146; Tribble 2009: 43, 67f.; Hyland 2011a: 31, 2011b: 27; Richards 2015: 494-500).

Weigle (2005: 133f.) describes a range of knowledge types that every writer needs to produce an effective text in a similar way. Apart from topic knowledge, language knowledge, genre knowledge, audience knowledge and task schemas (i.e. information stored in the long-term memory that specifies how to carry out a particular task), the writers need to demonstrate metacognitive knowledge, which helps them control the process of writing. For details on metacognitive knowledge, see Section 3.3.3.1.

For Canale and Swain (1980: 38-41), effective writers (just like other effective language users) need communicative competence. It includes the competences that belong to the linguistic (a-b) and extra-linguistic (c-d) domains:

a) grammatical competence (i.e. the knowledge of grammar, vocabulary, sentence structure, pronunciation and spelling);
b) discourse competence (i.e. the knowledge of genres and rhetorical patterns to communicate ideas in a cohesive and coherent way);
c) sociolinguistic competence (i.e. the ability to use language appropriately in a given context to inform, persuade, describe, etc., and vary their language according to the purpose, audience and topic); and
d) strategic competence (i.e. the ability to use a variety of verbal and non-verbal communicative strategies to start, maintain or finish communication, negotiate meanings, enhance communication or compensate for breakdowns that result from performance variables or insufficient competence).

To compose effectively, the writers definitely need grammatical, discourseal and sociolinguistic competence. As regards strategic competence, no direct communication with the audience during the writing process or after it is possible, but the writers can deploy writing communicative strategies that help them avoid problems while producing a text (e.g. by referring to a dictionary to find a more precise word) or anticipate readers' responses to their texts. Using these strategies can enhance the communicative potential of the written

text they compose. For a deeper insight into writing strategies in TL writing, see Section 3.3.3.2.

Following the work on communicative competence, Bachman (1990) suggested using the term *textual* competence to refer to the discourse competence proposed by his predecessors. Textual competence is the knowledge of conventions for joining utterances together to form a spoken or written text. In the written discourse, these conventions can be translated into the text's cohesion and rhetorical organisation (Bachman 1990: 87f.). Textual competence belongs, together with grammatical competence, to the domain of organisational competence, which, in turn, is a component of language competence (or language knowledge). Language competence in conjunction with strategic competence and psychophysiological mechanisms required for communication, constituted the framework of communicative language ability, which was later transformed into a two-part model consisting of language knowledge (with textual knowledge as one of its subcategories) and strategic competence (Bachman and Palmer 1996: 67-75).

Although all the competences play their role in effective communication, according to the *Common European framework of reference for languages* (*CEFR*), grammatical competence, or "the ability to organise sentences to convey meaning", is "clearly central to communicative competence" (Council of Europe 2003: 151). It is grammar, with its three (3) interrelated dimensions of form, meaning and use (Celce-Murcia and Larsen-Freeman 1999: 4; Larsen-Freeman 2014: 253), that is believed to be "a resource in shaping accurate and effective communication" (Frodesen 2001: 234). This is why target language learners at B2-C2 *CEFR* levels (henceforth B2-C2) are expected to express themselves in writing in a clear, precise and effective way (Council of Europe 2003: 83, 2020: 81). Even if grammatical competence is insufficient for overall effective writing in a TL (Scott 1996: 9), it is essential for attaining higher levels of proficiency (in which precision and accuracy of understanding and expression are important objectives).

To sum up the above discussion, it bears repeating that effective writers carefully choose vocabulary, grammatical patterns and sentence structures in order to organise information clearly and to avoid ambiguity in conveyed meanings. Their writing is effective when it serves its purpose for the audience, which brings to the classroom different writing experiences (in a native and target language), aptitudes, expectations, levels of motivation, personality factors (e.g. sensitivity to rejection, self-esteem), affective factors (anxiety, willingness to take risks, self-encouragement), general intelligence, and learning and cogni-

tive style preferences (Hyland 2011b: 33). Also, adopting a writing-as-process approach helps student writers compose an effective text because planning, drafting, revising and editing affect, for example, the text's content, logical organisation of relevant ideas (or coherence) and cohesion. All the above factors play a key role in constructing an effective text; they also contribute to achieving clarity in communicating ideas through writing. The notion of clarity is addressed in the section below.

1.9.3. Clarity in writing

Since writing involves communicating with an audience that is not physically present, according to White (1986: 16), the written production must be "as clear, precise and unambiguous as possible". Also, Grabe and Kaplan (1998: 198) posit that clarity, apart from accuracy and precision, is highly expected in the written text. This expectation stems from the fact that the writer cannot clarify any ambiguities or misconceptions once the text has been written, unlike the speaker, who is able to modify his or her message by paraphrasing or expanding it to facilitate comprehension. Scott (1996: 3) expresses an analogous view: "clarity, explicitness, conciseness" are fundamental features of *good writing*, so learning how to achieve them should be in the best interests of TL students, especially those who need written English for academic or professional purposes. Hinkel (2004: x) makes a similar point when he says: "without clear (…) text, there can be no academic writing in a second language". Finally, Crystal (2004: 390) amusingly and rightly observes that "[a]part from well-known political exceptions, everyone wants to be clear and admires clarity of expression in others". The issue of clarity in scientific contexts is further elaborated on in Section 2.4.1.

Throughout the decades, comparable opinions have been voiced by the authors of highly influential manuals of style in the English language, for example, Henry W. Fowler and Francis G. Fowler ([1906] 1962), Ernest Gowers (1954, 1973), William K. Zinsser (1976, 2006), and William Strunk Jr. and Ewlyn B. White (1979). They all offer essentially similar advice on *good writing*: it should be clear, simple and devoid of wordiness. More specifically, in their seminal book, *The elements of style*, Strunk Jr. and White (1979: 23) give the following advice to their readers: "[a] sentence should contain no unnecessary words, a paragraph no unnecessary sentences, for the same reason that a drawing should

have no unnecessary lines and a machine no unnecessary parts". As regards writing scholars and professionals, whether scientists write texts for research purposes, where they should adopt a particular in-house style and where an individual voice plays a less important role; or whether their writing belongs to the domain of technical communication, which favours concise, user-friendly discourse so that expert and non-expert readers can understand it, they also should prioritise clarity. Bell (2010: 249) briefly summarises it when she says: "good, clear English remains good, clear English, whatever the context".

As clear writing is writing that "signals without ambiguity the nature of conceptual relationships" (Emig 1988: 89), student writers should be instructed on how to achieve clarity in the written text. In writing, precision, simplicity, lucidity and comprehensibility – the defining terms of *clarity* (*CollinsDictionary.com*.) – are believed to come from clear thoughts and lucid expression of these thoughts (Eagleson 1992: 8; Blum et al. 2006: 41). In contrast, "loose thinking is bound to produce loose writing", as Gowers (1974: 4) once put it. For Zinsser (1988: viii), "a scientist who thinks clearly can write as well as the best writer", as clear writing and clear thinking cannot exist without each other (Zinsser 2006: 8). Mack (2018: 14) states that "[s]loppy use of words is considered a sign of sloppy thinking". Similarly, Stępień (2020: 22) believes that a complicated style, regardless of the language, results from not being able to compose one's thoughts. While referring to plainness in language, Blamires (2020: 6) declares: "[w]e cannot write plain English unless we keep a clear head". Strunk Jr. and White (1979: 66) yet claimed – back in the 1970s – there is "no assurance that a person who thinks clearly will be able to write clearly", and this opinion cannot be ignored. In many instances, the obscurity of written matter does not lie in the writer's thoughts but in his or her inability to express them meaningfully (no matter whether it is L1 or a TL). In Woodford's (1986: 38) view, a thought can be clarified if it is put in a well-structured sentence. In addition, he believes "the more practice the writer gets in simplifying his expressions, the clearer and more forceful become his vocabulary and his thinking". Simplification practice can be provided by both language and content teachers.

Although, as Crystal (2004: 390) observes, "[t]here is no simple relationship between clarity and language", clarity in overall written production, expected from B2-C2 students (Council of Europe 2003: 61, 2020: 66), can be achieved by means of "making judicious use of all a language's resources" (Crystal 2004: 391). These resources can draw on Plain English which promotes concise and forceful writing in a clear and functional style, and whose guidelines cover both linguistic and extra-linguistic aspects of the written

text (Schiess 2003-2004: 68). Especially non-native speakers can appreciate learning how to produce simply structured sentences with approachable lexis because a lack of clarity is one of the prominent features of TL writing (Hinkel 2015: 94). The principles of Plain English stress attention not only to the technical competency but also to the composing competency. That is to say, applying these principles can serve a valuable role in rethinking, restating and clarifying the content of the written product (Scott 1996: 32). At times, rephrasing a sentence or paragraph uncovers subtle ambiguities and errors, also in the text's content-related concepts. They may be wrongly worded or even described due to insufficient language competency or, in rare cases, a lapse in the subject matter. Such is the Author's observation and Kimble's (2013: 46) view. He explains that when complex material is converted into plain language, both content and form are rethought, which leads to looking at the content matter from a different perspective. Restructuring a piece of writing may lead to reconceptualising it, which improves the text's overall language- and content-related quality. This, in turn, increases the text's overall clarity and impact potential. The Author has experienced the above repeatedly while translating or editing scientific manuscripts written by her students and course attendees, both junior researchers and established scientists[24]. The concept of of Plain English is fully addressed in Section 2.2.

1.9.4. Writing a readable text

As discussed earlier in this chapter, authors need to realise that in English, it is "the writer's job (…) to make his reader apprehend his meaning readily and precisely", as Gowers (1973: 1) once put it. Skibniewski (1984: 188) is yet another researcher who claimed that effective writing is "a transformation of the writer-based prose into a reader-based prose". It means that the writer needs to be able to adjust the content, word choices and tone to the prospective audience as well as anticipate difficulties that they may have in understanding the message (Skibniewski 1984: 185). This ability is still believed to be "the hallmark of competent and effective writing" (Langan and Winstanley 2005: 6). Since thinking about

[24] For instance, the sentence that follows contains the underlined fragment that the author (a professor at Bialystok University of Technology) decided to remove in the translation process, as she eventually found it invalid in the text: "The paper ends with a proposal of foundation footing insulation in a building heated for extreme climatic conditions, where the degree-day factor of sub-zero temperatures calculated by the Norwegian method is $F_d \geq 900$ degree-days and soil with heat conduction coefficient is $\lambda \geq 2$[W/(m-K)]." (p.c.).

the reader is "one of the foundations of effective writing" (Robertson 1988: 21), responsibility for composing readable texts in English lies with the writers.

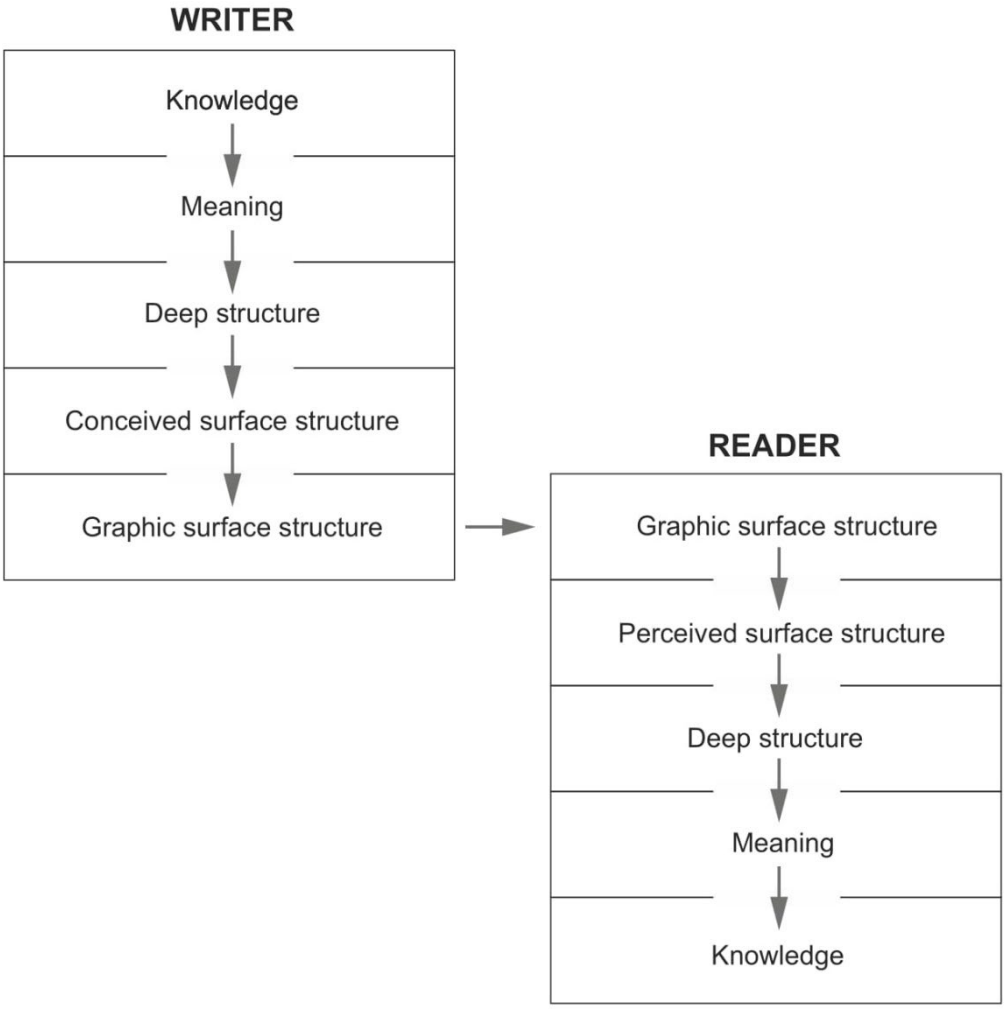

Fig. 3. A general concept of writing and reading (adapted from Page 1974: 176).

If the writer wants to competently communicate his or her knowledge to the reader, s/he must make sure that this knowledge is adequately reflected in the surface structure (see Figure 3 above, adapted from Page 1974: 176) so that the reader can infer what the writer knows and what meaning is embedded in it. The graphic surface structure is the only element in the communication process between the writer and the reader that they both share. If the graphic surface structure is concise, precise and to the point, the text's **readability**[25]

[25] The readability of any text can be measured by readability formulas, the Flesh Formula, the Dale-Chall Readability Formula, the Flesch-Kincaid Grade Level, the Gunning Fog Index, the Automated Readability Index, the Spache Readability Formula, the Coleman-Liau Index, the Fry Graph Readability Formula and the

substantially rises (Kirkman 2001: 194). Readability of the text, or the ease or difficulty with which the text is read, depends on a number of linguistic and extra-linguistic devices employed by the writer. They are briefly described in the paragraphs that follow.

In addition to the linguistic devices, there are also **extra-linguistic devices** that can increase the text's readability. For example, "an awareness of the reader's previous knowledge" and "sensitivity to what a reader does or does not know" (Brookes and Grundy 1991: 19) determine the way writers compose their texts as regards the detailedness of information provided, the organisation of the material, the language construction, a level of formality and the physical appearance (or format) of the text. Also, the manner in which the audience reads the text, i.e. whether it reads it from beginning to end or whether it reads only certain sections, affects its judgement of the text's readability (Turk 1989: 92; Alley 1996: 5-7, 2018: 4f.; Kirkman 2001: 7). A researcher writing a journal article can predict who his or her potential readers are and what their knowledge may be. In the context of ERPP, primary readers are usually editors and reviewers who are experts in the field with prior knowledge and expectations for the text. However, published articles may be read by specialists and non-specialists as well as by junior researchers and established scientists with varying expectations about the style, discourse conventions, organisation and layout of the text. Therefore, the readability of the written output is affected by the capacity of the audience to understand what the text describes and the intrinsic difficulty of the discussed concepts. Finally, the readers' motivation for reading the text plays a significant role in perceiving it as readable or not (Kirkman 2001: 190). This is what quite a few PhD students and participants in the present study endorse.

In sum, many novice writers tend to be more concerned with the text itself and care less about the audience; their style is more writer-based (Krashen 1984: 19), even though, as Miller (2006: 295) puts it, "[a]ll good writers care about their readers". Yet, because English is a writer-responsible language, it is the writer's responsibility to convey the message so that it is correctly understood. If the reader cannot get the point of the writer's message, it is failed writing, not reading (Eagleson 1992: 3f.; Swales and Feak 2003: 16). Therefore, developing a sense of readership in student writers, even if the intended audience cannot be precisely defined, is highly recommended. That is why discussing what is-

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SMOG Readability Formula (e.g. Goldbort 2006: 10; https://readabilityformulas.com/). However, presenting how these formulas work, their benefits and limitations in evaluating the readability of scientific texts is beyond the scope of this dissertation.

sues raise the readability of the written text should not be neglected in any English classroom with writing development.

CONCLUSION

Writing is a crucial skill for success within academia, and as such, it has gained significant importance in recent times (Flowerdew 2016: 6). The need to share research findings across all fields of science using English as the main language of international publication has never been greater. As a result, the number of research articles written in English by non-Anglophone scholars is growing, and this trend is likely to continue. Because they do not have a native-like command of English, numerous TL writers have problems, for example, organising their thoughts accurately, which means their readers may find it difficult to understand what they try to say. It is important to remember that composing skills are writer-specific, not language-specific, and, as discussed earlier in this chapter, they transfer from the native to the target language. What does not transfer are grammatical skills, including accurate word choice, efficient sentence structure and text cohesion. These all need to be learned in more or less formal settings.

Writing as composing does not emphasise following grammatical rules to avoid errors because focusing on error avoidance diverts writers from what they want to say in the text. However, because some writing-focused concepts are teachable, while others are not, it is crucial for the teacher to consider which methods will be appropriate for a particular classroom setting. Since most teachers of English are language teachers rather than professional writing instructors, they are more likely to be concerned with what they consider to be teachable aspects, such as grammar, rhetorical conventions, cohesion and text organisation. Composing skills (e.g. logical reasoning, synthesising ideas) are essential for writers, but many teachers may prefer to focus on the technical competency in their writing-oriented classrooms rather than on the composing competency. Whether their choice is rational or not, what contributes to the improvement of the composing skills of learners is conditioned by a range of variables: learners' expectations and needs, teachers' own preferences and competences, educational settings, time constraints, and last but not least, curriculum requirements. The Author does not feel irresponsible for the intellectual development of her students, but she recognises that novice researchers in engineering disciplines can

practise their composing skills in their content classes with much stronger motivation and far better results. This goes in line with what Grabe and Kaplan (1998: 107) contend: "writing is not a skill that can be taught in isolation, but is the entire faculty's instructional responsibility". Indeed, research students tend to receive massive support from their supervisors, who are often very prolific authors of English-medium journal papers.

Chapter 2: The use of language simplification in scientific writing for publication purposes

Introduction

> But the secret of good writing is to strip every sentence to its cleanest components. Every word that serves no function, every long word that could be a short word, every adverb that carries the same meaning that's already in the verb, every passive construction that leaves the reader unsure of who is doing what – these are the thousand and one adulterants that weaken the strength of a sentence. And they usually occur in proportion to education and rank (Zinsser 2006: 7f.).

In today's world of scholarly publication, over 95% of all articles in peer-reviewed journals in science, technology and medicine indexed in the Science Citation Index are written in English (Hyland 2009a, 2016a). This is why scholars, who need to disseminate knowledge in a multinational academic community in order to advance their careers, need to know how to communicate clearly and effectively through writing in the English language, which determines "the perceived importance and validity" (Montgomery 2005: 1f.) of the scientific texts they produce.

Without a doubt, writing a scientific text that reads well and carries the intended meaning is a challenging task, whether it is written in a native or a foreign language. While presenting non-linguistic forms of expression (e.g. illustrations, formulas, graphs or tables) does not require special language skills, producing a well-polished and readable piece of scientific writing, especially in a TL, is more demanding. According to Woodford (1986: 3), successful writing in the sciences is "logically constructed, clearly expressed, and precisely worded", so demonstrating logic, clarity and precision in academic discourse should be the basic competence of every scientist-writer. Indeed, this is what several style guides for the written discourse, regardless of discipline, recommend (e.g. Fowler and Fowler

[1906] 1962; Gowers 1954, 1973; O'Connor and Woodford 1975; Zinsser 1976, 2006; Barrass 1978, 2005; King 1978; Strunk Jr. and White 1979; Woodford 1986; Turk 1989; Day 1992, 1998; Alley 1996, 2018; Bailey 1996; Macris 2000; Kirkman 2001; Manser and Curtis 2004; Młyniec and Ufnalska 2004; Weiss 2005; Yang 2006; Brandon 2007; Day and Sakaduski 2011; Sword 2012; Weiner 2012; Cutts 2013, 2020; Greene 2013; Gastel and Day 2017; Mack 2018; Blamires 2020; Stępień 2020; Siuda and Wasylczyk 2021). Despite this, many academic journals are filled with heavy, verbose, pretentious and dull writing produced by both NNESs and NESs (Woodford 1986: v; Greene 2013: 1-3; Johnson 2016: 51). This is because "[a]dvanced writing is frequently misunderstood as being synonymous with very complex syntax and rare lexis" (Witalisz 2006: 176). Therefore, the language of science is too often "burdened with redundant words, bloated phrases, and stilted language" (Day and Sakaduski 2011: x), which can confuse the intended audience and reduce their understanding.

Since being able to write and speak clearly is a necessary professional skill, the solution to the complexity and monotony of scientific writing lies in using simpler English. As Brumfit (1993: 5) once stated, "[w]e have to simplify, both in code and in content, otherwise we cannot communicate". In a similar vein, Kirkman (2001: 137) argues that "[f]or effective international communication, especially for communication in commerce, industry or research, it is wise to restrict the range and the complexity of the English used". This dissertation addresses mainly the code, but the content can also benefit from a more careful approach to language, which is the medium through which the content is transmitted.

The chapter begins with the concept of language simplification, its definition and its purposes. Next, it provides examples of English-based controlled languages for specialist communication and simplified Englishes for general purposes. The sections that follow introduce the concept of plain language and provide an overview of Plain English (PE), its guidelines and its vital role in effective communication in various fields. Subsequent sections present the concept, characteristics and classification of English for Specific Purposes (ESP), with a special emphasis on English for Research Publication Purposes (ERPP), an offshoot of English for Academic Purposes (EAP). The chapter then provides insights into English as a prevalent language of scientific publication worldwide, the importance of language accuracy and the role of rhetorical conventions in scientific manuscripts intended for publication. The remaining sections of Chapter 2 describe the concept of scientific writing, its characteristics and the place of simple English in scientific writing.

2.1. The concept of language simplification

The origins of simple English lie in Old and Middle English. Influenced by other co-existent languages, users of English developed "a language within the language" (Richards 1943: 41; Richards and Gibson 1974: 32), a powerful and comprehensive means of expression due to the phrase-making capacities of the verbs of Anglo-Saxon origin like *give*, *get*, and *put* that can expand to form phrases like *give away*, *get off* and *put together*. It did not change when French and Latin became the languages of the nobility, and were used as separate written and spoken registers alongside English. This core language, with its most useful lexis, developed freely. It remained a spoken means of communication without any restraints of the written discourse. As a result, it developed high elasticity, idiomatic richness and simplicity of syntax (Zins 2009: 62). Modern English is a mixture of Anglo-Saxon words with their French- and Greco-Latin-based equivalents, which increase the overall number of its existing expressions[26]. This makes the language very rich in lexical items, but it also makes, as sometimes claimed, a lot of words redundant[27]. Although thousands of new words have entered Standard English throughout the ages, an average sentence contains basic and common words inherited from Old English (Scragg 1975: 40; Crystal 2012: 41). In fact, Anglo-Saxonisms are most frequently used words in the English language (Crystal 2000: 124; Greene 2013: 29). Therefore, it is the Germanic vocabulary that is responsible for the presence of simple English. The words of Anglo-Saxon origin seem to be chosen by native speakers (regardless of age and education) more often than those originated in Greek, Latin or French. For example, they prefer *take out* to *extract* and *put out* to *extinguish*[28] (Crystal 2000: 124). This tendency makes it possible for English to be easier to learn and to be limited in lexis in order to serve various communication purposes. Such

[26] English has borrowed thousands of words from 350 languages, and 75% of its lexicon is Classical and Romance in origin. It results in a massive number of doublets like *clothes* (Anglo-Saxon) and *attire* (French), or triplets like *rise* (Anglo-Saxon), *mount* (French) and *ascend* (Latin) (Crystal 2009: 23, 124).

[27] The opinion that a vast part of English lexis consists largely of synonyms and is therefore redundant was rejected by Corson (1985). He claimed speakers with a diverse and rich vocabulary can convey shades of meaning, which "adds succinctness and precision, not redundancy, to their lexicons" (Corson 1985: 48). Beyond doubt, a wider access to the English vocabulary – both general and specialist – enables users to describe or define complex ideas with higher accuracy and variation.

[28] French and Greco-Latin borrowings are considered more formal, bookish and polite. They contribute to the development of a stylistic variety of spoken and written discourse (Crystal 2000: 124). Orwell (1963: 329) observes that for some people, Greek words seem more scientific and learned, and that is why they commonly use Greek flower names instead of their vernacular equivalents. Gowers (1973: 50) posits that if English was stripped of Romance lexis, it would be deprived of its richness.

English does not impose limits on Standard English but offers them for occasions when a more restricted medium of communication is desirable.

It should be brought to attention that the terms *simplified*, *restricted*, *reduced*, *controlled*, *limited*, *special*, *structured*, *processable* and *modified* are often interchangeably used in linguistics to describe an easier, more accessible medium of communication that results from narrowing the lexical and syntactic choices of the language. Nevertheless, the term *simplified* is used in many contexts to describe a plainer and less complicated way of conveying knowledge and information with no limitations imposed on its lexis and syntax, whereas the notion of *restricted language*, introduced by John R. Firth ([1956] 1968), is often associated with a reduced linguistic system – spoken or written – used in everyday and specialised contexts (Crystal 2009: 56). For Firth ([1956] 1968: 98), *restricted languages* are specialist languages of the sciences, sport, commerce and politics with "a micro-grammar and a micro-glossary" (Firth [1956] 1968: 106). Similarly, Michael A. K. Halliday, Angus McInosh and Peter Strevens in *The linguistic sciences and language teaching* (1964: 190) wrote about "restricted languages and special registers" in relation to the language used by specialists in a particular discipline. These languages and registers fit into the mould of the umbrella term *English for Specific Purposes* discussed in Section 2.3. A *restricted code*, the term coined by Basil B. Bernstein (1971), refers to a language with simple sentence structure and a lack of abstract concepts. The term *controlled* is associated with the language whose lexis and syntax are strictly limited (Kuhn 2012; Crabbe 2017; *Specification ASD-STE100 Issue 8* 2021), and the Author uses this term in the dissertation only in reference to English-based controlled languages (e.g. ASD-Simplified Technical English, Caterpillar Fundamental English, Bull Controlled English).

To avoid ambiguity, while reviewing literature and discussing a wide selection of contexts in which Standard English is made less complex, the Author uses the original terminology. Nevertheless, in reference to her own teaching practice – developing and running a writing-focused course for PhD students of engineering disciplines – she calls this kind of English *simplified* (i.e. made plainer, clearer and easier to understand)[29], *simple* or *simpler*. It results from the fact that the communication mode she discusses in the classroom and recommends in the scientific written discourse for publication purposes involves

[29] According to the *Longman dictionary of contemporary English* (Summers 1990: 980), the word *simplify* means "to make plainer, easier". *CollinsDictionary.com* offers the following definitions: "to make less complicated, clearer, or easier", "if you simplify something, you make it easier to understand or you remove the things which make it complex".

applying more carefully selected (but not strictly limited) lexical, syntactic and textual patterns.

The sections that follow address definitions of *simplification* (Section 2.1.1), and reasons for creating English-based controlled and simplified languages (Section 2.1.2).

2.1.1. Defining language simplification

The term *simplification* is associated with a variety of language-based concepts. Widdowson (1985: 196) defines simplification as "the process whereby a language user adjusts his language behaviour in the interests of communicative effectiveness". Hirvela (1988: 135) offers the following definition: "[s]implification is the product of a carefully constructed attempt to rearrange discourse so as to match the linguistic needs and abilities of learners at a specific place in their language development". For Brumfit (1993: 4), simplification is a process that enables users to "concentrate on what is currently important and to ignore what is currently irrelevant. It prevents clutter in the mind". If simplification is connected with reducing the linguistic complexity of structures in spoken and written discourse, it belongs to the domain of **linguistic simplification**. Its key feature is a reduction in vocabulary size and sentence length (Brumfit 1993: 3). If precision is not a goal, linguistic simplification, even leading to inaccuracy or non-standard forms, can be justified or neglected, especially if it results in communicative success (Grzega 2006: 10). If the simplification includes "ideas, plans, or programmes whose primary goal has been to smooth the process of teaching and learning languages", it is called **pedagogic simplification** (Tickoo 1993: v). Widdowson (1985: 200) contends that "[a]ll teaching involves simplification" and "the teacher adjusts his language behaviour in the interests of communicative effectiveness". The methods of pedagogic simplification are based on limiting and selecting grammatical items of a language to provide the learner with a rapid and significant growth of language competences (Titone 1968: 103). They can be used, for example, in the early instruction of a native language to children or in the teaching of illiterate adults, foreign-born emigrants and native residents with a different mother tongue.

The simplification of the language can be institutionalised (if it is used, for example, in the company's technical documentation) or uninstitutionalised (if it is applied occasionally in some situational contexts). Some forms of simplification result in erroneous (or non-

standard) language and produce undesired results. Others make the language smooth and natural, or facilitate communication for native and non-native language users, language learners, and people with language disorders, learning differences or intellectual disabilities. Some of these non-standard Englishes are intentional and purposeful; others are intuitive and consistent with the principle of the least effort.

There are several forms of linguistic and pedagogic simplification of English – of various kinds and degrees – that address the needs of different speakers, listeners, readers and writers. They deal with a wide range of deliberate and unintentional modifications in using, learning and teaching the English language. The examples of simplified communication that follow are selective but cover a variety of users' needs; they include:

- simpler registers such as the foreigner talk, child directed speech and teacher talk used to communicate with people of lower language proficiency (Richards et al. 1985: 34, 108; Papoušek et al. 1987: 493; Carter and McCarthy 1997: 46; Long et al. 1991: 3f.; McArthur 1992: 99; Crystal 2009: 237, 377; VanPatten and Benati 2010: 70; McArthur et al. 2018: 112, 249, 627);
- contact languages (e.g. pidgins, International Business English for business communication between NNESs) (McArthur 1992: 700; Johnson and Bartlett 1999: 9; Crystal 2009: 336; McArthur et al. 2018: 472-474);
- easy reading books (basal readers for children and graded readers for adults) (Kelly 1976: 141f.; Richards et al. 1985: 125; Hirvela 1988: 13; Nation 2013: 247);
- ways to communicate with learners with low literacy (e.g. learners with specific learning differences such as dyslexia, people with cognitive impairments such as Alzheimer's disease or learners with health problems such as brain injury and stroke) (Kormos and Smith 2012: 51, 70-74; Cutts 2013: 234-239, 2020: 268-274; Siddharthan 2014: 267); and
- spelling (Scragg 1975: 112-114; Crystal 2000: 277) and phonetic simplification of English (Jones et al. 2003: xv; Wells 2007: 255; Crystal 2009: 166).

Because discussing these forms of modification in more detail is outside the scope of the main body of the dissertation, they are not further explored in the sections that follow.

2.1.2. Purposes of English-based controlled and simplified languages

The need for a global lingua franca (or an auxiliary language) to facilitate international communication is not new. In the past, it led to plentiful projects mostly aimed at controlling vocabularies in various languages, not only English but also German, French, Spanish and Italian[30].

In English, "the first attempt in the mankind to create a simplified language within a language" (Flesh 1944: 343) was BASIC English (henceforth Basic English or Basic), a scheme of language control created by Charles K. Ogden in the late 1920s in Great Britain. It provided an impetus and framework for the development of English-based controlled languages (CLs) used for technical documentation all over the world (e.g. ASD-Simplified Technical English, Caterpillar Fundamental English, Bull Controlled English) (Cutts 2013: xxix, 2020: 309; Crabbe 2017: 23). Successive decades brought further attempts to promote clear and understandable English (both controlled and simplified) in scientific and technical as well as administrative, business and legal documentation (see Sections 2.1.2.1 and 2.1.2.2). One of such projects is Plain English, which has been actively promoted in Anglophone countries since the 1970s (see Section 2.2, and Appendices A, p. 363 and B, p. 368).

In spite of having different addressees and fulfilling different purposes, all the projects intended to make general and specialist communication in English clearer and more effective in order to easify the transfer of information and disseminate knowledge internationally. The sections that follow exemplify Englishes – **controlled** (i.e. fully restricted) and **simplified** (i.e. made simpler but not fully restricted) – that address the need for improving global written communication, both specialist and non-specialist.

[30] For details, refer to, for example, *Häufigkeitswörterbuch der deutschen Sprache* (Friedrich W. Kaeding, 1898), *French word book* (George E. Vander Beke, 1924), *A graded Spanish word book* (Milton A. Buchanan, 1927), *A German frequency word book* (Bayard Q. Morgan, 1929) and *Il piccolo vocabulario* (D. Zinno, 1933) (Fries and Traver 1950: 4; Ogden [1930] 1994, 2: 279). A vocabulary control movement that started flourishing in the 1930s in Great Britain and the United States gave rise to a number of word counts (e.g. *A General Service List of English words with semantic frequencies and a supplementary word-list for the writing of popular science and technology*, revised and edited by Michael P. West in 1953), which influenced language pedagogy in the 20th century (Carter and McCarthy 1997: 1).

2.1.2.1. Controlled Englishes for specialist communication

One of the seminal large-scale projects of natural-language simplification with worldwide official support was **BASIC English**, whose aim was to be "a universal second language for use throughout the world in general communication, commerce, and science" (Ogden 1937, 1968: 5). The term *BASIC* is an acronym for British, American, Scientific, International and Commercial (Ogden 1968: 12). Basic – a reduced version of English – was supposed to introduce learners of English to the Standard English language and English literature both as "a first step, complete in itself, for those whose natural language is not English", as "a grammatical introduction, encouraging clarity of thought and expression, for English-speaking peoples at any stage of proficiency" (Ogden 1937), and as a kind of plain English taught, for example, to foreign-born citizens (Walpole [1941] 1994, 5: 105; Fries and Traver 1950: 50). The system, with its 850-word core mainly of Anglo-Saxon origin, was viewed as a "nucleus of full English" (Richards and Gibson 1974: 38) or "not merely a simplified form of English but a language in its own right" (Howatt 2004: 284). It benefited from the analytical nature and richness of the English language – discussed earlier in this chapter – in which complex ideas can be broken up and put into simpler words, so the same meaning can be expressed with various lexical items. As a result, it was possible to break down thousands of words into more fundamental (or less abstract) forms (e.g. *go faster* instead of *accelerate*) and thus limit the number of words in the system without limiting its covering power.

Although Basic English was aimed at clarifying the thinking process of its users, and serving as a potential global auxiliary language and introduction to full English, quite a few then-linguists and educators complained that instead of providing learners with high-frequency (and common) words of Standard English, it gave them the possibility of expressing a great number of meanings with fewer words. This word economy effected circumlocutions, which made the language less natural (Titone 1968: 104). Nevertheless, Basic gained worldwide recognition by its contemporaries as a means of analysing and rationalising language teaching and learning problems (Richards and Gibson 1974: 33; Stern 2008: 101). It became "an awakener of thought" (Richards and Gibson 1974: 45) for teachers and learners of English because it aroused, as claimed, an interest in the language itself and the behaviour of its components. Despite worldwide acclaim, the "logical minimalism of Basic" (McArthur et al. 2018: 63) was found controversial, and its grammar and vocabu-

lary selection attracted a lot of critical remarks from prominent educators, linguists and leaders of the vocabulary control movement (Gordon 1994, 4: vii-x, 302). For example, Harold E. Palmer, Ogden's contemporary, called Basic "impractical, unsound and misleading" (Ogden [1930] 1994, 4: 253).

Even though Basic evoked conflicting opinions, the system, embodying "the virtues of plain usage" (McArthur et al. 2018: 478), inspired the devisors of other controlled and simplified modes of communication to set principles for vocabulary extension techniques or paraphrasing (Grzega 2006: 9). According to Kuhn (2012: 134), Basic English is "the first reported instance of a controlled version of English, at least the first one that received broader recognition". It became a precursor to modern controlled languages, that is, the languages with "a simplified set of rules and controlled vocabulary that shape and constrain the information in technical documents to help make it understandable and, in many cases, aid machine translation" (Crabbe 2017: 1f.). The English-based CLs are turned to in the remaining paragraphs of this section.

Controlled languages have been developed by many large manufacturing companies to produce their technical documents since the 1970s. For examples and characteristics of the CLs used in the industry, see Kuhn (2012) and Crabbe (2017). Some of the CLs are in-house language systems; others achieved worldwide popularity in different branches of industry (e.g. information technology, automotive industry, energy industry, healthcare industry). They can cope with technical and commercial information, such as maintenance and repair instructions, operating procedures and various types of descriptive writing. Since the CLs serve two (2) main purposes, they can be grouped into two (2) broad categories: human-oriented and machine-oriented. The primary aim of the former is to improve the comprehensibility and readability of technical documentation, and to simplify and standardise human-human communication for specific purposes. The latter's main objective is to improve the translatability of technical documents (e.g. user guides, safety procedures) (Schwitter 2010: 1113f.). Clear and concise writing in controlled-English ensures that each word is restricted to only one meaning. This approach facilitates comprehension and translation.The controlled languages cannot cope, however, with very abstract analyses or theoretical discussions, nor can they communicate the shades of meaning and nuances of tone in complex descriptions or arguments (Kirkman 2001: 137, 153, 158), so their use is limited to specific situations and needs.

One of the CLs used in a wide range of industries is **ASD Simplified Technical English** (henceforth also Simplified Technical English, ASD-STE100 or STE). It was originated by the AeroSpace and Defence Industries Association of Europe (ASD) in 1983 and officially presented for the first time as AECMA Simplified English in 1986. STE was primarily created for the aerospace industry to make its technical documentation (e.g. maintenance and operation documents) easier to understand, especially for NNESs. Its goal was also to make technical and machine translation easier. According to *Specification ASD-STE100 Issue 8* (2021: ii), the purpose of the system is to "tell technical writers how to write technical texts in a clear, simple, and unambiguous manner that readers throughout the world will find easy to understand". ASD-STE100 restricts English on the lexical level, as it has a dictionary that provides the so-called approved words that can be used in the text (e.g. "Rule 1.2. Use approved words from the dictionary only as the part of speech given", "Rule 1.3. Use approved words only with their approved meanings" [*Specification ASD-STE100 Issue 8* 2021: 1-1-2f.]). In addition to the core vocabulary, STE permits using company-specific technical words (referred to as *technical names* and *technical verbs*). Grammar is restricted too. STE allows for the use of specific forms and tenses (e.g. the active voice in procedural writing, no other modal verbs than *can* and three [3] basic tenses: the present simple, the past simple and the future with *will*). For all the approved lexis and sentence-level rules, see the STE specification (*Specification ASD-STE100 Issue 8* 2021).

Apart from being the lingua franca of technical documentation, English has become the sole language of communication in seafaring and aviation. Its reduced variations are currently used worldwide as a means of international transport operations in the sea and air. Their aim is to make communication as clear and unambiguous as possible in order to reduce to the minimum the possibilities of confusion in sending and receiving messages among ships and harbours, and planes and control towers (Crystal 2009: 57). Essential English for International Maritime Use (**Seaspeak**), now formalised as Standard Marine Communication Phrases, and air traffic control English (**Airspeak** or Federal Aviation Administration Air Traffic Control Phraseology) provide users with limited vocabulary, syntax and structure for messages in order to produce economical and accurate utterances on a wide range of topics. For example, a single word or phrase for each situation replaces longer chunks or many alternative sentence patterns (e.g. *Say again* instead of *What did you say?*, *I can't hear you* or *Please repeat that*) (McArthur 1992: 29; Taitt 1996: 142f.; Crystal 2002: 282; McArthur et al. 2018: 20). Consequently, ship-to-ship and ship-to-shore mes-

sages are restricted, for example, to no more than two (2) utterances. Besides, the systems include procedures for initiating, maintaining and terminating conversations (McArthur 1992: 830; Crystal 2009: 57; McArthur et al. 2018: 559). Despite reported instances of pilot-controller miscommunication that led to accidents, controlled English is the recommended medium for international air travel (Crystal 2002: 282).

Finally, controlled languages can be used in scholarly texts, especially in hard science. For example, Hooman Momen (2009) proposes **Scientish**, a standard scientific English with phonetic spelling, simplified grammar that lacks irregularities and "a rich and evolving vocabulary to allow the expression of complex scientific ideas" (Momen 2009: 654). Similarly, **Scientific Globish**, created by Vic Norris (2013) for standard scholarly communication, may appeal to scientist-writers whose English proficiency is not high. Its vocabulary is restricted and grammar simplified; it uses phonetic spelling, which makes the system much easier to learn. Both auxiliary languages of science aim at facilitating the teaching and learning of English and improving its comprehension. Also, they are supposed to make human and machine translation faster and more cost-efficient (Momen 2009: 654). Tychninin and Kamnev (2013: 504) state, however, that applying Scientish and Scientific Globish in journal articles "might open the door to further deterioration of the quality of English scientific writing". In their view, scientific English, used by intercultural discourse communities and affected by "alien linguistic habits" (Tychninin and Kamnev 2013: 504), is already a simplified version of Standard English, and there is no need to further simplify it.

2.1.2.2. Simplified Englishes for non-specialist communication

Regardless of mixed opinions about Basic English, the system exemplifies the code developed to facilitate communication for non-native learners of English and to serve as a global auxiliary language for businesspeople and scientists. There have been numerous projects intended to enhance rapid learning of working knowledge of English in a globalised world, and the examples described below are only illustrative. However, they show how English is adjusted on a lexical and syntactic level to cater for different needs.

For example, **Voice of America Special English** is a simple language launched in 1959 for world broadcasting inside the Voice of America, with its 1,500 word families as

core lexis and basic syntactic forms in the active voice. It has been providing information and entertainment to listeners whose level of English is lower-intermediate (Templer 2009: 194). Other projects, for example, **Nuclear English**, **Globish** and **Basic Global English** are often referred to as simplified Englishes based on Standard English that are supposed to be "[c]ulture-free (…) with no literary, aesthetic, or emotional aspirations" (Quirk 1984: 43). The originators of these modes of communication – Charles R. Quirk (Nuclear English, 1981), Jean-Paul Nerrière (Globish, 2004) and Joachim Grzega (Basic Global English, 2005) – promote the most basic and frequent grammatical patterns devoid of metaphorical expressions that are (usually) problematic (Grzega 2006: 6, 12). Next, **Simple English**, with its easier vocabulary, basic grammar and shorter sentences, can be selected by Wikipedia users with lower levels of English language proficiency (for details, see https://simple.wikipedia.org/wiki/ Simple_English_Wikipediacan). **Euro-English** (also called EU English), a distinctive variety of English used by European Union's administration, is characterised by simplified sentence constructions, avoidance of idioms and colloquial vocabulary (Crystal 2010: 182). Although in-house jargon (called Eurospeak) used by European Union administration may be acceptable in draft documents as professional shorthand, it is not appropriate for addressing the general public because information of practical use should be written in accurate and clear language, not a confusing and unnecessarily complex register (*English style guide: A handbook for authors and translators in the European Commission* 2021: 5).

It bears emphasising that none of the simplified varieties described above appears to be a low-key system. Rather, it is a variety of English that naturally accommodates itself to the needs of its users, which, in due course, may lead to new standardised forms (Crystal 2010: 182). Simplified English may be invaluable as the language of audio guides and exhibit writing (used in museums' labels and exhibition areas) (Miller 2006). For example, the Royal Pavilion in Brighton (a historical monument and popular tourist destination in Great Britain) can be visited with a *Simple English* audio guide.

In sum, there are various types of simpler Englishes, as there are various purposes for which they were developed. Undeniably, any English-based controlled language used for technical communication can become an interesting curriculum component of the English classroom in some educational settings. Not only does it demonstrate how English lexis and syntax can be limited, and still convey specialist information in a clear and effective way,

but it can also inspire students to choose, for example, technical writing[31] as a professional career. Simplified English used for transferring information and knowledge can become a useful tool in an increasingly English-only world of scholarly publication, for the clarity and comprehensibility of the scientific text, which result from using simple English, are internationally valued. One of the ways to make a scholarly written text simpler but still clear and effective is to follow the guidelines of Plain English. Sections 2.2 and 2.4.2 refer to this form of expression in English in greater detail.

2.2. An introduction to Plain English

As reported earlier in this chapter, there have been several projects aiming at reducing the lexical and syntactic richness of English. Some of them have inspired systematic changes in the English spoken and written discourse; others have become an important medium of technical communication with staff and customers in many businesses worldwide. What lies at the heart of these projects is the belief that simplicity and economy of expression lead to the clarity and effectiveness of information and knowledge transfer.

Unlike Basic English and other controlled languages, Plain English "cannot be precisely, mathematically defined" (Kimble 1992: 1193). Still, it offers guidance for vocabulary selection, sentence structure, organisation and the layout of documents of various types. Not only is the simple style clear and direct, but it can also be subtle and sophisticated; it is certainly not oversimplified English (Passe 1964: 12). In essentials, it recommends replacing Classical vocabulary with Germanic terms (if possible and expedient), composing short active voice sentences and cutting verbosity on lexical, syntactic and textual levels. Although brevity is one of the aims of the plain language, claiming that simple English is only about short words and sentences is a misunderstanding of its objectives (Schiess 2003-2004: 63). Plain language writing should be as long as necessary to provide expedient information and explanations, for in some instances of the written discourse, "more writing is better than less" (Bailey 1996: 89). Nonetheless, all these recommendations are elementary principles of composition that William Strunk Jr. and Ewlyn B. White (1979: viiif.), the authors of the seminal book *The elements of style*, advise following. If TL learners

[31] Technical writing is presenting information in technical documentation (e.g. user guides, assembly manuals, product specifications, safety instructions or product recalls) in a clear, concise and user-friendly format.

(whose resources of expression are limited) turn to Plain English while producing their texts, they can approach the composing process much better. Back in the 1960s, Rivers (1968: 253) suggested that any learner should "clothe his thoughts in simple, lucid language that is well within his command". This advice is still relevant today. Yet, it is important to note Plain English should not be equated with low-literacy language, also known as *easy read*. The former is accessible, easy-to-follow language and format used to communicate with specialist and non-specialist audiences, whereas the latter is specially designed for people with low literacy levels (e.g. people with cognitive impairments, school dropouts and newcomers to English) (Cutts 2013: 234-239, 2020: 269f.). Similarly, Plain English bears no relation to English as a Lingua Franca (ELF). Although the purpose of both Englishes is to ease communication, PE does not assent to the grammatical inaccuracies that ELF validates. For more information about ELF, see Section 2.3.4.

According to Kuhn (2012: 161) and Piekot et al. (2019: 198, 214), Plain English is an English-based controlled language. The Author does not share this opinion because Plain English is not a language with grammatical rules that have to be strictly observed. Unlike controlled languages (e.g. STE), it does not limit word choice either. Plain English cannot be precisely defined, as quoted earlier in this section, which contradicts Schwitter's (2010) and Kuhn's (2012) definition of the controlled language. For Schwitter, controlled languages are "engineered subsets of natural languages whose grammar and vocabulary have been restricted in a systematic way in order to reduce both ambiguity and complexity of full natural languages" (Schwitter 2010: 1113). For Kuhn (2012: 123), a controlled language is "a constructed language, which means that it is explicitly and consciously defined, and *is not* [emphasis in the original, MŚ] the product of an implicit and natural process". Since no user of Plain English is required to "stay within (…) syntactic and semantic restrictions" (Schwitter 2010: 1120) that are typically required of the users of CLs, Plain English cannot be called the controlled language.

Subsequent sections provide the definition of the plain language (Section 2.2.1), overview the guidelines of Plain English (Section 2.2.2) and discuss its use in specialist (legal, administrative, commercial and medical) written discourse (Section 2.2.3). A historical overview of Plain English and a description of its main guidelines are provided in Appendix A, p. 364 and Appendix B, p. 369, respectively.

2.2.1. Defining plain language

The adjective *plain* came to Modern English from Latin *planus*, which means "flat, even, low, clear, intelligible" (MacArthur 1998: 112). It has been used since the 14th century to mean *clear*, *simple*, *easy*, *clearly understood* and *not complicated* (*CollinsDictionary.com*). It has contrasted with terms like *ornate* or *Latinate*. The phrase *plain English* may also mean "strong or foul language" (McArthur 1998: 109; McArthur et al. 2018: 478), but this meaning is not further referred to in the dissertation.

The idea of plainness in language goes back a lot further than the 14th century. It is rooted in the Roman rhetorical tradition (borrowed from Hellenism), which distinguished between rhetorical styles that were appropriate to certain audiences, purposes and occasions. The plain (or low and subdued) style resembled the language of ordinary speech with conversational vocabulary and relatively simple syntax. It was associated with delivering information; it was also a medium of popular entertainment in folktales and ballads. A register of short, concrete vernacular words put into simple syntax risked becoming vulgar or coarse. It worked, however, for matters where precision and clarity were appropriate (e.g. legal issues or finances) (McArthur 1992: 705, 1998: 112; Olmstead 2006: 26, 41, 86; McArthur et al. 2018: 477, 608). The idea of plainness in the English language has been discussed throughout the centuries by linguists, writers and politicians who either strongly supported it or fiercely opposed it. For details on the historical background and Plain English movements, see Appendix A, p. 364.

Back in the 1940s, Flesch (1946: 1) called plain language *plain talk* and instructed in his multiple publications "how to speak and write so that people understand what you mean". Eagleson (1992: 4), decades later, posits that "[i]t is not baby talk, nor is it a simplified version of the English language", but "[i]t is language that avoids obscurity, inflated vocabulary and convoluted construction". In the words of Garner (1995: 662), plain language is "the idiomatic and grammatical use of language that most effectively presents ideas to the reader". For Bailey (1996: 5f., 10), it is still straightforward communication with ordinary words that resembles speaking. In more recent years, Cutts (2013: xii, 2020: xviii) supports these opinions when he says that it is a clear and straightforward form of expression, both spoken and written, that is far from being childish or inaccurate.

Terms like *plain English*, *plain language* and *plain style* have been used to contrast with such expressions as an *inflated language*, the term indicating a wordy and turgid me-

dium of communication that has been used to describe a language, style and rhetoric since the 17th century. Plain language also differs from *gobbledygook*[32], an opaque and pretentious jargon, and from *bafflegab*, a confusing and confounding language that sounds impressive and has been associated mainly with politicians since the 1950s (McArthur 1992: 100, 407, 472; McArthur et al. 2018: 60, 275, 472, 477).

As regards written discourse, plain-language professionals claim, as quoted in Cutts (2013: xii, 2020: vxiii), that "[a] written communication is in plain language if its wording, structure, and design are so clear that the intended readers can easily find what they need, understand it, and use it". In other words, the language, organisation and layout of the text are presented in an approachable way. That is why plain language is considered to be an efficient and effective way of writing for the general public. A plain document should be easy to follow and understand because of accessible language put in an attractive layout that encourages reading (Eagleson 1992: 71; Cutts 2013: xii, xxxif.). Plain English also makes writing easier for authors who produce scientific and technical texts (Eagleson 1992: 7; Cutts 2020: 229-242). The guidelines of Plain English can be deployed in other specialist fields as well (e.g. law, business, medicine).

When it comes to scientific written communication, Eagleson (1992: 4f.) believes a scientific paper in any discipline can be written in plain language, regardless of the numerous technical words it inevitably contains. Kirkman (2001: 136f.) is yet another scholar who claims that it is beneficial to restrict the form of English used in intercultural communication, especially if readers are NNESs. In scientific writing, careful control of the range and complexity of the language can help readers follow the text better. If the text adheres to Plain English guidelines, it is clear and easy to understand because what makes this text particularly difficult to absorb is not specialist terminology but, for example, overlong sentences. If the text contains technical polysyllables, the other words should be as simple and short as possible to facilitate its reading and understanding (Kirkman 2007: 13, 138). It does not mean that scientific issues are oversimplified, as the aim of Plain English is not to reduce the complexity of scientific concepts. Section 2.4.2 further elaborates on the role of simple English in producing effective scientific written discourse.

[32] The origins of the term *gobbledygook* date back to the 1940s, when it started to be used to describe the language of American politicians who make speaking and writing long, pompous, vague and full of Latinisms. It was also used to describe long writing or speaking with simple words, which were repeated several times instead of expressing the same idea in a few words (Flesch 1946: 124). The term was coined by a US Congressman, Maury Maverick, in 1944 to describe a wordy style with polysyllables that "packs a message with excess baggage and so introducing semantic 'noise'" (Chase 1954: 249, 251).

As far as the terminology is concerned, for some linguists, plain English is *simplified English*. For example, Flesch (1946: 20) talks about "simplified language" in *The art of plain talk*. Also, for Mellinkoff (1982: 61) and Crystal (2000: 374), plain English is a simplified, universally intelligible English. Stephens (n.d.) writes about *Clarity*, an England-based international organisation of plain language advocates that promotes "simplifying legal language". Garner (1995: 662) admits that, as regards the language, "simplifying is a higher intellectual attainment than complexifying". The Author also uses this term while referring to plain English.

In the dissertation, the Author addresses only English, although other languages are also made simpler by avoiding inflated vocabulary and complicated sentence structure (e.g. Polish and its *prosty polski*[33]; Norwegian and its *klarspårk*; or German and its *Einfache Sprache*). The literature analysed in this dissertation uses varying capitalisation because, for example, Kimble (1992, 2013) and Thrush (2001) write about *Plain English*, whereas Flesh (1946), Bailey (1996), Wydick (2005), Stephens (2010), Cutts (2013, 2020), Greene (2013), Wydick and Sloan (2019), and Blamires (2020) prefer *plain English*. The Author uses *Plain English* to describe a mode of communication (a writing style) with a set of guidelines, and *plain English* to address clear and easily understood Standard English. The terms *plain English*, *simple English* and *simplified English* are used interchangeably. *Plain language* is always spelled in lowercase letters, although, for example, Stark (2012) prefers capitalisation. In quotations, the Author uses original spelling. In the dissertation, only English-based systems are addressed, so the term *plain language* refers to English if not stated otherwise.

[33] In 2012, the Plain Polish Lab [Pracownia Prostej Polszczyzny] at the University of Wroclaw, Poland (http://ppp.uni.wroc.pl/) was established to analyse and edit texts on European funds, train officials and develop plain language guidelines for the websites of Polish government institutions. It has been issuing the Plain Polish Certificate since 2017 (Piekot et al. 2019: 214). Its other initiative, *Logios*, is an online service that checks the readability of texts written in Polish (https://logios.dev/). Another online service, *Jasnopis* (http://jasnopis.pl), offers similar functions. Postgraduate courses on the use of plain Polish in public institutions are offered by Adam Mickiewicz University in Poznan (https://wfpik.amu.edu.pl/studia/kierunki-studiow/studia-podyplomowe/prosty-jezyk-w-instytucjach-publicznych). In the era of the growing need for accessibility of information, the concept of simplicity in the Polish language is gaining popularity.

2.2.2. Plain English: an overview of the main guidelines

According to style guides that promote a simple language in the written discourse, Plain English has *guidelines*, *preferences*, *principles* or s*uggestions* that a writer needs to judge before application rather than *commands*, rigid *prescriptions* or inflexible *rules* (Kimble 1992: 1193, 2013: 46; Cutts 2013: xf., 2020: xvi) that have to be dutifully followed. However, Mellinkoff (1982: 90) calls them "plain language laws", and for Kuhn (2012: 161), they are "guideline rules". Hence a possible conviction that Plain English is a controlled language (Kuhn 2012: 161; Piekot et al. 2019: 198, 214).

Several manuals of the plain style provide users with overlapping suggestions about what Plain English covers, but there are also varying opinions about PE, so hard and fast principles of Plain English cannot be formulated. Nevertheless, the guidelines are usually associated with the text's readability and its layout. The former deals with lexical, syntactic and textual aspects of the written text; the latter, the so-called visual rhetoric, focuses on the graphic presentation of the content. Kimble (1992: 1194, 2013: 46) contends that the complete list of principles numbers in the dozens, and no set of principles can capture the subtleties of the plain writing style. He lists 41 guidelines that focus on general issues, such as vocabulary, sentence structure, the design of documents and their organisation (Kimble 2002: 44f.). Cutts (2020), in his recent book, *The Oxford guide to plain English*, lists 30 guidelines covering both discursive and non-discursive aspects of text production. There are, however, primary (or main) guidelines that occur in most publications on Plain English, and they all should be applied to produce a clear and accessible text. For example, in their seminal book on English grammar and usage *The king's English*, Henry W. Fowler and Francis G. Fowler ([1906] 1962: 11), told writers to prefer "the familiar word to the far-fetched", "the concrete word to the abstract", "the single word to the circumlocution", "the short word to the long" and "the Saxon word to the Romance". In a similar vein, George Orwell, who complained about the decline of English in his 1946 essay "Politics and the English language", formulated six (6) composition principles:

(i) Never use a metaphor, simile, or other figure of speech which you are used to seeing in print.
(ii) Never use a long word where a short one will do.
(iii) If it is possible to cut a word out, always cut it out.
(iv) Never use the passive where you can use the active.
(v) Never use a foreign phrase, a scientific word, or a jargon word if you can think of an everyday English equivalent.

(vi) Break any of these rules sooner than say anything outright barbarous (Orwell 1963: 335).

The clarity of the English language was not only important because of its functionality and aesthetic value but also because of its moral value. Orwell believed verbosity, abstraction and jargon were carriers of the language's corruption, which, in turn, affected the thought and sincerity of communication. The plainness of the language seemed to ensure the transparency of thoughts and resist their manipulation. In the 1930s, this issue, owing to the rise of fascism, was widely discussed (Cameron 2006: 67f.). In the context of a TL classroom, Plain English, stripped of historical associations, seems to function best as a neutral tool of information transfer. No ideological issues that have been accumulated for years should be of any importance, especially if the teacher is an NNES language instructor. Also, non-native student writers taking a scientific-writing course are most interested in getting a message across intelligibly in an academic text rather than in learning how to use the language in an ideological or political debate. However, as Atkinson (2003: 12) observes, "the manifold links that can be made between L2 writing and (…) areas of local, global, political, intellectual, technological, and socio-cognitive concern that are part of the landscape of (…) theory and practice in education, applied linguistics, and social science at the start of the 21st century" put a writing teacher – whether s/he chooses it or not – at the heart of important educational, cultural, social and political issues. This opinion, bearing in mind the power of (written) words, cannot be easily ignored.

As for the guidelines of PE, the ones exemplified in Table 6 below recur in numerous publications on Plain English (in general and more specialised contexts) (e.g. Fowler and Fowler [1906] 1962; Flesch 1946; Garner 1995: 663f.; Kimble 1992: 1192, 2002: 44f.; The Securities and Exchange Commission 1998; Schiess 2003-2004: 71-75; Wydick 2005; Stephens 2010: 100-126; Cutts 2013: xxxi, 2020: xxivf.; Greene 2013: 12-51, 60-65; Wydick and Sloan 2019; Blamires 2020) and, as pointed out earlier in this section, are by no means exhaustive. Although these guidelines are primarily aimed at producing readable written texts, they also enable writers to produce more *writeable* writing (Stark 2012). A brief description of each guideline is provided in Appendix B, p. 369. Also, examples of how applying the PE suggestions improves the clarity, effectiveness and readability of authentic sentences extracted from students' abstracts and full research papers are provided (see Table 31 on p. 377).

Table 6. Selected guidelines of Plain English.

	Plain English favours:	
Lexical level	•	short, everyday words over polysyllable Latinates
	•	verbs over nouns and adjectives
	•	concrete nouns as subjects and concrete verbs over abstract ones
	•	content words over function ones
	•	word saving
	•	compound nouns (but not multiple-word ones)
	•	consistent vocabulary
Syntactic level	•	short and medium-length, simple sentences
	•	a subject-predicate-object order
	•	the active voice
	•	positive statements
	•	a less circumlocutory style
Textual level	•	parallel structures in lists
	•	transitions to link ideas within and between sentences
	•	accurate punctuation

The Author's role in her teaching practice is to help novices to scientific writing heighten an awareness of language problems that typically occur in their scholarly writing, understand the cause of these problems and instruct how to solve them with the use of Plain English. Hence, a focus is placed on linguistic simplification in the language education intended for doctoral students at a technical university.

2.2.3. The use of plain English in legal, administrative, commercial and medical writing

Because "almost everybody must write" (Flesch 1946: x), being able to express oneself "clearly, concisely and persuasively in writing is an essential skill" (Barrass 2005: 1). In several publications, researchers and practitioners from various fields have been campaigning for avoiding a pompous style and using words economically, regardless of the rhetorical situation (e.g. Alley 1996, 2018; Cutts 2013, 2020; Greene 2013; Wallwork 2016; Gastel and Day 2017; Mack 2018; Wallwork and Southern 2020). They claim that plain language helps readers who are "confounded by turgid bureaucratic prose, disarmed by tortuous questions on official forms, and appalled by the prevarications of government communications" (Peters 2004: 425). Therefore, documentation in legal, administrative, commercial and medical contexts should be composed with great clarity, effectiveness and

readability. The remainder of this section explains this opinion basing on relevant arguments.

First of all, lawyers are said to be the most notorious long-sentence writers, and **legal discourse** has been commonly known for its incomprehensibility (Flesch 1946: 36). It is often informally called *legalese* or *legalspeak* – a complicated language of legal documentation containing too much specialist terminology (McArthur 1992: 548f.; Garner 1995: 516; McArthur et al. 2018: 369f.). This complexity has its origin in long-standing and rigid conventions that have to be observed by legal practitioners. Since legal drafting needs to be precise, accurate and conventional, it becomes cumbersome and unintelligible to a layman. A number of familiar words and phrases from general English take on unfamiliar special meanings (the so-called terms of art), and grammar becomes obscure (Gowers 1973: 8f.). However, comprehending legal documentation by lay clients lies at the heart of the Plain English movement, and adopting a plain style is believed to improve the delivery of such content (Schiess 2003-2004: 53; Cooney 2015: 55).

Some legal writers have advocated a plain language style since the mid-19th century (Garner 1995: 662), but it is David Mellinkoff that is credited with starting the plain language movement in the law with his seminal book, *The language of law* (1963), which was "an endeavour to make an existing language better perform its function" (Mellinkoff 2004: viii). He describes legal discourse as wordy, unclear, pompous and dull, and strongly criticises it for having these features (Mellinkoff 2004: 24-29). Kimble (2013: 47) states that legal professionals and their clients prefer plain language to the conventional style: they read plain texts more willingly and faster, and understand them better. The application of simpler English clarifies legal written texts whose traditional style abounds in archaic words, doublets and triplets (e.g. *any and all*), formalisms (e.g. *in witness whereof*) and Latinisms (e.g. *inter alia*), which impede the understanding of a legal document by a lay reader (Mellinkoff 1982: 2-6, 133-135). There are some opposing opinions, though. Using simple words in legal statutes is believed to reduce the intellectual level of the documents (Stark 2012). Kimble (1994-1995: 52) disagrees that plain language is "anti-literary, anti-intellectual, unsophisticated". Conversely, he asserts that it is much more difficult to simplify than to complicate; writing plainly and directly is not as easy as it looks, and composing a clear and accurate piece of writing is a skill that needs practising (Kimble 1994-1995: 47, 53). Nevertheless, Plain English recommendations are optional, not obligatory, in any kind of writing unless they are imposed by legislation or in-house regulations, so it is the

writer's choice and responsibility to apply them. A set of guidelines for clear and effective legal writing can be found in Charrow and Erhardt (1986).

Along with the legalese, a number of analogical and usually pejorative terms have been made up to describe modes of communication that resemble jargon and are hard to follow by the uninitiated. These modes include the so-called academese, bureaucratese, commercialese, corporatese, business-speak, journalese and magazine-speak, medicalese, officialise/governmentese, agglomerese, sportspeak or technospeak. They are prose styles used by scholars, officials working in large administrative systems, businesspeople, journalists, medical professionals, official representatives of governments and large institutions, sportspeople and high-technology specialists, respectively (McArthur 1992: 154, 219, 647, 29, 940; McArthur et al. 2018: 90, 439, 630; Blamires 2020: 336-345). Nonetheless, back in the 1970s, Silk (1979: 13) claimed, for example, that abstract language and theories of economics can be explained in simple terms, helping a reader understand ideas that are often perceived as uninteresting or difficult. In later years, Kirkman (2001: 137) advocated that "[f]or effective international communication, especially for communication in commerce, industry or research, it is wise to restrict the range and the complexity of the English used". If writers of all sorts of documents (e.g. **forms**, **proposals**, **instructions** or **information leaflets**) use the language their audience can understand (regardless of the level of education) and ensure these documents are accurate and complete, the number of, for instance, applications that have been filled in incorrectly because of complex and ambiguous instructions will be reduced (Crystal 2000: 707; Stephens 2010: 13-17; Cutts 2020: xvii).

The plain language does not help only native readers understand administrative documents. It also helps non-native speakers understand a document's meaning, as confusing idioms or expressions that cannot be translated word-for-word are avoided. Documents written in simple English – with everyday vocabulary, a subject-predicate-object sequence and short sentences – are easier to process. The reader does not need to reread the sentence to understand the meaning it conveys. Also, because of a clear layout, the information the reader needs can be found easily and quickly. Likewise, if application forms, licences, insurance policies, hire-purchase documents, do-it-yourself manuals, labels on medicinal products and leaflets were presented in a clear and understandable medium, the general public would only benefit from them. Undeniably, a better understanding of government procedures, policies and citizens' own rights translates into receiving fair treatment, services or benefits (e.g. Eagleson 1992: 5; Cutts 2020: xvii). Clear language in administrative

documents can also save issuing institutions time and money (Crystal 2002: 286; Peters 2004: 426; Stephens 2010: 15). Badly written documents, on the other hand, may hinder communication between organisations, lower the productivity of a company, lead to lawsuits, or cause strategic and tactical errors (Douglas 2012: 28). Therefore, using simpler language in all sorts of documents should be in everybody's interest.

Finally, plain language is also useful in sharing **medical information** effectively. If patients with health literacy – in a narrow sense: the ability to find, comprehend and process medical information – were communicated with by means of simple language, they would be able to apply medical recommendations and take advantage of them in their daily lives and health-care contexts. If medical documents used for the diagnosis and treatment of patients are understood as intended, the information they contain is interpreted accurately and used safely. Even if medical concepts are complex and challenging to understand for non-experts, plainer medical writing can only contribute to clarifying them (Stuart 2007: ix). Apart from the patients, medical professionals can successfully exchange content conveyed in a simpler language among themselves, also in the form of presentation materials or journal articles (Sparano 2020: 5f.).

The movement towards simpler English has not been without its critics and has evoked conflicting opinions. On the one hand, "the 'simplify' philosophy" (Montgomery 2005: 8) has faced criticism as supporting writing that is "flat, dull, commonplace, unrefined or vulgar" (Cameron 2006: 65). Simplicity is claimed to diminish the quality of English and deprive documents of their professional character (Stark 2012). On the other hand, advocates of plain English argue that it is not a dumbed-down language, nor is it of worse quality only because a lay audience understands it easily. Regardless of the contrasting views, research shows that legal, government, business and medical documentation (e.g. consumer contracts, official forms, patients' diagnoses) written in simpler English brings substantial benefits to the institutions issuing it and its recipients (Cutts 2020: xixf.).

To conclude, Plain English is a form of expression that "avoids obscurity, inflated vocabulary and convoluted construction" (Eagleson 1992: 4). It is a clear and straightforward style that has nothing to do with stripping English to its essentials in terms of vocabulary and syntax. Proponents of simple English advocate its use in written discourse of various kinds. Plenty of studies reveal that readers of plainly written administrative documents find and process information faster and understand it better (Kimble 1994-1995: 62-65). It results

from applying the language-based guidelines of PE on the lexical, syntactic and textual levels as well as the extra-linguistic ones, such as bulleted lists, divisions and subdivisions of larger blocks of text, and the so-called white space. The same principles can be used to their best advantage in academic, legal, medical and commercial written communication.

2.3. The concept of English for Specific Purposes: an overview

English for Specific Purposes (ESP) belongs to the domain of Languages for Specific Purposes (LSP) (Dudley-Evans and St John [1998] 2012: 2). Although specific needs of language learners were already recognised in ancient times, in modern language teaching, it was Harold E. Palmer who reminded us in 1921 that "[w]e cannot design a language course until we know something about the students for whom the course is intended, for a programme of study depends on the aim or aims of the students" (Palmer 1964: 129). Nevertheless, the significant development of ESP in modern history started with the publication of Charles L. Barber's 1962 article on the nature of scientific English ("Some measurable characteristics of modern scientific prose") (Swales 1984: 1). According to Swales (2005: 43), the major impetus for the development of ESP was *The linguistic sciences and language teaching* by Michael A. K. Halliday, Angus McInosh and Peter Strevens (1964), where "[a] study of the needs of the learner in close detail and the preparation of a course that was specially designed for one particular group of learners" (Halliday et al. 1964: 188) were promoted to enter the teaching pedagogy.

ESP emerged from the increased use of English as the international language of science, technology and business in the 1950s and 1960s. This growth was affected by the development of the world economy after World War II, and expansion of economic, scientific and technical activity on a global scale. English, due to the economic power of the United States of America (henceforth the United States or the US) in the post-war world, faced no competition from other languages (Hutchinson and Waters [1987] 2010: 6). The demand was not for general English but for a specific kind of English that catered for the focused needs of professionals (e.g. businesspeople, engineers, medical specialists and academics) who conducted their activities internationally and expected more skill-based training (Sobkowiak 2008: 9). In addition, the demand for English led to a growing number of international students in Anglophone educational institutions who needed specialised lan-

guage instruction that would prepare them to study in English. The change in attitude and motivation towards learning English led to the development of cost-effective courses with clearly defined goals that would fulfil the requirements of a specific learner (Hutchinson and Waters [1987] 2010: 7). In the 1970s, the need for the global auxiliary language and efficient tailor-made courses coincided with a shift in language teaching from focusing on formal features of language to its actual use in real communication (Widdowson [1978] 2015a). It also coincided with new developments in educational psychology that prioritised learners and their attitudes towards learning.

ESP derived from the conviction that "if language varies from one situation use to another, it should be possible to determine the features of specific situations and then make these features the basis of the learners' course" (Hutchinson and Waters [1987] 2010: 7). These features are related to, for example, lexical items, registers as well as functions and skills needed in a particular discipline. The teaching of the target language was supposed to be matched to the different interests, needs and purposes of language learners. It was assumed that the relevance of the English course to the learners' needs would increase their motivation and make learning faster and more efficient (Hutchinson and Waters [1987] 2010: 8). This assumption resulted in language instruction that catered for the needs of specific groups of students. That is why ESP courses are commonplace in the landscape of English instruction worldwide.

In addition to the learners, ESP teachers can also benefit from discipline-oriented teaching. As ESP "involves developing new kinds of literacy: equipping learners with the communicative skills to participate in particular academic and professional cultures" (Hyland 2013: 109), ESP instructors can effectively contribute to the development of these skills. In Polish doctoral schools, there are no external curriculum obligations imposed on language teachers. They are usually designers of their own teaching materials and independent decision-makers as regards the linguistic and extra-linguistic content of their courses, leading to gains in professionalism and preventing job burnout. They can make their ESP classes more motivating, challenging and satisfying both for themselves and for their students.

The sections that follow define and describe the basic characteristics of ESP, and provide its taxonomies.

2.3.1. Definitions of English for Specific Purposes

There are definitions of ESP provided by, for example, Mackay and Mountford (1978a), Strevens (1980), Hutchinson and Waters ([1987] 2010), Robinson (1991), and Dudley-Evans and St John ([1998] 2012). They all differentiate between three (3) kinds of purposes: academic or professional study, occupational requirements and vocational training programmes. This section provides a brief insight into these definitions.

According to Mackay and Mountford (1978a: 2), ESP refers to the teaching (and learning) of English for "a clearly utilitarian **purpose**", which influences the methodology of materials production and classroom activity. This field of English language teaching is aimed at adult learners who require English for performing their working roles or advancing specialist careers. Its emphasis is on "the *purpose* [emphasis in the original, MŚ] of the learner for learning the language, not on the language he is learning" (Mackay and Mountford 1978a: 5f.). That is to say, the purpose of learning the language determines "the language required, skills needed and functions to which language is to be put" (Mackay and Mountford 1978a: 4).

Strevens (1980: 108f.) provides a comprehensive definition of ESP and, additionally, distinguishes between its absolute and variable characteristics. In essentials, ESP instruction is supposed to meet the particular **needs** of the learner and may be restricted to the language skills appropriate to the learner's discipline. In other words, the content matter of ESP courses – topics, discourse contexts, vocabulary, grammar patterns and language functions – is selected to meet the requirements of a specific discipline, area of study or designated occupation.

According to Hutchinson and Waters ([1987] 2010: 19), ESP is an approach to language learning which is based on learner needs and to language teaching which is directed by specific reasons for learning. In their view, the **reasons for learning** the language depend on the learner's motivation and expectations of the course as well as the time and place of the course. They point out that ESP is not a specialised variety or form of English that makes it radically different from other forms, nor does it draw on a particular methodology, as the processes of learning appear to be similar in General English (GE) and in ESP (Hutchinson and Waters [1987] 2010: 60f., 142).

Robinson (1991: 1) asserts that producing a universally applicable definition of ESP is impossible because "what is specific and appropriate in one part of the globe may well

not be elsewhere". Nevertheless, she also recognises the primacy of learner needs in ESP pedagogy, claiming that ESP is goal-oriented and the teaching materials used in ESP courses result from students' need analyses. The aim of these analyses is to clearly specify the tasks that students must complete in English. As a result, ESP involves "not so much teaching English for specific purposes but teaching English to specified people" (Robinson 1991: 5). Also, she notes that ESP instruction is often time-constrained, and the courses are taught to **homogeneous groups** of adult learners, determining the choice of activities and topics of the course (Robinson 1991: 1-3). She maintains that ESP, in general, is not a restricted language, although there may be short intensive courses intended for professionals who need a restricted code of fixed phrases or "a drastic selection and reduction of language items" (Robinson 1991: 16). This reduction, however, is not institutionalised or imposed but results from the particular needs of the learners and/or time constraints of the instruction. The concept of *restricted languages* has already been discussed in Section 2.1.

Drawing on the earlier work of Strevens (1980) and Robinson (1991), Dudley-Evans and St John ([1998] 2012) provide a definition of ESP and list its absolute and variable characteristics (see Table 7 below). They stress that ESP is an autonomous branch of English Language Teaching (ELT) with teaching methods that are different from those in English for General Purposes (EGP). ESP uses the methodology employed in the disciplines and professions it serves (Dudley-Evans and St John [1998] 2012: 4). For example, as regards the teacher-student interaction, the teacher may become a language consultant and facilitator rather than a knowledge provider. The learner may act as an expert in the discipline or field, which influences the classroom interaction and makes it less teacher-dominated. Also, language, skills, discourse and genres are selected to match the disciplines and professions. It bears emphasising, however, that a present-day classroom in EGP is supposed to be learner-centred with a teacher who is no longer a *fountain of knowledge*, but a classroom organiser, so the methodology of EGP and ESP is, in some respects, similar. Nevertheless, most language teachers do not have technical, medical, legal or financial expertise that they can efficiently use in the classroom aimed at engineers, medical professionals, etc., so their ESP students may take on the role of experts, regardless of the methodology.

Table 7. Absolute and variable characteristics of ESP (after Dudley-Evans and St John [1998] 2012: 4f.).

Absolute characteristics	Variable characteristics
• ESP is designed to meet the specific needs of the learner.	• ESP may be related to or designed for specific disciplines.
• ESP makes use of the underlying methodology and activities of the disciplines it serves.	• ESP may use, in specific teaching situations, a different methodology from that of general English.
• ESP is centred on the language (grammar, lexis, register), skills, discourse and genres appropriate to these activities.	• ESP is likely to be designed for adult learners, either in a tertiary-level institution or in a professional work situation. It could, however, be used for learners at the secondary school level.
	• ESP is generally designed for intermediate or advanced students. Most ESP courses assume basic knowledge of the language system, but ESP can be used with beginners too.

2.3.2. Basic characteristics of English for Specific Purposes

As the definitions of English for Specific Purposes offered by, for example, Mackay and Mountford (1978a), Strevens (1980), Hutchinson and Waters ([1987] 2010), Robinson (1991), and Dudley-Evans and St John ([1998] 2012) imply, ESP is:

- goal-oriented;
- needs-oriented; and
- aimed at specific-purpose learners.

Being **goal-oriented** means that learning the language is necessitated by a certain task to perform in this language. This task can be related to the educational or professional needs of the learner. That is why the content of an ESP course is determined by the practical English requirements of learners (e.g. scientists, technicians, medical specialists, business people), and the idea of learner needs is paramount in ESP's pedagogy. This is what Dudley-Evans (2007: 131) confirms: the key feature of ESP is that "its teaching and materials are founded on the results of **needs** [emphasis in the original, MŚ] analysis" or, as proposed earlier by Hutchinson and Waters ([1987] 2010: 12), on the results of "target situation analysis". Another feature of ESP is its **typical target group**. Specific-purpose learn-

ers are usually highly motivated adults who realise the knowledge of the foreign language helps boost their educational or professional careers. They are usually more advanced language learners with several years of EGP at school, who expect an ESP course to extend their knowledge and provide a different perspective. Nevertheless, ESP is not limited to the teaching of advanced adult learners. It can be taught to less advanced students from lower-level schools as well. In addition, ESP learners are also more homogenous than EGP learners, as they prepare for the same study or have the same job. They can be doctors, lawyers, business people and journalists, just to mention a few. All these factors affect the course duration, teacher-student interaction, teaching methodology and classroom activities. Last but not least, these factors contribute to the deeper interest of the students and their involvement in language instruction.

2.3.3. Taxonomies of English for Specific Purposes

The taxonomies described in this section were proposed by Hutchinson and Waters ([1987] 2010), Robinson (1991), Blue (1993), and Dudley-Evans and St John ([1998] 2012).

Hutchinson and Waters ([1987] 2010: 1, 17) divide ELT into English as a Foreign Language (EFL) or English as a Second Language (ESL), and English as a Mother Tongue (EMT). This taxonomy relies on the **learner type** and **learning purpose**. Both EFL and ESL refer to English as an Additional Language (EAL) which is taught to and spoken by non-native speakers. EFL can be subdivided in the same way as ESL, that is, into English for Specific Purposes and English for General Purposes/General English. ESP, which comprises English for Science and Technology (EST), English for Business and Economics (EBE), and English for Social Studies (ESS), can be further classified into two (2) main types according to whether the learner needs EAP or EOP. EOP is also known as English for Vocational Purposes (EVP) and Vocational English as a Second Language (VESL), e.g. English for Hotel Staff, English for Marine Engineers and English for Medical Sciences. In the words of Flowerdew and Peacock (2005: 11), "[t]he distinction between the two major branches of ESP [EAP and EOP – MŚ] is not clear-cut" because some aspects of instruction overlap and aim at both target groups.

Robinson (1991: 2-4) offers a different classification. She classifies ESP's branches – English for Academic Purposes (EAP) and English for Occupational Purposes (EOP) –

according to the **degree of the learner's experience** in the specific discipline and the **time when the learning occurs**. The former encompasses branches that relate to English needed in educational contexts (e.g. schools, universities) and is associated with learning a school subject or studying in a specific discipline, whereas the latter relates to professional purposes (e.g. vocationally-oriented courses and professional preparation). At university, EAP courses comprise pre-study, in-study, and post-study courses. Pre-study instruction is intended for students who have no field-specific knowledge and takes place prior to academic work; in-study courses relate to regular subject (or content) courses and share the same objectives; and post-study courses take place after the content course and offer a higher degree of specialty.

Another taxonomy, proposed by Blue (1993: 96), differentiates between **general** and **specific ESP**. There is English for General Academic Purposes (EGAP), aimed at pre-study learners or students from the same discipline, and English for Specific Academic Purposes (ESAP), designed for groups that are homogenous with regard to the discipline. Similarly, there are English for General Occupational Purposes (EGOP) and English for Specific Occupational Purposes (ESOP). Whereas instruction in EGAP focuses on teaching skills required across various disciplines (e.g. writing abstracts, referencing, understanding lectures), ESAP courses are focused on specialist genres that are characteristic of particular disciplines (e.g. reports, journal articles). Likewise, while EGOP instruction focuses on language skills not necessarily related to specific disciplines (e.g. note-taking, writing emails), ESOP courses are tailored to the requirements of a target situation (e.g. telephoning, giving presentations).

Finally, Dudley-Evans and St John ([1998] 2012: 6f.) divide EAP and EOP according to a **discipline** or **professional area**. EAP comprises English for Academic Science and Technology (EAST), English for Academic Medical Purposes (EAMP), English for Academic Legal Purposes (EALP), and English for Management, Finance and Economics (EMFE). EOP courses are subdivided into: English for Professional Purposes (EPP) with two (2) subcategories: English for Medical Purposes (EMP) and English for Business Purposes (EBP), and English for Vocational Purposes (EVP) with two (2) sections: Vocational English and Pre-Vocational English. EAP courses are aimed at students in a specific field, whereas EOP courses are designed for practitioners. Thus, EAMP (a branch of EAP) meets the needs of medical students and academics who use the language to read and write discipline texts, to apply for grants, to prepare (poster) presentations, and to write diploma the-

ses and PhD dissertations. On the other hand, EMP (a branch of EPP) caters for the needs of medical specialists who interact with patients (e.g. conduct patient interviews), write reports or take clinical notes. Vocational English is concerned with training for specific occupations, whereas Pre-Vocational English focuses on skills concerning finding a job (e.g. writing a CV and an application letter, attending a job interview) or learning about employer expectations. EBP or BE is classified within EOP, although it may be seen as a separate branch because it is an important category. Similarly, there are English for General Business Purposes (EGBP) and English for Specific Business Purposes (ESBP) that are designed to provide instruction on business-related language and skills (Dudley-Evans 2007: 133). The former refers to the courses designed for pre-experienced learners or early-career practitioners, while the latter concerns the courses intended for the learners who "bring business knowledge and skills to the language-learning situation" (Sobkowiak 2008: 17f.).

What the courses in all ESP branches have in common are the objectives and the language content that are structured according to learners' functional needs in a TL. In the case of junior researchers in engineering disciplines, their functional needs are mainly related to preparing oral presentations and poster presentations in English, and writing scholarly texts for publication purposes. This is due to the prevalence of English in scientific journals.

The sections that follow discuss the concept of English for Academic Purposes (Section 2.3.3.1) and its branch, English for Research Publication Purposes (Section 2.3.3.2).

2.3.3.1. The concept of English for Academic Purposes

English for Academic Purposes is one of the main branches of English for Specific Purposes, together with English for Occupational Purposes (Flowerdew 2016: 7f.). EAP is aimed at language instruction for study purposes, so EAP courses are designed for students preparing to enrol in English-medium university programmes or institutions. According to Hamp-Lyons (2001: 126), EAP is an educational approach that "begins with the learner and the situation", not the language itself, as it is in English for General Purposes. The course attendees are helped to learn study skills that are indispensable in academic settings: more

focus is placed on reading and writing formal academic genres, and more attention is directed to collecting, organising, retaining and retrieving information (e.g. taking notes, writing term papers and essays, understanding lectures, participating in discussions). The courses also provide instruction in the English language required in a particular academic discipline, although they are still general enough to be applicable in a wide range of contexts (Dudley-Evans and St John [1998] 2012: 34; Hamp-Lyons 2001: 127; de Chazal 2018: 7).

According to one of the taxonomies discussed in the previous section, EAP is divided into EGAP, aimed at students in all fields of study, and ESAP, aimed at the needs of students from one discipline, research postgraduates and practising academics (Blue 1993: 96). In both branches, the language is attended to at the levels of register (vocabulary and grammar), discourse (the communication between the written or spoken text and its audience) and genre (how language is used in academic texts such as research papers and dissertations) (Hamp-Lyons 2001: 127). Clearly, EAP is a field "deeply grounded in practical needs" (Hamp-Lyons 2001: 128) of learners, and its responsiveness to the needs of learners is its enormous strength. Thus, need analysis is as fundamental in designing an EAP course as it is in ESP.

The offshoots of EAP are also English for Research Publication Purposes (ERPP) and English for Professional Academic Purposes (EPAP). With the growth of English as the language of scholarship, both branches of EAP have become "a central part of ESP's research and teaching activity" (Hyland 2009a). According to Dudley-Evans and St John ([1998] 2012: 9), they may be translated into very specific ESP courses that offer academic support related to a particular skill. Such courses can be "geared to the specific needs of the target situation and of the individuals concerned" (Dudley-Evans and St John [1998] 2012: 9). They may not address, however, all the needs of academics who wish to publish in English. The notion of ERPP, which addresses these needs, is further explained in the section below.

2.3.3.2. The concept of English for Research Publication Purposes

Since more and more scholars need to express themselves in English within the scientific community, a considerable growth of scholarly interest in writing for academic publication

has been observed around the world in recent years. In the words of Lillis and Curry (2010: 1), 5.5 million scholars, 2,000 publishers, and 17,500 research or higher education institutions are involved in academic writing for publication. According to the 2009 Ulrich's Periodicals Directory, the most comprehensive listing of journals (as cited in Lillis and Curry 2010: 9), 67% of the 66,166 academic periodicals are published using some or all English. Also, the Institute of Scientific Information indicates that more than 95% of natural science journals and 90% of social science journals use all or some English. A prediction was that as many as two (2) million papers would be published annually by 2020 (Hyland 2016). At present, these numbers are different, but the prevalence of English in scientific journals, or "Anglification of scientific communication", as Ammon (2001: ix) puts it, is invariably high and continues to grow. This phenomenon emerged as a response to the rapid development of university education and research as well as internationalisation and competitiveness among universities and research institutions. In educational spaces, international publication has become a requirement of doctoral or even Master's degree graduation, which contributes to the increasing number of articles submitted to English-medium journals.

Because more and more scholars for whom English is not a native language are using it for publication purposes, the field of English for Research Publication Purposes has established itself as an important domain within English for Academic Purposes. This field addresses the concerns of early-career researchers and established scholars who publish their articles in peer-reviewed English-medium international journals meant for an international audience. It involves conducting research into, for example, discourse analysis, social constructivism and situated learning (Flowerdew 2013a: 307, 2013b: 250, 2016: 7f.) as well as developing teaching materials and activities to "facilitate the participation of novice scholars in the global research network of English" (Hyland 2009a). ERPP courses at Anglophone universities attract both international and domestic students (Hyland 2009a), which confirms that scholarly writing for publication poses considerable challenges to both native speakers of English and its non-native users. It is because publishing a journal paper entails attention to all kinds of linguistic and extra-linguistic concepts. NES novice writers face problems with, for example, word or tense choice, spelling, punctuation and cohesion to the same extent as NNES novice writers. Not all native speakers of English have an adequate knowledge of organisational logic and generic forms in their native language and rhetorical conventions, so they also need to learn discourse-level skills and become familiar

with the conventions of the discipline they belong to or aspire to join (Grabe and Kaplan 1998: 142; Wood 2005: 76f.; de Chazal 2018: 46; Glasman-Deal 2021: x).

In addition to writing a grammatically correct, well-structured scientific text that complies with expected writing norms, an author has to write a cover letter to the editor, respond to the peer-reviewers' feedback and revise the manuscript according to the reviewers' suggestions, which may include, for example, using a more authorial voice, simplifying the style and choosing appropriate words to avoid sensitivity issues. The extra-linguistic types of obstacles the author encounters while preparing his or her manuscript for publication include learning to use statistics, organising research procedures, complying with technological requirements and uploading the article (Hryniuk 2019: 111). Clearly, discursive and non-discursive competences – the research craft skills – are not acquired naturally but have to be learned and developed, so native-speakerness itself does not make an effective academic writer. This is what Montgomery (2005: 167) supports when he says that "good scientific writing in English is quite foreign to many native speakers, too". In fact, advanced academic writing competence is too complex to be acquired automatically by doing research or learning about it. Considering the above, learning how to do science and write about it must be learned by both NESs and NNESs.

To facilitate the writing and publishing process, Kwan (2010 in Flowerdew 2013a: 313, 2020: 178f.) proposes a model for the teaching of ERPP that focuses on the desired competencies of a successful ERPP practitioner. Apart from the surface-level language skills required to write a scholarly article, the model includes, for example, instructions on how to communicate with editors and peer-reviewers; how to identify a research niche; how to manage time or choose an appropriate target journal; and last but not least, how to handle manuscript rejection. The full model for teaching ERPP can be found in Table 8 below.

At Polish universities of technology, ESP courses are popular, if not prevalent, in the language instruction of first- and second-degree students. They usually focus on discipline-specific vocabulary as well as text types typical of technical fields (e.g. reports, processes, procedures). However, for a TL research student seeking publication in English-medium journals, such classroom instruction is no longer sufficient, so writing for publication should be "an integral part of scholarly formation" (Flowerdew 2013a: 316) in doctoral programmes. The Author's course offered to doctoral students at Bialystok University of

Technology – English for Academic Communication – meets the expectations of novices to research writing, as it handles a number of ERPP issues.

Table 8. Kwan's model of teaching ERPP (after Kwan 2010 in Flowerdew 2013a: 313).

Discursive and non-discursive tasks in ERPP instruction include:
• communicating one's research through the research article
• command of schematic structure
• command of discipline-specific citation language and metadiscourse
• command of generic writing skills (e.g. argumentation, coherence)
• communicating with gatekeepers about the research article
• command of relevant genres
• strategic research conception
• command of disciplinary academic rigour
• ability to find a niche
• ability to relate appropriately to the international community
• strategic management of research and publishing
• managing a time cycle
• ensuring a required number of publications
• knowing appropriate journals

2.3.4. English as a lingua franca of scientific publications

Over the centuries, the world has seen various linguae francae (or auxiliary languages) adopted as common verbal communication media between speakers of different native languages. Without a doubt, in the 21st century, English has become the lingua franca of worldwide communication. Its status has given rise to the notion of English as a Lingua Franca, which is "a 'contact language' between persons who share neither a common native tongue nor a common (national) culture and for whom English is the chosen *foreign* [emphasis in the original, MŚ] language of communication", as Firth (1996: 240) once put it in one of the earliest definitions of ELF. It can also include native speakers of English if they communicate across cultures. McKay (2011: 127) uses the term *English as an International Lingua Franca* (EILF) as an umbrella term for the use of English between any two (2) TL speakers of English, and between L1 and TL speakers of English. According to Hülmbauer et al. (2008: 26), in terms of scope of use and frequency, ELF is "the currently most preva-

lent language for intercultural communication". Typical grammatical features of ELF include, for example, dropping the third person present tense *-s*; confusing the relative pronoun *who* and *which*; or omitting definite and indefinite articles when they are obligatory in English as a native language (ENL) (Seidlhofer 2004: 220). In linguistics, ELF usually refers to English as a means of communication and a third language for speakers of different L1s. It prioritises intercultural communication rather than idealised, native-speaker linguistic or cultural norms (Hülmbauer et al. 2008: 26; Oxford 2017: 343). As Hülmbauer et al. (2008: 28) posit, "it is possible for one person to be in the position of an ELF user at one moment and of an EFL user at another moment, depending on who he or she is speaking to and for what purpose". Whether NNESs should appropriate English and shape it to their needs in EAP communication contexts (as ELF users) or whether they should adhere to norms that they know from a TL classroom (as TL learners) is referred to in Section 2.3.4.1.

At present, English, with its non-native speakers outnumbering its native speakers, is the working language of intercultural organisations and conferences, of international education and research and of many fields of science and technology. Also, international business and banking are done in English (Komorowska 2006: 113f.). Widdowson (2004: 362) claims that English is "not just an international language but the international language, the language of wider communication, the global language and the language of globalisation. This clearly has implications for how we design our pedagogy for the teaching of the language, including what course objectives we set for our students to achieve". These implications are further discussed in Chapter 4. Because the language of science is believed to be culture-free and non-native in nature, a stronger emphasis given to information transfer rather than the medium of this transfer seems justified and welcome by NNESs in various disciplines. This aspect of English in scientific contexts is further referred to in the next section.

Scientists communicate in various ways, but a lot of the scientific communication that is valued academically and professionally takes place between non-native speakers of English in English-medium international scientific journals. English has become the preferred language of science, as it guarantees the article is read and cited by a wider audience and thus communicates science worldwide. An increasingly prominent role of English in scholarly publications stems from diverse factors, which are described in greater detail in the remainder of this section.

As already discussed earlier in this chapter, in the 20th century, the hegemony of English[34] resulted foremost from the **economic and geopolitical dominance** of the United States after World War II, although the language assumed its prominent role much earlier (see Crystal 2010). With its intact technological and educational infrastructure, the post-war United States became the world's leader in economy as well as science and technology transfer, which encouraged the migration of European scientists, the growth of research-oriented universities and generous scientific founding (both from the government and private sectors) (Hyland 2016). According to Grabe and Kaplan (1998: 156), the US "became both the largest contributor to the pool of scientific information and the greatest user of such information". The language of this information was, of course, English.

Alongside economic and geopolitical factors, the global leadership of English results from the **richness of its lexis**. Consequently, articulating technical matters in English seems to be easier than in any other language, also because in some languages, terminological equivalents of English words and phrases may not exist (Jaffe 2003: 44; Bennett 2013: 170). This strengthens the privileged position of the English language.

In the 1970s, numerous scientific journals started switching to English and many leading journals, once printed in native languages such as German (e.g. *Angewandte Chemie*) or French (e.g. *Annales de l'Institut Pasteur*), are now published only in English (as *Applied Chemistry* and *Research in Immunology*, respectively) (Day 1992: 9; Wood 2005: 71). This further strengthened the position of the English language in the scholarly world. The prevalence of English varies between fields and disciplines, but the most prestigious and most cited journals in the majority of fields of science are currently published in English. As a result, it has become a leading global language of science in Europe after the fall of the Iron Curtain (1991) and the expansion of the European Union (2004). As Bennett (2013: 170) aptly observes, "[s]ince the 1990s, (…) English has emerged as the unrivalled vehicle for the transmission of knowledge in the modern world". Another factor consolidating the position of English in Europe was the Bologna Process and the European Higher Education Area commenced in 1999 and 2010, respectively. These initiatives have led to increased mobility of students and academia, and the establishment of unified certification and accreditation standards that facilitated the internationalisation of universities.

[34] The aim of this dissertation is neither to discuss the advantages and disadvantages of the spread of English as the language of international research and publication nor to debate whether the local knowledge that is of high value to a local community requires English rather than a local language (cf. Swales 1997; Ammon 2001; McGrath 2015). These burning issues are not specifically addressed in the thesis.

This, in turn, "increased academic competitiveness and outlined new perspectives for disseminating and communicating research results for international audiences" (Warchał and Zakrajewski 2021). Publishing in highly-indexed international disciplinary journals became an important assessment criterion in the evaluation of higher education institutions and their researchers, which is strongly tied to research funding provided by governmental agencies. Not only are such publications more valued in research evaluation reports in researchers' home institutions (and thus contribute to career development), but they also enable their authors to interact with foreign scholars who work in the same area. Subsequently, publishing in English has become "a career imperative" (Hyland 2016). This imperative poses a serious challenge to non-native science writers, for their manuscripts, apart from having high scientific value, need to be written in accurate and appropriate English.

Despite these prerequisites, articles found in scientific journals are often badly written, no matter what discipline or field they represent[35]. This observation is made by readers, writers and editors of scientific journals (Woodford 1986: v; Sword 2012: 4; Greene 2013: 1). There may be three (3) main reasons for this: the low scientific value of research work, the deficient organisation of the article and an inadequate writing style. Discussing the reported science and the organisation of the journal article, as well as their roles in increasing the chance of having the manuscript published, is beyond the scope of this dissertation. The importance of attending to language-oriented issues (which the notion of a writing style encompasses) in journal papers is referred to in Section 2.3.4.1, whereas Section 2.3.4.2 focuses on the role of rhetorical conventions in scientific writing for publication purposes. It describes whether they are vitally important in the transfer of scientific knowledge and whether TL science writers are disadvantaged in having their research published if they fail to conform to Anglophone rhetorical norms.

[35] This opinion is opposed by, for example, Montgomery (2005: 165), who claims that it is neither true to state that "scientific writing is bad", and novices to science writing cannot rely on more experienced colleagues nor to suggest that "nearly all editors are poor at their jobs".

2.3.4.1. The importance of language accuracy in the scholarly texts of target language writers

Wood (2005: 82f.) contends that since English has become the international language of science for research writers and readers of any language background, it is owned by the international community of scientists. This view finds support in Widdowson (2015b: 40), who says that for researchers and scholars in science and technology as well as other disciplines, "[s]tandard English, especially in its written form, is their language". It may be assumed from these opinions that international scientific English is a part of science, not just a part of English, which suggests less pressure is put on non-native writers to produce scientific texts that demonstrate native-like proficiency. Seemingly, it is "the scientific quality of the research produced by the members of the community" (Wood 2005: 81), not the quality of the language employed to convey scientific issues that takes (or should take) precedence in a scholarly text. However, 31% of the respondents in Hryniuk's study (2019: 10, 114, 116) claimed that the quality of language is very important in prestigious linguistic journals. Also, the majority of the study participants reported that the aspects that reviewers of their manuscripts focused on and commented on were clarity and readability. These findings validate the importance of language accuracy in texts written for academic and professional purposes. They also confirm the fact that the notion of English as a Lingua Franca, with its dismissal of "over-deference to native-speaker norms" (Hülmbauer et al. 2008: 27), may not receive full support in academic and professional settings. Hülmbauer et al. (2008: 28) opine that ELF speakers should be "*primarily* [emphasis original, MŚ] users of the language, where the main consideration is not formal correctness but functional effectiveness". In the case of verbal communication, accuracy may have a lesser role, but in academic and professional written discourse, language inaccuracy places the text and its author as a publishable science writer at a disadvantage.

Undoubtedly, the clarity of knowledge construction and information transfer in engineering disciplines is paramount and suppresses native-like or near-native-like language facilities, such as sophisticated idiomatic expressions or highly complex syntactic constructions. It happens especially if "[m]ost second language (TL) learners of English are not learning English primarily to communicate with native speakers, either abroad or in English-speaking countries; they are learning it for academic or professional advancement

and/or to communicate with other non-native speakers of English at home or overseas" (Tomlinson 2007: 70). Maureen et al. (2010: 638) support this opinion when they say:

> [s]trictly speaking, academic discourses in themselves have no native speakers: they are learned in secondary socialization by all participants in academic communities of practice. Issues of register, specific terminology and phraseology, along with mastery of relevant genres, acceptable modes of argumentation, and ways of presenting a case, are all consciously learned skills which are not acquired in the same way as a mother tongue.

Nevertheless, if the author wants editors and peer-reviewers to understand and evaluate the science s/he reports, the quality of the written presentation of the science should not be less important than the science itself (Mack 2018: 50). In fact, non-standard language can contribute to unsuccessful submissions, even if the final acceptance or rejection of a manuscript is mainly based on its scientific value. However, if the submitted manuscript demonstrates a low level of English, editors may refuse to accept it for a reviewing process, also because the journal staff do not have time and resources to thoroughly edit all the submitted texts (Jaffe 2003: 44; Drubin and Kellogg 2012: 1399). This is what Hyland (2009a) confirms: special care should be given to language issues because "[i]n a context where editors are overwhelmed with submissions and are often looking for reasons to reject manuscripts, non-standard language may serve as good a reason as any to justify this". Therefore, science writers should be more careful about the language quality of the text they produce in academic and professional contexts.

This fact may worry NNES authors because in many journals, regardless of the discipline, guides for authors do not discuss any grammar, usage and style features, discourse conventions or rhetorical norms that are expected in manuscripts. They only inform authors to write in "good English" so that they "conform to correct scientific English" (https://www.elsevier.com/journals/engineering-failure-analysis/1350-630/guide-for-authors)[36]. However, scholars are not explicitly informed by the editorial staff what *good English* or *correct scientific English* is because its constituents are not specified in the guide for authors or elsewhere on the publisher's website. Whether or not a manuscript is written in the expected way is often assessed by the subjectivity and discretion of the reviewer (p.c.). The

[36] This information can be found in several scientific journals, e.g. *Engineering Failure Analysis*, IF 3.114 (https://www.elsevier.com/journals/engineering-failure-analysis/1350-6307/guide-for-authors); *Automation in Construction*, IF 7.7 (https://www.elsevier.com/journals/automation-in-construction/0926-5805/ guide-for-authors); *Journal of Network and Computer Applications*, IF 6.281 (http:/www.elsevier.com/journals/journal-of-network-and-computer-applications/1084-8045/guide-for-authors); and *Current Opinions in Psychology*, IF 5.717 (https://www.elsevier.com/journals/current-opinion-in-psychology/2352-250X/guide-for-authors).

components of *correct scientific English*, however, should not be subjectively chosen by the initiated audience. They should be overtly presented to every scientist-writer so that the language of his or her manuscript can meet the journal's requirements before the text is submitted. Undeniably, every scientist would benefit from reading house-style instructions before writing a paper, adapting them while writing it and checking the text against them before submission. Because the instructions are unavailable, the manuscript may be initially rejected not only because of its low scientific value but also because of the low standard of written English (often described by referees as *poor English*) that obscures its content. Undoubtedly, the scientific quality of the manuscript can be assessed with difficulty if, for instance, sentence construction is incomplete or contorted, and lexis imprecise (Kennett 2014: 63). However, in many instances, the definition of *poor English* and examples of faulty language are not provided by the referees, which leaves the author of the reviewed manuscript confused and uninformed[37].

To conclude, science writers need to consider two (2) aspects of their manuscripts: the quality of the research work being reported and the quality of the written presentation of this work. The former is the judgement of the science involved (e.g. planning and executing experiments, analysing the resulting data, relating the results to the larger framework of the scientific field), whereas the latter considers the quality of the language. While improving a faulty presentation is easier than improving faulty science, the language quality of the manuscript affects the judgement of the work; the paper may be rejected due to poor writing without assessing the science involved (Mack 2018: 50). The attitude towards non-native scholars and writers is changing, as some English-medium journals, for example, *The Nordic Journal of Linguistics*, accept articles written in English without making them go through "linguistic cleansing" (Maureen et al. 2010: 647), which indicates their openness to cross-cultural variations in scientific English[38]. Since this type of English belongs to any-

[37] The language quality of manuscripts written by non-natives is often evaluated by editors and reviewers of academic journals who are NNESs themselves. This may raise serious doubts as to their reliability and fairness of assessment, especially if they criticise language issues using inaccurate English themselves, and if they neither point out erroneous wording nor suggest improvements (Tychninin and Kamnev 2013: 505; p.c.). Sometimes the reviewers express conflicting opinions: one reviewer states the text is not suitable for publication due to the faulty language, whereas the other reviewer points out only minor language mistakes (p.c.). Also, critical remarks in referees' reports or recommendations in the editor's commentary can be hedged or phrased as questions or gentle suggestions, which does not help NNES writers understand them well or respond to them adequately (Hyland 2009a). Wallwork and Southern (2020: 112) address the referees in the following way: "If you are the reviewer, do not make generic comments about the poor quality of the English. Ensure you give a few concrete examples, or consider not making any comments at all".

[38] The journal's language requirements concern only avoiding discriminatory overtones in wording and incorrect spelling: "[e]ither British English or US English conventions for spelling and expression should be fol-

body who communicates in it, native-like proficiency may no longer be perceived as the ultimate goal of research writers. Also, changes in the language structure that result from adopting ELF in scientific discourse should not be treated as errors and deplored as the deterioration of Standard English (Paradowski 2008: 93). Despite these opinions, a publishable paper should be "as clear and as free of errors as possible" because "[w]rong terms, missing words, or confused grammar will damage or obscure (…) meaning" (Montgomery 2005: 162). According to the respondents in Hryniuk's (2019: 162) study, a scientific text should be written well enough to be accepted for publication by the journal's editorial staff. Thus, the language accuracy of the text needs to be ensured if the author wants to increase its scientific value, chances of publication, readership and visibility. In turn, accuracy can benefit if plain language is employed. The place of plain English in scientific writing is discussed in Section 2.4.2.

2.3.4.2. The role of rhetorical conventions in scientific writing for international scholarly publication

As already discussed in Section 1.6, every language demonstrates culture-specific rhetorical thought patterns that influence both spoken and written discourse in any register and genre, and scientific texts are no exception. Nevertheless, according to Kaplan ([1986] 2001: 17), a "scientific and technical text has developed a separate culture of its own (…) and the English that is in use is, at least to some extent, free of the culture of a particular society". Over two decades later, Hülmbauer et al. (2008: 25) acknowledge English "as being dissociated from its primary lingua-cultural roots and transferred to new communicative contexts", which indicates the role of English as a contact language in today's globalised world. These opinions, if approved of, should translate into less strict requirements to observe writing conventions that a particular culture imposes on writers composing in the language that belongs to this culture. There are contrasting views about writing norms and their observance in scientific texts published internationally.

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lowed consistently. (…) Please run a spellchecker on the final draft to eliminate basic detectable typos" (https://www.cambridge.org/core/journals/nordic-journal-of-linguistics/information/author-instructions/ preparing-your-materials).

On the one hand, if English is a medium of intercultural scientific communication, and it is no longer the preserve of its native speakers (Paradowski 2008: 93; Flowerdew 2013b: 253; Widdowson 2015b: 40), the question may be addressed as to whether or not an enormous number of researchers worldwide should be expected to adhere to rhetorical norms of writing that are alien to them. Connor (2002: 17) states that because mother-tongue speakers of English constitute 20-25% of all the speakers of English, contrastive rhetoric is beginning to consider non-native varieties of English as norms. In addition, the teaching of non-Anglo-American English that tolerates non-native standards of English is promoted, especially if these standards do not jeopardise the readability of the written text. Momen (2009: 655) advocates that journal editors should provide "more leeway in the presentation of research", and they, as well as peer-reviewers, should be "more tolerant of shortcomings in the writing style". A similar assertion can be found in Brookes and Grundy (1991: 34) and, more recently, in Kachru (2009: 84). Kachru notes that

> [w]hile it is perfectly legitimate to raise the consciousness of all writers regarding the rhetorical patterns preferred in the varieties of the Inner Circle [Australia, Canada, New Zealand, the United Kingdom and the United States – MŚ], it is equally legitimate and desirable to raise the consciousness of English educators regarding the different rhetorical conventions of learners of English. Just as no language is more or less logical than another, no rhetorical pattern is more or less logical.

Interestingly, knowledge of rhetorical conventions never mattered in the past, and scientists, scholars and philosophers easily spread their ideas across cultures (Kachru 2009: 83, 85, 76). Therefore, it is debatable whether rhetorical differences in the academic discourse produced by contemporary non-native researchers who write in English and the differing expectations of their readers can pose a threat to understanding highly specialised scholarly texts or can lead to a misunderstanding of their content. If scientific thought and discourse are universal, minor differences in rhetorical devices should not affect the comprehension of the specialist text or diminish its readability. It seems justifiable not to impose Anglo-American norms of writing on science writers who compose for an international audience. In the words of Maureen et al. (2010: 637),

> [w]hen English is written for a world-wide audience, criteria for good rhetoric or effective text organization may be quite different from those required in writing for a British or American audience. In particular, it is important to see that Anglo-American rhetoric is not necessarily the most effective, comprehensible or 'natural' choice for structuring academic texts, even if we use English. It goes without saying that it is not more 'scientific'.

Therefore, it seems convincing that excluding non-Western-world scholars from contributing to the development of knowledge and legitimising this exclusion on the basis of writing conventions negatively affects those who are excluded and those who may benefit from such contributions (Kachru 2009: 84-86). Contrasting rhetorical styles to discover the meaning potential realised in texts written by NES authors is a legitimate activity for fostering cross-cultural understanding via an appreciation of cultural differences. Without a doubt, openness to other traditions and cultures expands the available and acceptable range of linguistic structures and rhetorical modes. For example, in creative literature, interweaving various rhetorical traditions results in major prizes being awarded to multilingual and multicultural writers.

On the other hand, there are also claims that authors who write in English should follow the English rhetoric if they want to participate and contribute to the scientific and technological world knowledge that is disseminated in English-medium journals (Kachru 2009: 76). Also, "[w]idening rhetorical horizons of writing" (Kachru 2009: 85) means educating international writers to be sensitive to the expectations of Inner Circle readers. This involves, for example, placing responsibility for making meaning on writers, as English values a writer-responsible style (Weigle 2005: 139). Steadily, it may lead to shifting rhetorical preferences. For example, the reader-responsible rhetoric of Chinese has become more writer-oriented (Leki 1992: 90). Such shifts narrow the gap between the preferences and expectations of academia (both writers and readers) from different cultural backgrounds who use the same language to disseminate scientific knowledge.

Although there are studies suggesting that many scholars consider following English academic conventions as "an impediment to publishing" (Hyland 2015) and feel disadvantaged in relation to Anglophone writers (see Flowerdew 1999; Hryniuk 2019), other studies report mixed responses or less sense of disadvantage (see Tardy 2004; McGrath and Kuteeva 2014). Hryniuk (2019: 107-110) asked the participants of her study (16 linguists and applied linguists) whether they had felt that native speakers of English had been privileged, due to their greater proficiency in English, in getting published in highly-ranked journals. Sixty-two percent (62%) of the participants responded that, in their view, native-speakerness was not a decisive factor, and they did not feel discriminated against as non-native users of English. Rather, "the content of the articles, the quality of the research and valuable findings" (Hryniuk 2019: 108) were much more important than a perfect command of English. The language, according to the respondents, had to be "good enough"

(Hryniuk 2019: 108). If such an opinion is voiced by prolific writers and experienced researchers in theoretical linguistics, historical linguistics, discourse analysis, pragmatics, translation studies and psycholinguistics, similar opinions can be expected from scholars in engineering disciplines.

Clearly, "the English of science and technology is more closely affiliated with science and technology than it is with the culture of any national society" (Kaplan [1986] 2001: 17). Therefore, observing the rhetorical conventions of the English language expected by Anglophone readers, let alone very good idiomatic English, is not a critical factor in evaluating the manuscript's value and, consequently, its acceptance or rejection, especially if the text is submitted for the first time. However, among editors and reviewers of English-medium journals in certain disciplines, native speakers prevail, so Anglo-American writing norms are the standard to be followed by non-English writers (Hryniuk 2019: 13). On the other hand, in hard science (e.g. engineering disciplines, biology, physics), as Hyland's (2015) research findings show, the participation of non-English-speaking members of the editorial board is prevalent, which implies less strict compliance (if at all) with Anglo-American rhetorical conventions of writing[39]. Regardless of the role the native/non-native editorial board plays in the paper's acceptance process, Flowerdew (2013a: 315) proposes that journals should stop requiring authors to have their manuscripts proofread by native speakers before submission, as it would stop dividing scholars into native and non-native research writers. It seems rational to claim that what should be prioritised in a journal text is the scientific merit of the research published, not the scientists' facility of expression in English, especially if compared to that of native English users. Also, Ferris and

[39] For example, *Acta Mechanica et Automatica* is an open-access journal published by the Faculty of Mechanical Engineering at Bialystok University of Technology. The journal is noticed in Poland, but it is not highly ranked internationally; it has no impact factor. The journal is covered by, for example, BazTech**,** Directory of Open Access Journals, Index Copernicus, POL-index, SCOPUS and Web of Science. The Author analysed one (1) randomly chosen volume of the journal. Volume 14 (No. 1 [51/2020] and No. 2 [52/2020]) contains 17 articles. None of the texts was written by a native speaker of English or an author based in an Anglophone institution. The authors are 27 Poles, 17 Ukrainians and 1 Algerian, so they represent different rhetorical orientations in L1. Only seven (7) reviewers (out of 98) appointed for peer reviewing in 2019 are either native speakers of English or non-native speakers based in English-speaking or English-dominant countries (which may indicate a native-like or near-native-like proficiency in English). Although *Acta Mechanica et Automatica* is an English-medium journal, it provides no English-language guidelines for authors. It is doubtful whether the journal's audience favours or expects Anglophone writing norms to be followed by authors because its dominating readers are Poles and Eastern Europeans, according to a member of the journal's editorial board (http://www.actawm.pb.edu.pl/index.php/volume-14-2020/165-vol14-no1-51; http://www.actawm.pb.edu.pl/index.php/volume-14-2020/166-vol14-no2-52; http://www.actawm.pb. edu.pl/index.php/reviewers/163-reviewers-2019).

Hedgcock (2011: 24) reject the "deficit view" of TL writers, as they believe NNES writers should not be expected to perform like NES authors, bearing in mind, for example, language proficiency, prior educational experience and composing skills (both in a native and a target language).

To sum up, it needs to be emphasised that early-career scientists, both NNESs and NESs, need language instruction to upgrade their writing skills in academic contexts. The style of scientific written communication changes over the years, and an approach that worked in the past might not work in research articles today (Kennett 2014: 60). For example, inclusive language, which acknowledges diversity and promotes equal opportunities, is mandatory in current research writing, but it was not a concern in the past. Extra-linguistic aspects of writing in the sciences also need careful attention. Undoubtedly, introducing novice academic writers to discursive and non-discursive concepts of knowledge transfer in research papers written for international audiences and teaching them how to apply these concepts in manuscripts can substantially increase the chances of successful journal submission.

2.4. The domain of scientific writing

Scientific writing belongs to the domain of academic writing, which communicates ideas, information and research to the wider academic community. It includes expository, persuasive and inquiry (or research) writing. Its function is to describe, explain, illustrate, define, classify, report, interpret, evaluate, provide information and communicate knowledge (King 1978: 72f.). The section discusses in detail the terminology used in the dissertation to refer to scientific writing. This is followed by a description of texts that scholars produce for different purposes.

The term *scientific writing* applies to scholarly writing in any discipline. It includes communication about science by means of, for example, research articles that report original research or review articles that summarise previously published research in scientific journals, and other types of academic communication, such as grant or fellowship applications, oral conference presentations and poster presentations. It is also called *research English* (Duszak 1998: 284) or *research writing* (Glasman-Deal 2016, 2021). *Scientific writing* is done by experts and is aimed at other experts in a particular field (Wilkes 1978: 57; Gas-

tel and Day 2017: 3; Alley 2018: vii-ix). The term is extensively used in a large body of literature on writing in English for publication purposes (see References).

In the dissertation, the term *scientific writing* as well as the terms *science writing, writing science* and *writing in the sciences* are used synonymously and interchangeably (unless stated otherwise), and mean highly specialised writing that researchers produce in English in any discipline. These terms are sometimes replaced by *academic writing* and *scholarly writing*, which have a wider meaning and refer to any academic event or activity in any field of academic activities, not only those related to research-oriented issues[40] (Duszak 1998: 284; Douglas Kozłowska 2011: 86f.; https://armacad.info/blog/difference-between-scientific-and-academic). However, they are less prevalent in a large body of the present work, which discusses writing concepts in the context of research in engineering disciplines.

Science writing is when scientists write for non-scientists or scientists reading outside their own narrow discipline. The vocabulary, sentence structure, tone and organisational complexity of *science writing* may differ from those of *scientific writing* (Day 1992: 2; Day and Sadakuski 2011: 8). There are, for example, journalists who write about scientific concepts for the general public or regular writers who include science in their fiction (Blum et al. 2006: 27-33). For instance, Miller (2006: 293) writes about museum science writers who produce texts that accompany exhibits (e.g. exhibit labels). Exhibit writers produce "the haiku of science writing" (Miller 2006: 295), as he calls it, for they need to put a lot of science-related information into minimal words[41].

It should be emphasised that the terms *technical* and *technological* are never used in the dissertation as substitutes for *scientific* or *science*, even though several language features of scientific texts in hard science, such as clarity, conciseness, logical and precise organisation, information density and high comprehensibility, are also applied in technical documents (Grabe and Kaplan 1998: 174; Mokwa-Tarnowska 2006: 7). The term *technical*

[40] *Academic writing* involves communicating ideas and information to members of an academic community. While expert academic writers produce, for example, research articles, textbooks or grant proposals, student writers compose essays or summaries to demonstrate what they have learned in a course (https://www.youtube.com/watch?v=cWDenLTjtuE).

[41] Difficulty in exhibit writing also arises from a multigenerational target group: visitors range from children to senior citizens, so the content of exhibit labels should be carefully produced in terms of length and language. If the label consists of short declarative sentences, the audience may be discouraged from reading it. If there is too much text, the result may be similar (Miller 2006: 295). Unlike exhibit writing, scientific writing is not meant for a general and multigenerational audience but for experts in the field or readers interested in the subject matter, which makes efficient information and knowledge transfer, in some ways, easier.

refers to the modes of communication that belong to the domain of technical communication (e.g. technical writing), whereas the term *technological* makes use of special vocabulary, numerical quantification and mathematical symbols referring to concrete objects and practical processes (Strevens 1980: 129).

Regardless of the native language used, scientists have similar ways of communicating their research results and progressing in their subject areas. To start with, they realise that in order to have a successful career and build professional visibility and scholarly reputation, they "must not only 'do' science but must 'write' science" (Day 1998: x; Gastel and Day 2017: xvi). They need to report their findings and disseminate them through indexing and abstracting media. In tandem with publishing their research results truthfully and clearly so that they can be reproduced, verified and extended by fellow researchers (as RAs, review articles and other types of presentation in journals), scientist-writers produce other types of institutional scientific writing, for example, cover letters to journals' editors, responses to journal submissions, peer-review reports, book reviews, editors' letters, editorials, acknowledgements, article bios, thesis chapters, monographs, handbooks, proceedings volumes, research proposals, conference abstracts, grant or fellowship applications, patent applications and investigative reports. On-the-job communication (e.g. e-mails, progress reports and meeting minutes) is another area of their writing activity. Moreover, scientists write syllabi, textbooks and other didactic materials; they check and provide feedback on semester papers or laboratory reports, and they evaluate diploma theses and PhD dissertations written in English. Finally, they play an important role in sharing their knowledge and its practical implications with the public by means of popularisations, such as essays, newspaper articles, special letters, interviews or expert testimonies. Whatever the purpose of scientific writing is – whether it is used for recording and archiving documents; disseminating research results; looking for financial resources; performing job duties; and teaching or communicating science to the public – science writers need to consider the language that meets the expectations of their diverse readers. These readers are, respectively, researchers in the same or unrelated fields; peer-reviewers; granting and patent agency officials; students; colleagues; research associates; supervisors or administrators; and general public or special-interest groups (Goldbort 2006: 4-6). They look for the style and format of the writing output that match their expectations and preferences.

Writing in the sciences can be studied from different perspectives. Applied linguists are interested in the stylistic, rhetorical and cross-linguistic organisation of the texts for

didactic or descriptive purposes. Information scientists focus on the role of texts in classifying, manipulating, retrieving and disseminating information. Historians are interested in, for example, the evolution of the rhetorical conventions of a research article. Finally, sociologists investigate the interactions between the scientists to find processes that maintain social order (Hyland and Salager-Meyer 2008). In this dissertation, scientific writing is approached from the perspective of an in-service teacher interested in enhancing the writing skills of junior researchers in engineering disciplines who seek publication in English-medium international journals. As the kinds of knowledge that the writer is expected to have in order to write in the sciences involve lexical, syntactic, semantic and rhetorical systems of the language (Grabe and Kaplan 1998: 173), one of her aims in the present research project is to find out if integrating Plain English into writing practice in the PhD language programme at a Polish university of technology can help novice writers upgrade their writing competences in academic contexts. It should be brought to attention that the Author focuses on ERPP with the goal of instructing Polish doctoral students from a wide range of engineering disciplines on how to achieve effectiveness and clarity of information transfer in journal publications (e.g. research articles and review articles). She is not interested in technical writing (e.g. user manuals, procedures and safety instructions) that her students may also produce as part of their careers outside the university. These modes of written communication belong to the domain of *technical writing* which is outside the scope of this dissertation.

The sections that follow discuss the characteristics of scientific written discourse (Section 2.4.1) and focus on plain English in scientific texts (Section 2.4.2).

2.4.1. Principles of scientific writing

According to Coffey (1984: 4, as quoted in Sobkowiak 2008: 27), "there is no significant way in which the language of science differs from any other kind of language" because forms that it favours are not distinctive but drawn from the same stock of the grammar of the language. In a similar vein, Widdowson (1985: 27) asserts that "we should think of 'scientific English' not as (…) a variety of English defined in terms of its formal properties, but as a kind of discourse, that is a way of using English to realise universal notions associated with scientific inquiry". Likewise, Carter and McCarthy (2006: 267), more recently,

point out that, with regard to grammar, "there are no special structures which are unique to academic English and never found elsewhere". For Alley (1996: 1), however, scientific discourse is characterised by "the inherent complexity of the subject matter" and "the inherent complexity of the language". Crystal (2000: 372f.) shares this opinion when he claims that scientific discourse is a combination of distinct lexicon and less usual patterns of grammatical structures, which causes serious difficulty in understanding it, especially for a non-specialist audience. De Chazal (2018: 85) supports these views when he says: "an inescapable reality of academic discourse is its complexity". McArthur et al. (2018: 5) also note that scientific discourse is characterised by an "elevated and often complex style" that may be difficult to understand. Undeniably, the language of science is full of specific terms, abbreviations and compounds that cannot be found in other kinds of writing. It bears repeating that *scientific* English belongs to the domain of expert *academic* English with its characteristic features, such as qualifying expressions, parenthetical asides, passive constructions, increased use of nominalized forms and higher lexical density (McArthur et al. 2018: 5f.). They are all addressed later in this section.

Since Latin was used in England as a living language and a language of literature, medicine and theology until the end of the 17th century, the language of science is deeply indebted to it. Savory (1953: 22), for example, explains it in the following way: "[t]he terse directness and lucidity of Latin sentences mark them as the words of those who knew exactly what they wished to say, and said it with all the force they could command. Such qualities are attractive in any setting and are nowhere more appropriate than in the work of a scientist". The directness and lucidity of Latin, however, did not affect the scientific style that became common after Latin had lost its dominance in knowledge construction and transfer. The scientific lexis of present-day English contains a high proportion of Latinates, i.e. Greco-Latin-based words, for there are too few Anglo-Saxon words that can be used in the sciences (Savory 1953: 24). A belief that such words should be avoided where possible goes back to Fowler and Fowler's seminal publication on grammar and usage, *The king's English* ([1906] 1962). Also, Rickard (1908: 116) condemned "the needless employment of bombastic words of classical origin" in his guide to technical writing. Likewise, Flesch (1962: 102) puts forward a comparable recommendation: "when your writing gets loaded down with many long, cumbersome technical terms, make doubly sure all the other words are as short and simple as you can make them". However, sophisticated lexical items and a complex internal structure of sentences are often expected and greatly valued, especially on

an academic level. In more recent years, Coxhead (2000) posits that good knowledge of academic vocabulary – containing mostly non-Anglo-Saxon lexis – is essential to succeed in higher levels of education. Using the Greco-Latin vocabulary of English is often recognised as a necessary ingredient of academic writing, and vocabulary choice indicates if the writer has adopted the conventions of a relevant discourse community[42] (Nation 2013). The reason for this is also purely pragmatic: scientific and technical terminology now comprises about two-thirds of the vocabulary of English (Crystal 2002: 228), and, for obvious reasons, its vast majority does not have Anglo-Saxon roots. Nevertheless, proponents of simpler English claim the language of the scientific discourse does not have to rely on sophisticated lexis to convey complex issues effectively (e.g. Cutts 2013, 2020; Greene 2013; Wallwork 2016). This issue is further spelled out and exemplified in Appendix B, p. 369.

Because science is about sharing ideas, methods and findings, it should be presented in a reliable and replicable way. If writing in the sciences is obscure, the main objective of scientific research – information transfer and knowledge dissemination – suffers. The obscurity seldom results from complex (i.e. discipline-specific) terminology. Rather, it is faulty lexical, syntactic and textual issues belonging to non-specialist languages that are often responsible for it (Sparano 2020: 5f.). The remainder of this section focuses on surface-level features and aspects of style that characterise writing in the sciences and contribute to the way information is conveyed.

As regards language-focused aspects of scientific texts, Ewer and Hughes-Davies (1984: 48f.), and Grabe and Kaplan (1998: 159) claim scientific literature demonstrates the following **surface-level features**:

- numerous prefixes and suffixes;
- many occurrences of the verb *be* in all conjugations;
- compound nouns and adjective phrases;
- anomalous finites (i.e. auxiliary verbs);
- *-ing* forms (instead of relative clauses);
- propositional verbs and phrases;

[42] According to Swales ([1990] 2011: 29), a discourse community is characterised by "common goals, participatory mechanisms, information exchange, community specific genres, a highly specialised terminology, and a high general level of expertise".

- infinitives (instead of longer phrases);
- a smaller number of progressive tense and past tense verbs;
- modifying words and phrases (e.g. *probably*, *seem to be*);
- past participles;
- a relatively large number of lexical repetitions;
- few pronouns, questions and contractions;
- relative clauses;
- infinitive clauses;
- long sentences with a complex internal structure;
- a considerable number of passive constructions;
- conditionals; and
- cause-and-effect constructions.

Putting these elements together to produce an intended and clear meaning is considered essential for scientific writers and expected by their readers. This translates into the notion of **scientific style** – described below – that they adopt or develop in order to communicate knowledge through writing. It should be emphasised at this point that describing the classification of the scientific style and its socio-cultural context is beyond the scope of this dissertation.

According to Alley (1996: 9-12), the scientific style encompasses the structure, the language and the illustration. The structure is the organisation of the text as well as "the depth of details, the transition of details, and the emphasis of details" (Alley 1996: 10). The language is the choice of words and their arrangement in phrases and sentences. The illustration, which means combining tables and figures with the text, facilitates the understanding of complex issues and thus makes the written text more efficient. In her didactic practice, the Author is interested in the language only, although the importance of other components has never been questioned or undervalued.

For Crystal (2000: 372f.), the scientific style is impersonal and infested, as he puts it, with the passive voice, for the passive construction is a "widely-quoted stereotype of scientific English syntax". It is, however, an important feature of academic prose, making up about 25% of all finite verbs used; in research articles, passive verbs are "especially common" (Biber 2002: 167). Consequently, Mack (2018: 15f.) posits that the passive voice and complex noun phrases are generally elements of the scientific style, even though many

common rules of good (or effective) writing disapprove of passivisation and advise eliminating it from scientific texts. Young (2006: 35), for example, states that "[c]ontemporary writing in science has become more and more direct and, as it has, the use of passive voice has been fast disappearing". Nevertheless, participants in Hryniuk's (2019: 115) study were convinced that the passive voice and nominalisations are "what good academic English is about". In fact, this opinion is voiced by quite a few novice academic writers in engineering fields (p.c.). It is not surprising because noun phrases are still believed to be "an essential element of academic writing" because they enable writers to provide precise and concise descriptions (Gee 2023: 10). The Author realises scientific writing is abundant with passivisation, for it is traditionally regarded in scholarly texts as more objective. Her doctoral students explain that their supervisors (especially elderly, established scientists) insist on using the passive voice in manuscripts written in Polish, as it is favoured or imposed by a given discourse (or disciplinary) community. As a result, junior researchers imitate this style in texts written in English too, for they realise they are expected to use it. However, in many instances, the active voice can be adopted without losing objectivity.

Another characteristic of the language of science is lexical density, with content words outbalancing function words and a large number of noun phrases (de Chazal 2018: 85f.; McArthur et al. 2018: 5f.). Also, its vocabulary is unambiguous and free from all misunderstandings because it has no shades of meaning that the general lexis does that can affect comprehension (Savory 1953: 82). Literary devices such as idiomatic expressions, metaphors and similes are absent (and should be avoided) in science writing (Day 1998: 2, 204; Gastel and Day 2017: 5) because they divert readers' attention from the text's content. The language of science is also devoid of metonymy, hyperbole, satire or humour, as all these devices can mar the clarity of the scientific prose (Savory 1953: 85; Crystal 2009: 384). However, research results provided by rhetoricians and sociologists of science reveal that a lot of science writing is "highly rhetorical and value-laden in nature" (Grabe and Kaplan 1998: 174), even though it is assumed to be objective and disinterested. Finally, a scientific style differs from a general language style because it is emotionally neutral (with little room for variation and an individual opinion) and inaccessible (Savory 1953: 91, 100-119). Markowska (1974: 28) once stated, however, that its inaccessibility is due to the convoluted style of the writers, not necessarily an inherent feature of the scientific style itself.

When it comes to the way specialist concepts are delivered, science writing is a sort of writing where lexical variation, originality and sophistication are not assessed or valued

(Nation 2013: 264). Rather, the scientific writer is expected to "abandon all hope of being interestingly original in style" (Savory 1953: 84). Mack (2018: 14) still supports this view when he says: "[i]n the scientific writing, we are willing to sacrifice elegance, beauty, and charm for accuracy and precision", for this "false elegance" (Young 1989: 80) does not contribute to the higher effectiveness or clarity of the written text. Wytrębowicz (2009: 5f.) recommends using a more vivid language in scientific texts, which makes complex writing more approachable and interesting. Yet, it is believed that to compose a good scientific paper, the creativity of the author is not required (Mack 2018: 18).

Several manuals of scientific writing (e.g. O'Connor and Woodford 1975; Barrass 1978, 2005; Woodford 1986; Day 1992; Alley 1996, 2018; Yang 2006; Day and Skaduski 2011; Sword 2012; Wallwork 2016; EASE 2018; Mack 2018; Stępień 2020; Wallwork and Southern 2020; Siuda and Wasylczyk 2021) draw attention to other aspects of the English language that are required in scholarly written texts (Figure 4 after Alley 1996: 12). These aspects are addressed below.

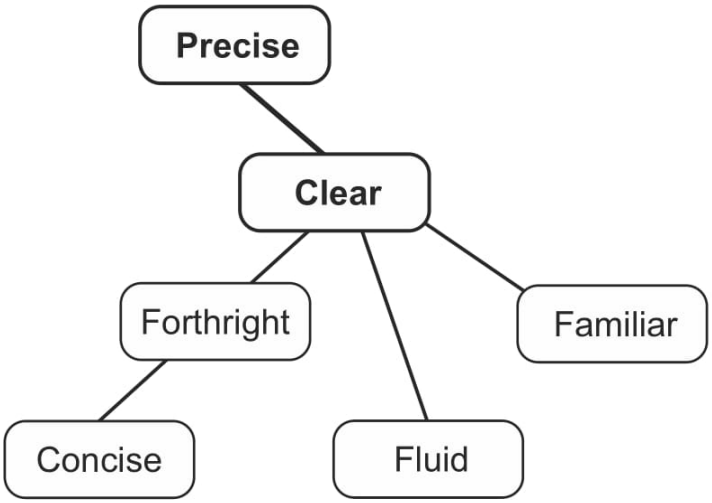

Fig. 4. Features of language in scientific writing (after Alley 1996: 12)

Firstly, it is precision that distinguishes scientific texts from other forms of expository writing (Woodford 1986: 37), so it is ranked as "the most important goal" (Alley 2018: 19) in scholarly writing. Precision means that "the meaning understood by the reader matches the meaning intended by the writer" (Mack 2018: 14) because the writer uses "exactly the right word" (Blamires 2020: 3). Precision (i.e. accuracy, detailedness and explicitness) opposes vagueness and ambiguity (Maćkiewicz 2020: 51f.). Another key character-

istic of writing in the sciences is clarity, which encompasses precision and comprehensibility (Day 1998: 1). Young (2006: 16) expresses a similar opinion when he says: "in the voice of science, clarity is crucial". It bears emphasising that clarity is not achieved by forbidding the use of, for instance, Classical vocabulary or figures of speech because, in certain contexts, these linguistic devices may work best to express a particular thought (Crystal 2004: 390). Alongside precision and clarity, simplicity is an additional foremost feature in writing for the sciences (Woodford 1986: 37; Day 1992: 4; Gastel and Day 2017: 3). Day (1992: 3) believes "[s]implicity of expression is a natural result of profound thought", whereas for Barrass (2005: 42), "[s]implicity in writing (…) is the outward sign of clarity of thought", which is expected of scientific texts in any discipline. These opinions are confirmed by the words of Young (2006: 6, 24) who believes that "[s]uccessful scientific writing today is done in a simple and direct fashion" or that "[i]t is vital to keep (…) ideas direct and simple". Both clarity and simplicity, which contribute to the beauty of science writing (Alley 2018: 21), can be impaired by ambiguity and needless complexity on the level of words, phrases and sentences. Both ambiguity and complexity result from using language items that can be interpreted in more than one way. Also, they can be caused by, for example, using Latinates, polysyllables, multi-word compound nouns and overlong sentences. Next, scientific texts should be concise (i.e. avoiding needless words) and fluid (i.e. enabling smooth transitions from sentence to sentence and from paragraph to paragraph). Finally, Alley (1996: 97-118, 128-145) specifies two (2) more goals of writing in the sciences: being forthright and familiar. These features refer to straightforward and dynamic writing that avoids pretentious words and jargon.

All in all, the features of scientific writing derive from its primary purposes: recording the constructed knowledge, informing other researchers and educating the next generation of scientists. The characteristics of writing science in English put forward in this section should be familiar to students in an EAP classroom, for these concepts are present in the written scientific discourse in their L1s. In the words of Widdowson (1985: 27), "there seems to be a universal underlying structure to different areas of scientific discourse which is neutral in respect of the different languages which are used to realize it". This opinion can be exemplified by what Młyniec and Ufnalska (2004: 13-21), Wytrębowicz (2009: 4) and Stępień (2020: 20-27) describe as good scientific writing in Polish. Similarly to English, it should be simple, clear, precise, concise, accurate and cohesive. However, according to Stępień (2020: 23), neither conciseness nor precision is common in Polish-medium sci-

entific writing. Also, Łucja M. Biel claims that Poles who write in English tend to write in a complicated way ("Polacy piszący po angielsku mają tendencję do pisania w skomplikowany sposób" [p.c.]), even though present-day style guides to scientific writing in English aimed at Polish researchers recommend the reverse (e.g. Siuda and Wasylczyk 2021: 63-74). This may result from the so-called intellectualisation of expression, which is typical of the Teutonic style[43] adopted by Polish scholars (Duszak 1998: 84) and which is often transferred to the texts they write in English. Adopting the language-based guidelines of Plain English while writing in the sciences may help them reduce the level of intellectualisation in their texts and improve the texts' clarity and readability. The idea of writing plainly in Polish in academic contexts is further referred to at the end of the section that follows.

2.4.2. The place of plain English in scientific writing

> Simple words are clear and direct. They suggest that the writer knows what he or she is doing. Instead of being a sign of great cleverness and sophistication, the use of long words can sometimes be seen as a cover for a lack of clear thinking and careful preparation. Simplicity is often a sign of self-confidence, whereas people who use many long words are, it may be felt, setting out to impress and must have something to prove (Manser and Curtis 2004: 202).

The idea of writing in a concise, unambiguous and more readable way has been present in the sciences for many years. At the end of the 17th century, Francis Bacon, "the so-called father of modern science"[44] (Goldbort 2006: 7), set a new communication standard for describing scientific issues. Instead of a traditional (i.e. subjective and flowery) style, he recommended language that delivered knowledge clearly, exactly and objectively. As a result, *The Philosophical Transactions of the Royal Society*, a scientific journal of the Royal Society of London for Improving Natural Knowledge, initiated changes in the English prose (King 1978: 115; Montgomery 2005: 12f.). Linguistic artistry in writing science was replaced by "the economy of words … intelligible, clear, and unequivocal meanings" and

[43] The Teutonic style of scientific communication is attributed to a German scholarly tradition and is extended to languages, including Polish, Czech and Russian (Duszak 1997: 1911).
[44] Until the 17th century, the term *science* referred to any systematic thought or skill. For example, for medieval philosophers and rhetoricians, their areas of interest were the sciences. Bacon introduced a new way of understanding science. For him, it included observation, formulating hypotheses, experimental testing and confirmation (or elimination) of the hypotheses based on test findings (Adolph 1968: 8). Thus, calling Francis Bacon *the father of modern science* is truly justified.

gave way to words as "neutral conveyors of information for the practical benefit of the reader" (Goldbort 2006: 9). Gradually, the members of the society rejected "amplifications, digressions, and swellings of style" and turned to "the primitive purity" (Sprat 1667: 113 in King 1978: 117). However, most writers of the 17th century did not make an effort to eradicate deeply ingrained manners of long-winded and repetitive writing (King 1978: 118f). The written discourse of that time was heavily dependent on Latinates, metaphors and syntactic complexity (Crystal 2004: 389). Nevertheless, since then, writing effectively in English in the sciences has been understood not only as composing a text free of lexical or syntactic faults but also as using the language that is "simple, precise, direct, and unadorned, with straightforward constructions and the minimum number of words" (Goldbort 2006: 8).

In scientific writing, "the description of the experiment is as important as the experiment, for if the latter cannot be communicated, it might as well never have been made" (Chase 1954: 112). Therefore, the writer's research findings need to be clearly (i.e. simply, precisely and comprehensibly [*CollinsDictionary.com*]) communicated to the reader, who, if required, can repeat the experiment, and either reach the same conclusion or report to other scientists that it is inadequate. That is why, as Goldbort (2006: 8) believes, "[s]cientists as writers must offer knowledge to their readers in plain language". However, even if the notion of plainness has been recommended in scientific written discourse for several decades, and writing clearly and comprehensibly is expected from scientists of all disciplines, lots of scientific texts are still of poor quality (Wells 2004: 757; Young 2006: 12; Sword 2012: 4; Greene 2013: 1-4). Scientists seem to prefer the style that "may deem to demonstrate [their – MŚ] writing prowess and sophisticated thinking" (Ferris 2014: 114). There are different reasons for avoiding simple language in specialist texts. In essentials, scholars may find it too limited for describing complex scientific issues, and the simple language may be perceived as inappropriate (i.e. not sophisticated enough) in academic texts. These concerns are addressed in the remainder of this section.

To start with, professionals in specialised fields may be unwilling to use plain language, as their subject matter is believed to be too complex and conceptually difficult to express without specialist terminology. Their jargon, a kind of shorthand they use among themselves, seems to convey complex ideas unambiguously and economically (Crystal 2009: 383). It should be noted, however, that neither highly technical terms intrinsic to the discipline nor sub-technical vocabulary commonly used in specialist writing across subject specialties should be excluded from scientific texts. The terms are "a necessary evil", as

Rickard (1908: 116) once humorously put it, but also "instruments of precision" (Rickard 1908: 116) created to cover particular scientific or technical ideas. The aim of favouring plain language is not to deprive scientific texts of special lexical features that are indispensable to convey highly specialised issues but to facilitate the overall *writeability* and readability of the text despite these special lexical features. While Crystal (2004: 390f.) posits that the notion of *plain language* is "notoriously deceptive" (especially if it comes to explaining complex ideas), from Green's (2013: 1-3) perspective, plain English has become a desirable format for the scientific literature (e.g. journal papers, grant or fellowship proposals, diploma theses and PhD dissertations). In her opinion, it is able to cope with transmitting the complexity of the scientific subject matter. Researchers of various disciplines who read and write in English as a TL, and whose language competences vary can take advantage of specialised publications if plain lexis and simply constructed sentences are employed, for plain texts are read and written faster. Interestingly, not only NNESs need to learn how to craft sentences to transfer information succinctly and accurately. Many NESs fall short of good scientific writing, even if they boast excellent language proficiency. Both can benefit from the guidelines of simpler English if they want to achieve a higher standard of scientific expression (Heatwole 2008: 159). Bearing that very fact in mind, it goes without saying that acquainting junior researchers with what Plain English offers should become an important commonplace in an ERPP-oriented classroom.

Next, as there is "no international standard for scientific English" (Momen 2009: 654), many writers in scientific fields "either do not value clear and concise prose or do not know how to achieve it" (Mack 2018: 11). In fact, they can avoid simpler language intentionally, for they think of it as simplistic (i.e. lower quality), less learned or stripped of "scientific dignity" (Kirkman 2001: 196). In academic writing, the density of sophisticated language is often valued more highly than simple, lucid expressions, for authors believe it makes the text sound more credible (Wallwork and Southern 2020: 39). However, choosing simpler words does not make the scientist's writing simplistic, as his or her ideas are complex enough to surpass this label (Alley 1996: 85). Garner (2001: 145) claims that "[w]riters fear simplicity because they don't want to be considered simple-minded". He believes that "there's no better way to strike your reader as an intelligent, sensible writer than to simplify". A similar stance is taken by Heatwole (2008: 161) who aptly observes that "[u]se of unnecessary words or complicated phraseology does not make a paper appear more scholarly; indeed, just the opposite is true". Nevertheless, for some authors, foreign

words appear more sophisticated and elegant (Barrass 1978: 75), even if, as Young (2006: 25) argues, "being simplistic means being clear". This opinion is currently confirmed by a successful and prolific writer in the humanities and one of the respondents in Hryniuk's (2019: 112) study: "I actually had to learn how to simplify my writing style, which I had thought I needed to make look more complex and eloquent to impress my readers". Writing in the sciences has little to do with elegance and eloquence, though. The texts are to inform, not to impress or enchant with elaborate constructions or grandiloquence (Alley 1996: 97). Alley (2018: 21) stresses it when he says that "[m]any words used in scientific writing add no precision or clarity to the writing – only complexity". It is palpable that writing about complex ideas without using complex grammar and vocabulary makes sense, especially if, as many novice researchers explain, they most often read (and cite) scholarly texts that they find readable, i.e. easy to follow and understand (p.c.).

In addition, Kennett (2014: 62) posits that "[a] crisp and concise style avoiding ornate language is desirable, but too restricted a word usage can create a dull impression". It may be true for university-level student essays and creative writing, where lexical and syntactic simplicity is frequently considered to be "a severe handicap" (Hinkel 2003: 276) and rated low. Journal articles in hard science, however, present concrete facts, so the way these facts are presented seems to be of secondary importance. Next, with simpler words and sentence structures, a risk of creating less precise and thus confusing information rises, so the author needs to carefully rethink what s/he wants to say. In other words, it is necessary to more carefully select linguistic tools to express the content information in a simpler language. This makes the writing process time-consuming and cognitively demanding, which, in certain contexts and situations, may discourage writers from using plain language. Also, a specialist text written in short words and sentences may be difficult to understand because of the complexity of the thoughts expressed in it (Crystal 2002: 289). That is why Latinates in the language are "enduringly useful for professional and technical purposes". They should not be completely ignored and indiscriminately replaced by Saxonisms "in the drive for greater (…) clarity" (McArthur 1998: 117) which Plain English favours. In fact, the decision about which guidelines of Plain English to follow should be taken by the writer so that s/he could produce "comfortable, digestible writing" (Kirkman 2001: 8f.) that, in certain contexts, may mean diversity of lexical and syntactical structures. Moreover, as Cutts (2020: xix) notes, "[p]lain English is not an absolute: what is plain to an audience of scientists (…) may be obscure to everyone else". This statement is also true

about speakers of different world Englishes, as the perception of plainness differs from country to country. For example, what is plain in Great Britain may be considered unclear in India, etc. Finally, it should be remembered that simple English does not compensate for a lack of writing skills. Logical development of scientific argument is no less important than good knowledge of grammar, usage and organisation, and the precision of scientific expression (Woodford 1986: v). Nevertheless, as "careful writing can (…) assist in developing logical scientific thought" and "[g]ood scientific writing is (…) impossible without clear thinking" (Woodford 1986: 8), these issues complement each other and help writers develop as writers and thinkers.

When it comes to Polish, the recommendation of writing plainly in Polish in scientific discourse dates back to the 1970s. Frankiewicz (1974: 11) advocated a language programme for technical university students that included lectures and tutorials on how to write precisely, economically and in a simple manner. Decades later, Młyniec and Ufnalska (2004), Wytrębowicz (2009), Stępień (2020), and Siuda and Wasylczyk (2021) advocate, on a lexical level, avoiding abstract terms, archaisms, tautologies, wordy phrases and an excessive number of adjectives and adverbs. They recommend using high-frequency words. On a syntactic level, they are advised to avoid digressions, circumlocutions and passivisation put into overlong sentences. What scientific writers should attend to with care is vocabulary consistency, word agreement and accurate word order. However, a great number of Polish authors follow a traditional Teutonic style of writing and use plenty of abstract words, cohesive devices and phrases to express their attitude towards the content matter. Also, they favour complex sentences, which intellectualises scientific texts. Apart from that, Polish scholars employ a large number of nominalisations, hypotactic constructions, agentless passives and complex-compound, informationally overloaded sentences (Duszak 1997: 1911, 1998: 284; Siuda and Wasylczyk 2021: 63f.; Gajda 2022: 188f.; Łucja M. Biel, p.c.). As discussed earlier in this chapter, such problems are typical of numerous native English writers too. They stem from difficulties in complying with the conventions of scientific written discourse in general. Nevertheless, it bears emphasising that more and more Polish scholars are beginning to use plain language in their academic texts. They seem to understand that plainness makes the conveyed information more explicit; it also increases the text's conciseness, precision and cohesion (Stępień 2020: 21).

To conclude, specialist issues can be explained with or without simple language, but they appear to be fully understood only by the initiated. The content matter of a scholarly

article seems to be approachable for insiders in the field with specialist knowledge and remains incomprehensible for most lay readers, regardless of the language used. Back in the 1950s, Savory (1953: 107) noted, however, that scientific prose is not as obscure even to an inexperienced reader as it is commonly believed. In later years, Markowska (1974: 28) supported this opinion when she said that the understanding of specialist concepts is enhanced if the subject matter is familiar to the reader, but the difficulty of the subject matter plays a lesser role. What plays a key role is the language the writers use to express their ideas. If it is too convoluted, the written text becomes difficult to understand. More recently, this view was confirmed by Miodek and Zaśko-Zielińska (2002a: 7), Greene (2013: 2), Stępień (2020: 20), and Siuda and Wasylczyk (2021: 63f.) who are convinced that specialist concepts can be understood by non-specialists, on condition that they are conveyed in a plainer language. That is because, in English, the most frequent causes of difficulty are not "single specialist terms but complexities of sentence structure, complex verb forms and apparently common English words and phrases that native speakers of English use almost without thought" (Kirmkan 2001: 140). Therefore, if discipline-specific terminology and academic lexis, which amount to 20-30% of all the words used in an average scientific text (Gajda 2022: 185), are accompanied by simpler vocabulary and syntactic structures, complex concepts can be relayed in a simpler way. This, in turn, will improve the clarity, effectiveness and readability of scientific written texts.

CONCLUSION

The idea of writing in a concise, unambiguous and more readable way has been present in style manuals for many years. In many publications, researchers and practitioners have also advocated avoiding a pompous style and using words economically. Zinsser's (2006) recommendation for simplifying writing, inspired by Henry D. Thoreau ([1854] 1995: 60), has been helpful in guiding novice scholars – both native English speakers and non-native English speakers – on how to improve their writing. Even if academic usage may appear to be "at odds with plain English" (McArthur et al. 2018: 6), the Author believes certain features of Plain English can be used successfully in a wide range of academic text types aimed at international audiences, whether in hard sciences or humanities.

As pointed out several times in this chapter, both doctoral students and established scholars are expected to report their findings at international conferences and publish them in post-conference or peer-reviewed English-medium journals. Such initiatives help build their reputation, contribute to scholarly growth, and affect tenure and promotion. Because English is indisputably the language of scholarship and academic research in the 21st century, teaching how to write clearly, effectively and readably in engineering fields should become an essential component of an English course in tertiary-level technical education. The Author has observed that simple English is not discussed in an English classroom in Polish educational settings, even though it embodies all that is associated with *good writing*, that is, as Fowler and Fowler ([1906] 1962) stated over a century ago, with directness, simplicity, brevity, vigour and lucidity. Modern style guides, such as *The Penguin's writer's manual* (Manser and Curtis 2004: 195-228) or *The craft of scientific writing* (Alley 2018: 15-67), also endorse clarity, simplicity and economy of expression as components of a good writing style, and this trend is likely to continue.

Plain English may be no news to numerous NES writing instructors, but an average non-native English teacher is unaware of its merits. As a result, his or her students find, for example, nominalisation more sophisticated and suitable for academic discourse and use strong verbs sparingly. Their manuscripts may be rejected because of non-standard language or, as is often described, *poor English*, and they are often unaware that the problem may also lie in ignoring such language aspects. Therefore, the ability to simplify the language used for describing the specialist subject matter should be a major goal of junior researchers and novice academic writers who wish to publish their findings in English-medium international journals and reach a wider readership.

Chapter 3: Teaching writing: general principles

Introduction

In the context of the Author's teaching practice, simplification of English, discussed in Sections 2.1- 2.2 and 2.4.2, does not mean teaching how to apply reduced lexis or syntax in order to communicate with speakers whose level of English is lower. It does not involve teaching how to produce scholarly writing with diminished linguistic diversity by, for example, eliminating low-frequency words in order to facilitate the text's readability, since academics are supposed to be precise in what they write. It is therefore inexpedient to remove specialist (i.e. discipline-specific) terminology from manuscripts. Lastly, promoting simplified English (or simplified communication in English) in text production in engineering disciplines does not mean teaching students how to write such texts in such a way that they conform to externally specified constraints (typical of controlled languages). This is because these constraints can unnecessarily impede the composing process and impoverish (or even distort) the report on the specialist subject matter.

What the Author focuses on in her classroom is teaching how to address highly specialised content with the aid of various linguistic and extra-linguistic devices in order to help her students compose clear, effective and readable expert texts. Producing such texts involves engaging carefully selected language-related issues in order to make the transmission of information easier and less ambiguous. In her teaching practice, she also focuses on familiarising junior researchers of various engineering disciplines with the concept of plain language in order to develop their language awareness and, through a better understanding of how the English language works, enhance their writing skills through extensive practice in and out of the classroom.

The Author's experience confirms that adult (and well-educated) TL learners want to know about the structure of the English language in order to use it more thoughtfully. They believe that this knowledge and adequate training can positively affect their ability to control language issues in their own writing. This is because, as a group, they often demonstrate "relatively limited control of syntax and lexicon" (Ferris 2012: 230). Hence the conviction that grammatical competence, among other components of language knowledge, is "a very important component of L2 writing instruction" (Frodesen 2014: 244). Indeed, some student writers may "cry out for rules, for something concrete to monitor their performance with" (Raimes 1983a: 262), as they find grammar "a powerful tool" (Larsen-Freeman 2014: 269) for expressing meaning accurately and appropriately.

In addition to adequate language skills, which doctoral students consider important for knowledge transfer, learning to write involves becoming familiar with text types that are typical of a particular discourse (or discipline) community. Analysing models and key features of written texts produced for a particular purpose in a particular social context helps students compose similar texts effectively in the classroom and in other learning spaces, making genre-oriented teaching advantageous.

Finally, because supporting students to take control of their own learning is related to equipping them with "the appropriate skills and strategies to learn a language in a self-directed way" (Williams and Burden 2010: 147), language learner strategies (LLSs) cannot be neglected in the TL classroom. When teachers assist their students in learning how to learn a target language in order to achieve their educational goals, they do not only provide them with the language but also with the tools to become effective and more autonomous learners, and to cope with the tasks they encounter outside instructional settings. When writing strategies are deployed in the classroom which includes writing development, teachers are able to "teach 'writing' rather than teach 'about writing'" (Matsuda and Silva 2020: 281), and students can learn how to improve their writing competence. This knowledge can later be translated into actual improvements in writing skills.

Undeniably, no TL lesson can function without its official organiser. At present, the teacher's key role is to develop and foster autonomous behaviours in his or her students that ultimately lead to the achievement of desired learning outcomes in the classroom and out of it. If teachers write for authentic purposes and accompany their students on the meanders of writing through personal writing practices, the results of this endeavour will be mutually beneficial. Therefore, in this dissertation, the Author finds it essential to reflect on

how teachers' personal writing influences their writing instruction, increases their effectiveness as writing instructors and, last but not least, professionalises their own teaching.

The chapter opens with a description of the approaches adopted to the teaching of EAP writing over the last few decades. Next, teachers' and students' attitudes towards writing in a target language classroom are briefly discussed. Subsequent sections elaborate on the discursive and non-discursive components of the writing-oriented classroom: language knowledge, genre issues and language learner strategies (with a spotlight on the role of metacognitive knowledge in learning to write). Finally, the characteristics of the teacher who both teaches and learns the craft of writing in order to maximise his or her didactic effectiveness and stimulate professional growth are addressed.

3.1. Teaching writing in English for Academic Purposes: an overview

As writing involves "both the text as a product, the act of composing as a process and the social influences shaping this process" (Pawlak and Mystkowska-Wiertelak 2015: 110), there are various ways of teaching it. Approaches to writing, which is a fundamental skill in EAP teaching and learning (White 1988: 15; de Chazal 2018: 179), have changed over the past decades. Classified according to the focus placed in each type of composition, they have been developed in relation to "the rhetorical and linguistic form of the text itself; (…) the writer and the cognitive process used in the act of writing; (…) the content for writing; and (…) the demands made by the reader" (Raimes 1991: 408). The approaches discussed below refer to these foci. Some of these approaches have already been briefly described in Chapter 1.

From the mid-1940s to the mid-1960s, EAP classrooms prioritised formal accuracy. Since writing tasks were tightly controlled to reduce the possibility of grammatical errors, the term ***controlled writing*** was used to describe this composition model. In the United States and Great Britain, controlled writing became commonplace in composition classrooms when institutions of higher education raised their intake of non-native students who needed writing instruction for academic purposes. Essentially, this instruction highlighted formal features of the language by incorporating sentence-level activities rather than creative writing of whole texts (Leki 1992: 5; Ferris 2017: 330). Influenced strongly by audiolingualism, writing pedagogy served to reinforce oral patterns and test grammatical

knowledge. Writing took the form of sentence drills: substitutions and completion-type tasks for reinforcing accurate application of grammatical rules. It also included activities like writing and combing simple sentences into a more complex form with some cohesive devices to create a well-integrated text, paragraph rewriting (e.g. from the present to the past tense) and gap filling because it was assumed that learners needed to master grammatical and lexical forms as well as specific sentence structures before producing their own ideas (Hedgcock 2005: 604; Ferris 2017: 330; Matsuda and Silva 2020: 286). Later, controlled writing developed into **guided writing** with less rigid structural guidance, in which the students learned, for example, how to combine sentences and paraphrase source materials. They learned to imitate model texts and manipulate fixed patterns to produce their own utterances. The final step was **free writing**: students read model texts and wrote similar ones or responded to what they had read. In the controlled-to-free approaches, whose purpose was to serve as reinforcement of language rules, not as a way of communicating with an audience and serving a particular purpose, authors produced a collection of sentences with no particular reader in mind. They focused on language features because it was accuracy rather than fluency, content or communication that was particularly stressed (Raimes 1983b: 7; Grabe and Kaplan 1998: 318; Kroll 2001: 220; Matsuda and Silva 2020: 286). These approaches are still widely used in many writing classrooms at a lower level of language proficiency to build vocabulary, scaffold writing development and raise the confidence of inexperienced writers (Hyland 2011b: 4).

What evolved in reaction to the controlled-to-free approaches was the **functional approach** (also known as the paragraph-pattern approach or current-traditional rhetoric), which emphasises the text's organisation at the above-sentence level (e.g. dividing a paragraph into parts and determining the purpose of each part). This approach has already been referred to in Section 1.6. Underlying this approach was the principle that paragraph structures are language- and culture-specific. It was influenced by Kaplan's 1966 seminal article about different patterns in paragraphs across languages. In this tradition, writing meant arranging sentences and paragraphs into particular patterns, and learners were supposed to develop skills in producing these patterns (Raimes 1983b: 8, 1991: 409; Leki 1992: 5; Paltridge 2005: 55f.; Reid 2007: 28f.; Matsuda 2011: 20; Matsuda and Silva 2020: 286f.). Focusing on the textual level of the written texts resulted in the teaching of various rhetorical options for paragraph development, for instance, description, narrative, instruction, explanation, definition, exemplification, classification, comparison and contrast, and cause and

effect. Later, the focus was switched to essay development with its typical structural entities (i.e. the introduction, body and conclusion) and organisational modes (e.g. exposition, argumentation) (Jordan 1997: 164f.). EAP students were instructed how to develop ideas according to organisation patterns typical of English prose (e.g. a paragraph with a topic sentence, supporting sentences and a concluding sentence) and achieve the final product that adhered to the writing conventions typical of English. One of the weaknesses of this approach was (and still is) failing to engage students in meaningful and purposeful writing (Hyland 2011b: 6f.). The paragraph-pattern approach can be subsumed under the umbrella term *product approach*, as it is concerned with the finished product.

The late 1970s saw the development of an approach that was concerned with the stages of writing leading to the end product. It placed the focus on the writer and the process of writing and making meaning, not on the patterns and grammatical accuracy that the product approaches favoured. The **process approach** (already referred to in Section 1.8), initially drawing on cognitivist and expressionist models in L1 composition theory, promoted individual thought and expression in writing that earlier approaches had ignored. Cognitivists were interested in getting insights into the mental processes that writers engaged in while producing a written text. Composing was viewed as a cognitively demanding, recursive, goal-oriented and problem-solving task. Students started to examine what good writers did when they composed a text instead of analysing the features of finished texts and reproducing them. Expressivists, who viewed composing as an act of self-discovery, placed a focus on the writer and writing as a process of developing organisation and meaning that the writer conveyed to the reader. They advocated journal writing and personal essays, in which students could practise fluency and voice (Hedge 2001: 3; Ferris and Hedgcock 2011: 5f; Matsuda 2011: 21; Manchón et al. 2014: 229; Matsuda and Silva 2020: 287f.). Activities in the process-based writing classroom include generating ideas, planning, multiple drafting, revising, editing the text and, finally, feedback (in the form of the teacher's commentary, peer evaluation and one-to-one teacher-student conferences) in isolation from any cultural, educational and socio-political contexts, in which writing might take place (Flower and Hayes 1980; Zamel 1982, 1983; Bereiter and Scardamalia 1987; Elbow 1998; Ferris 2002; Hedgcock 2005). Following this sequence teaches students how to write, as the need to draft and revise encourages them to be responsible for their writing and making improvements themselves (Jordan 1997: 168). Because it was the content of the text, not its form, that was considered of primary importance, attention to language ac-

curacy was delayed until the end of the writing process. Errors were gradually accepted as developmental, and grammatical correctness became secondary to communication (Raimes 1991: 409; Grabe and Kaplan 1998: 86; Ferris 2002: xi, 2017: 330; Paltridge 2005: 56f.; Reid 2007: 28). The teacher was no longer perceived as an instructor or a rule-giver, but as a facilitator who accompanied a student through thinking, writing, revising and rewriting in order to generate a readable final product (Escribano 1999: 57). Staged writing, which "changed everything in composition teaching" (Johns 2011: 212), is still dominant in TL writing classrooms (Hyland 2011b: 14). However, process instruction alone may be insufficient for a TL student writer, for NNES writers "may simply lack the necessary language skills (e.g. vocabulary and grammar) to take advantage of the benefits of writing process instruction" (Hinkel 2004: 9). Also, it provides little guidance for the language user who needs practice in different social contexts and in different genres (Johns 2011: 212). Nevertheless, as Nunan (1999: 274) once contended, students need both process and product in the writing classroom, as these approaches are complementary. A similar stance is taken by Casanave (2004: 2) who posits that "[t]here can be no product without a process for getting there, and there can be no process without some kind of resulting product (…). Teachers, therefore, (…) cannot ignore either but (…) can help students understand that the two sides of this particular coin cannot be separated". Thus, teaching how to get the end-product that is well-organised and efficiently revised, edited and responded to should be the aim of every teacher of writing who instructs his or her students how to compose in English.

In the 1980s, the **content-based approach** and the **audience-dominated approach** emerged. The research studies that informed the first approach investigated, for example, students' writing in content areas and the rhetorical organisation of written production of various types. The classroom pedagogy emphasised the importance of academic content that was appropriate for a particular group of students. The instruction was held, if requested or required, by content and language teachers. The audience-focused approach was influenced by the values, expectations and conventions of representatives of the academic discourse (or disciplinary) community. The writing instruction favoured rhetorical norms that academic texts should follow, and classroom activities were designed to prepare the students for writing assignments in the content classes, as this was in line with the writing-across-the-curriculum movement (Raimes 1991: 411-414).

Since the mid-1980s, the **genre-based approach** has gained popularity in EAP writing. The aim of this post-process approach is to help students develop awareness of

different genres (i.e. types of communicative events) and discipline-specific writing, and thus enhance their academic and professional written communication skills (Swales [1990] 2011; Bhatia [1993] 2014; Swales and Feak 2003: 7; Tribble 2009). General academic genres include, for example, essays, diploma theses and PhD dissertations, and textbooks. In the research world, common genres are research articles, conference abstracts, letters to the editor, book reviews, and grant or fellowship proposals. Each of these genres has its own structure, style and conventions. The genre-oriented writing pedagogy pays attention not only to the process of composing a text but also to the nature of the texts that students write. While in the process approach students follow a sequence of steps before they achieve a final product, in a genre-oriented classroom, they are introduced to samples (or models) of specific genres and examine their distinctive characteristics without ignoring language issues and discourse features of the text (e.g. grammatical forms and structures typically used in particular kinds of writing). After modelling, they do exercises that manipulate relevant language forms or construct a new text with the guidance of their teacher, following the features observed in the model. Eventually, they produce their own texts independently by imitating the linguistic and structural elements of a particular genre (Frodesen 2001: 237; Paltridge 2005: 55-58; Richards 2015: 498). In this respect, the genre-based approach closely parallels the product approach. Nevertheless, genre and process approaches are complementary too. According to Hyland (2007a: 20), writing is "a socio-cognitive activity that involves skills in planning and drafting, as well as knowledge of language, contexts, and audiences", so the approaches are not mutually exclusive. It comes as no surprise that the synthesis of process and genre approaches, termed the *process-genre approach*, has become popular with writing instructors. Badger and White (2000: 157) confirm its usefulness when they claim that "[a]n effective methodology for writing needs to incorporate the insights of product, process, and genre approaches". Tribble (2009: 45) supports this view when he says: "[w]hile a process approach will certainly make it possible for apprentice writers to become more effective at generating texts, this may be of little avail if they are not aware of what their readers expect to find in those texts". As process methods co-exist with genre techniques in many TL classrooms, students broaden their knowledge about a particular genre by examining key language features and analysing rhetorical patterns of model texts, and then produce their own texts in a staged process by planning, drafting, revising and editing, which brings benefits to end products (Badger and

White 2000: 157f.; Hyland 2007a: 1). A genre-oriented approach to the teaching of TL writing is further explored in Sections 3.3.2.1-3.3.2.2.

It must be pointed out that despite changes in the composition theory that started favouring process over product writing, many teachers adhere to single-draft, error-focused models of writing and feedback (Ferris 2009: 22). Perhaps an explanation lies in the fact that a great number of teachers who teach writing are not trained EAP writing instructors. They often view themselves primarily as language teachers, not writing teachers, so they do not feel competent enough to teach composing in any paradigm. Moreover, in some educational settings, writing is not prioritised because assessment of content and language courses is not based on written assignments but, for example, on tests with closed- and/or open-ended questions. Also, many TL students outside Anglophone institutions may not be interested in developing TL academic literacy as they do not plan to pursue their academic careers in English; it depends on their short- or long-term goals and motivation. Finally, an average English class at a tertiary level in TL settings is often an integrated course that covers all skills; it is not a writing class alone. This, in turn, leaves less instruction time specially devoted to composing.

To conclude the above discussion, over the years, teachers have favoured various approaches (and their combinations) to the teaching of writing, as these approaches can be more or less successful "for different students, for different purposes and in different situations" (Gordon 2009: 253). Undeniably, few teachers are "so devoted to one approach as to exclude all others" (Raimes 1983b: 11). None of the approaches described above should claim superiority over the others, as they are not "discrete entities" (Raimes 1991: 421). Conversely, the teachers can develop their own "eclectic approach" (de Chazal 2018: 205) drawing on theories and practices that various theories inform. To decide which approach (or approaches) serves best to a particular group of learners with particular purposes, undertaking classroom-based research is very useful, as its findings can equip the teachers to make their own informed choices about their writing-focused didactic practices.

All in all, writing in English as a TL for general purposes, greatly influenced by the methodology of the Communicative Approach (or Communicative Language Teaching), is currently learner-centred and emphasises task-based activities with free use of language and less attention to errors (Leki 2002: 62; Council of Europe 2003: 155, 157f., 2020: 130). Nevertheless, in writing for research publication purposes, the exchange of information

needs to be both accurate and appropriate, which imposes a special attention to the language features of the scientific discourse.

3.2. Attitudes towards writing in a target language classroom

Because of several factors involved in producing an effective, clear and readable text (discussed already in Sections 1.9.2-1.9.4), a substantial amount of attention and time devoted to the teaching of writing seems indispensable. However, as Harmer (2018: 31) states, "[t]he importance given to writing differs from teaching situation to teaching situation". It can be observed that writing in a TL is often treated as "a low-priority skill" (Scott 1996: xi), and teaching writing in an average TL classroom in many educational settings is "a much neglected part of the language programme" (White and Arndt 1997: 1). Even though, as Hyland (2003: xv) observes, "[w]riting is among the most important skills that second language students need to develop", Lipińska (2016: 9) argues that it is often on the "periphery of didactics". There are plentiful reasons for this attitude towards this productive competence; they are further explained in the ensuing discussion by adopting both teachers' and students' perspectives.

To start with, the **teachers** would rather cut writing assignments or relegate them to homework than skip the practice of other skills (e.g. speaking or listening). This happens when there are time constraints in language instruction or when writing is not a separate lesson but is integrated with other skills. Yet, Lipińska (2016: 10, 13) notes that writing skills cannot be developed independently at home but require the guidance and support of a teacher. Writing is less marginalised, however, if it is geared towards examinations, for examination requirements are rarely neglected. This often results in an instruction that is more teacher-centered, explicit, and focused on form. Another reason for the scarcity of writing tasks is that there is no proper control over writing as an out-of-class activity, so the teachers cannot be sure the composition is an unassisted and original work of their student that can be fairly evaluated. Thus, they are reluctant to set it as a graded homework task. Although Lipińska (2016: 13) suggests that not all written work requires grading, it should be corrected to provide learners with feedback on their errors. However, this necessitates additional work, which may lead to negative attitudes towards writing among teachers. To solve the problem of a heavy reading load for the instructor, Reichelt (2013: 34, 36) rec-

ommends, for example, responding only to the content of the students' writing, marking grammar errors selectively or engaging fellow students in peer-review. Next, language teachers do not wish to be "composition slaves" (Hairston 1986: 117), i.e., they do not want to impose on themselves too much workload resulting from correcting compositions regularly and meticulously, especially if, in the long run, they observe no sustained improvement in the linguistic or structural quality of the text their students produce[45] (Byrne 1996: 124). Nevertheless, many teachers often consider detailed error correction as an essential part of feedback on their students' compositions. They are "genetically endowed with a paper-marking relax", and they view marking compositions as "an inherent part of their job" (Casanave 2004: 69). They believe that not correcting errors diligently may be perceived by their students as a sign of weakness in their English language knowledge. Some teachers may feel their expertise is too limited to deal competently with all language-related questions that arise in response to their students' written texts, especially at very high levels of language proficiency (Scott 1996: 101; Grabe and Kaplan 1998: 253; Reichelt 2005: 222; Frodesen and Holten 2011: 153). This can be avoided if the teachers overtly explain what language features they take notice of in a particular writing assignment, for it is not always necessary, practical or effective to attend to all the problems on lexical, sentential and textual levels. It should be noted that some students may view high levels of feedback as a sign of the teachers being more critical of them, which is psychologically overwhelming and undeserved. In addition, language teachers may unwillingly perform the role of the "teacher-as-judge" (Scott 1996: 101) who assesses conceptual issues in the texts their students compose. They may feel well-equipped to teach reading, listening and speaking skills, but far less so when dealing with writing instruction. This is because they usually lack specialist training as composition teachers (Reichelt 2005: 220; Hinkel 2011a: 534; Lipińska 2016: 9; Matsuda and Silva 2020: 291f.; Hryniuk and Ene 2023: 264), which makes the teaching practice less informed and principled. Last but not least, because of heavy workloads, it is often disheartening for the teachers to assign written texts as graded homework to their numerous students. Considering the above, quite a few language teach-

[45] There are contrasting opinions about the effectiveness of written corrective feedback (e.g. Truscott 2007; Ferris 2009). For example, if it is focused only on vocabulary and grammar problems, it can be "demoralizing and demotivating" (Reichelt 2013: 34) for students. Nevertheless, more and more research results obtained nowadays confirm that feedback can raise students' awareness of language issues, facilitate TL learning, and help them develop effective writing as well as self-editing strategies (Ferris 2017: 335).

ers may be discouraged from including writing assignments in their classrooms on a regular basis.

As regards the **students**, even though some of them may perceive writing as an important skill, they generally engage in writing activities with little enthusiasm, for they often find it difficult to get started and then generate, organise and develop ideas. Moreover, they may dislike the solitary and non-interactive nature of writing if the writing task is set for homework. Relegating writing to homework has other disadvantages: it makes poorer writers struggle with the composing process alone, and better writers are deprived of opportunities for improvement through pre-writing discussion, collaboration with peers and feedback (Hedge 2019: 301). Next, at lower levels of TL proficiency, the students may excessively rely on dictionaries, which makes writing time-consuming, or online translators and automated written corrective feedback (AWCF) tools, which leaves them with the impression they hardly learn anything. Additionally, they often feel frustrated when they are faced with a writing task and cannot express themselves in English as well as they can in their native languages. This frustration makes them resort to writing in L1, especially if the text is conceptually complex, and then translating a composed product into a TL. They suppose it is not what their teachers anticipate and approve of, so dissatisfaction with the act of composing may increase even further. What is more, the students may feel less motivated to write if their only audience is the teacher. If their teachers were "truly readers rather than judges", who "look not so much at what the learners have *failed* [emphasis in the original, MŚ] to achieve but rather at what they have actually *succeeded in doing* [emphasis in the original, MŚ]" (Byrne 1996: 29), their attitude towards writing would be more positive. What is more, it can be challenging for many target language learners, in contrast to those learning English as a second language, to see the practical applications of English writing beyond the classroom, resulting in reduced motivation to improve it (Reichelt 2013: 28). Last but not least, if homework loads and other academic commitments are too overwhelming, they cannot successfully fulfil them all. Consequently, it is often the writing task that is left unattended.

All the aspects considered, the opportunity to help students turn into more competent writers may be missed in quite a few TL classrooms. However, if the students are engaged in classroom writing activities that enthuse them, motivate them and build their confidence as writers, they can get more involved in carrying out writing assignments. This can be achieved by integrating into the writing classroom collaborative writing (in pairs or

groups), making writing tasks purposeful and intended for a particular reader. For example, in an ESP classroom, a content-related writing task (e.g. a report on a construction disaster or a product recall) that requires specialist knowledge does not need to be a solitary activity. If it is performed collaboratively, the quality of both content and delivery is likely to improve. If the students address a real audience with a real message, the classroom instruction becomes most effective and valuable (Harmer 2018: 39). In the context of language education aimed at early-career researchers, "writing for writing" (Harmer 2018: 34) can be practised by drafting cover letters to journals' editors or replies to peer-reviews, as these types of writing are directly relevant to their future needs. Also, the students may adopt a more positive attitude towards composing if teachers limit their correction to, for example, examination-oriented texts (for these pieces of writing should be analysed more critically) and pay less attention to errors in other writing performances of their students (Byrne 1996: 111). Moreover, a learner needs true-to-life and relevant writing tasks. If the tasks lack reality, because they are done only as a form of language-focused exercise, their attractiveness declines, which is why the students' motivation to write decreases. However, if writing is placed in a lifelike context, learners' enthusiasm to write rises, which encourages them to greater effort. In fact, it is the motivation, "a tremendous facilitator" (Leki 1992: 13) in language learning, together with types of personality and a level of proficiency in English, that affects TL students' performance and progress in writing (Ellis 2003: 5). It can be strengthened if the students are provided with involving, challenging, and relevant materials and tasks. It can also be strengthened by the teachers themselves, who "play a significant part in an individual's motivation" (Williams and Burden 2010: 137). In fact, teachers' knowledge of how to teach writing, their enthusiasm and the clarity of instructions perform a significant part in increasing students' willingness to write (Wlodkowski 2008: xiii; Lipińska 2016: 14). A more detailed insight into the characteristics of the teacher who can contribute to an active interest his or her students have in writing by practising the craft of writing is provided in Section 3.4. Finally, students can make writing more manageable if they apply certain techniques that help them go through the writing process to obtain a satisfactory product and, in the long run, become self-directed (i.e. autonomous) writers. These techniques are the leading theme of Section 3.3.3.

3.3. Components of a target language writing classroom

According to Richards (2015: 507f.), "[t]he goal of writing instruction is to provide opportunities for learners to develop awareness of the conventions of written English and the nature of written texts, as well as the knowledge and skills needed to produce texts that are appropriate for their purposes". Over the past decades, approaches to the teaching of writing have reflected changes in understanding what writing involves, which, in turn, has influenced the ways it is taught and learned in a modern classroom. In the 1970s and 1980s, as noted earlier in this chapter, techniques for teaching TL writing were based on the techniques borrowed from pedagogy in L1 composition, which focused on the writing process with planning, organising ideas, multiple-drafting as well as on language-focused issues (e.g. precise word choice, cohesive devices) and documenting cited sources. This instruction, however, neglected the learning needs of TL students specifically. As discussed in Section 1.1, writing is a complex activity that is as much about a language ability as a composing ability (Weigle 2014: 235). Even if general composing skills and strategies can be transferred from L1, language ability has to be developed. The writing instruction should meet the needs of TL writers and focus on, for example, precise vocabulary selection, spelling and punctuation.

By and large, opinions about what effective TL writing instruction should include are far from conclusive. As Cumming (2018) notes, "[t]he multi-faceted nature, international diversity, and varied purposes for which people perform, study, teach, and assess L2 writing mean that no single theory could ever account for L2 writing comprehensively". Consequently, no single approach or method can be adopted and applied in the TL writing classroom. The attitudes towards writing instruction presented below seem to confirm this view.

Back in the 1980s, Raimes (1983b: 3) opined that "[t]here is no one answer to the question of how to teach writing in ESL classes. There are as many answers as there are teachers and teaching styles, or learners and learning styles". In a similar vein, Murray (1985: 5, 1993: 338-339) noted that "[t]here is no single kind of person to teach, no one reason to write, no one message to deliver, no one way to write, no single standard of good writing. Neither is there one way of teaching". Pincas (1993: 2) was yet another scholar who rightly observed that the teaching of writing to TL students should be recognised as a special part of language instruction with its own goals and techniques. Silva (1993: 670)

advocated that TL writing instructors should should dedicate class time to strategic, rhetorical and linguistic issues. According to Ellis (1995: 67f.), what to employ in the writing classroom is "always a process of negotiation, involving the teacher's overall educational ideology, the learners' expectations and preferences and local constraints that determine what is feasible. There is no single pedagogical solution which is applicable in all classrooms". Currently, Hedge (2019: 330) rightly claims that "[e]ach teacher needs to develop a methodology which integrates the specific needs of his or her students and a principled approach to the teaching of writing". Likewise, Daffern and Mackenzie (2020a) admit that there is no one correct way to approach L1 writing instruction. Several in-service teachers of English as a target language, when asked how they teach writing in their classrooms, might endorse this opinion and admit using diverse methodologies, especially if they are not trained writing instructors. They rightly believe that one-size-fits-all approaches to the teaching of writing cannot prove successful for all students in all settings and at all times.

All the opinions and attitudes towards TL writing specified above open the doors for a range of didactic practices that may optimise writing instruction and bring potential gains for students. As long as the students develop as writers, no method or approach, traditional or novel, should be condemned. That is why the decision about how to handle the teaching of composition and what to include in it should be left to teachers who know their students' needs, goals, language competences and time constraints of the language instruction in their educational settings. Nonetheless, the decision should be methodologically principled and empirically grounded.

As pointed out earlier in this section, TL writers might call out for "more of everything" (Raimes 1985: 250) than L1 authors in terms of, for example, language practice, writing practice and feedback. Put another way, TL writers expect recognition of their "unique needs" (Hedgcock 2005: 599). Basing on the research into TL writing, Hedgcock (2005: 598) notes: "[L]2 writers' implicit and explicit linguistic knowledge, educational backgrounds, multilingual literacy skills, and strategic abilities may necessitate instructional practices geared sensitively to the needs of L2 populations". In later years, Weigle (2014: 226) supports these views when she states that TL writers need "more practice writing, more opportunities to develop effective writing strategies, more familiarity with genres, more practice with vocabulary and grammar, and more feedback". These essentials come from the nature of TL writing ability: it is both "a cognitive ability" and "a sociocultural phenomenon" (Weigle 2014: 223), and teachers of writing should take into consideration

both perspectives. Therefore, over the last decades, various issues related to individual and contextual aspects of writing have been considered important in TL writing instruction and provided a useful framework for it. What follows in the remainder of this section exemplifies what a writing classroom has focused on so far.

Earlier on, Byrne (1996: 21-23) advocated that the following aspects should be considered in the teaching of writing:

- accuracy (which guides learners in the language during the controlled-to-free process);
- the text (which enables students to express themselves effectively at a level beyond the sentence);
- the purpose (which motivates students and shows that writing is a form of communication); and
- fluency (which encourages students to write as much and as quickly as possible without worrying about mistakes).

Next, Scott (1996: 45-56, 155-158) specified what writing instruction for TL students should involve. In his view, the instruction should include the following issues:

- discussing the L1 writing process and strategies that can be transferred to TL writing;
- discussing the TL writing process so that student writers develop their own effective TL strategies for generating ideas, revising and editing the text;
- teaching grammar as linguistic information that helps writers shape their thoughts;
- setting vocabulary exercises, sentence-combining and reading tasks as well as writing assignments to engage students both in the grammar practice and in the writing process;
- discussing the intended audience; and
- conferencing about the end-product and strategies used to produce it.

A decade later, Weigle (2005: 133f.) described the following discursive and non-discursive concepts that she found important in TL writing and teaching:

- language knowledge (i.e. the knowledge of vocabulary, syntax, morphology and spelling, intra- and inter-sentential marking devices; the knowledge of organisational structures, functional uses and constraints of formality);

- topic knowledge (i.e. the knowledge of the topic about which one is writing);
- genre knowledge (i.e. the knowledge about genres in which one is writing);
- audience knowledge (i.e. the knowledge about who will be reading a text, what the reader is likely to know about the topic, and what his or her attitude towards the contents is); and
- task schemas (i.e. information stored in the long-term memory that specifies how to perform a particular task).

Gordon (2009: 244-246) recommends the following three (3) approaches in the TL writing instruction:

- the writing process approach (in which the writer plans, drafts and revises ideas in a text composed recursively);
- the genre approach (in which an expert text is analysed and imitated by student writers); and
- the functional (or paragraph-pattern) approach (in which the writer focuses more on compositional patterns such as a topic sentence and supporting sentences than on the meaning that the text conveys).

He realises, however, that the success of these varying approaches depends on students, their goals and learning situations (Gordon 2009: 253). These approaches have already been referred to in Sections 1.8 and 3.1. A genre-oriented approach to TL writing is further explored in Section 3.3.2.

Another opinion about the development of writing skills comes from Cumming (2011: 74-77). He interviewed 48 writing instructors from six (6) countries and different educational contexts in order to find out what concepts prevail in their TL writing classrooms. He lists the options that all the teachers uniformly chose as important in the teaching of writing. In their opinion, a focus should be placed on:

- a composing process (e.g. information gathering, multiple-drafting, revising and editing);
- genres (e.g. analysing salient language components of prototypical examples of text types);

- text functions or structures (e.g. formal text units such as paragraphs and full essays; stylistic devices, lexico-grammatical features of academic prose, sentence patterns, plagiarising, referencing);
- topical themes (e.g. a topic of interest selected by the students); and
- personal creative expression (e.g. texts based on students' personal opinions and experiences, poems).

The concepts favoured by a particular instructor often depended on the students' level of language proficiency. Students who were highly proficient needed to "hone their skills in the complexities and intricacies of writing" (Cumming 2011: 78), whereas those with limited language proficiency in English were trained in language-based concepts too. Even though each concept emphasises a different aspect of writing, they can be used in combination, as they are complementary and compatible with one another.

Hinkel (2011a: 533-535) describes content-based and genre-based approaches that take a prominent place in the teaching of TL writing. The former advocates integrating language instruction with reading and writing, which leads to substantial improvement in the lexical, syntactic and discoursal quality of TL written texts. In addition, the students learn literacy skills, for example, information analysis, critical thinking and referencing. The latter approach integrates the teaching of TL writing with reading and attends to the characteristics of written registers. Its aim is to enable the learners to analyse model writing and produce their own texts that follow the sociocultural norms of a particular genre. Such an analysis can also lead to discussing genre-specific uses of grammatical structures and vocabulary.

For Griffiths (2018: 201), the best approaches that enhance students' writing skills are the process approach and the genre approach. As already pointed out in Section 3.1, these approaches are not mutually exclusive and can be combined in the writing classroom.

Daffern and Mackenzie (2020a) are yet other researchers and practitioners who provide descriptions of some approaches to the teaching of writing. Although the genre approach that they describe and advocate is based on their experience as teachers of writing in L1, it can be transferred to TL contexts. What they recommend is deconstructing exemplar or mentor texts (to help students understand how the texts are constructed); modelled writing (to exemplify how the text is created and to explain the decisions that the teacher takes when composing it); shared writing (to produce a single text by means of collabora-

tion between the teacher and students); guided writing (to engage students in collaborative writing and focus on a particular aspect of writing); and interactive writing (to help students integrate writing skills with disciplinary content).

Summing up the above discussion, it can be observed that suggestions of what components effective TL writing instruction should include have varied over the years, but, as claimed by experts in the field of TL writing, what works in one educational context may not be the best practice in the other. Therefore, this variety is by all means expedient. This is what Hinkel (2011a: 533) posits about the constituents of the writing classroom:

> different schools of thought on L2 writing curricula and pedagogy predominate in different world regions. These are distinct in regard to how L2 writing should be taught, what L2 types of writing L2 learners should be able to produce, and what type of curricula and instruction best serve the needs of these learners.

Undeniably, teaching TL writing differs from classroom to classroom, and "being welded to a single approach" (Reichelt 2013: 29) in writing instruction will not meet the needs of all the students. Nevertheless, as target language writers acquire the structures and uses of the TL alongside writing skills (Matsuda and Silva 2020: 284), in some settings, learners may wish to improve the quality of discourse organisation, whereas in others they may wish to broaden their vocabulary range or sentence structures. Whatever approach to writing instruction the teacher employs, in order to guide the students to write effectively, s/he should also equip the learners with strategies that are indispensable in the development of writing abilities. Pawlak and Mystkowska-Wiertelak (2015: 110) stress the importance of composing strategies when they assert: "[t]here can be little doubt that the act of writing in a second or foreign language (L2) is a highly complex process during which learners (…) have to (…) employ appropriate strategies". The strategies assist them in addressing the rhetorical situation, including their own situation as writers as well as the type of writing and the audience.

In a TL classroom, it is important to provide opportunities for novice writers to master different dimensions of writing (i.e. content, system, genre, context and process knowledge). Although "[t]here are so many small things that go together to make good writing" (Cumming 2011: 83), and TL writers "need intensive and extensive instruction in practically all aspects of constructing discourse and reasonably fluent and accurate text" (Hinkel 2011a: 535), some aspects of writing are specifically, in the Author's opinion,

worth discussing in the TL writing classroom, particularly in EAP/ERPP settings. They are related to the discursive (a-b) and non-discursive (c) concepts listed below:

a) language knowledge (that helps students compose accurate and appropriate texts that comply with the rhetorical conventions of the TL);
b) genre knowledge (that helps students compose a text for a particular purpose and in a particular sociocultural setting); and
c) writing strategies (that help authors pursue their learning to write autonomously within the classroom and out of it).

In the sections that follow, a more detailed insight into each of these concepts is provided.

3.3.1. Language knowledge

As noted by Hutchinson and Waters ([1987] 2010: 37), any form of communication has a structural level, a functional level and a discoursal level. These three (3) levels complement each other, and "each may have its place in the ESP course", or, as Sobkowiak (2008: 31) asserts, none of these levels can be ignored in an ESP classroom. They encompass the kinds of knowledge that a writer is expected to demonstrate in writing, specifically, the lexical, syntactic, semantic and rhetorical systems of the language (Grabe and Kaplan 1998: 173). Undeniably, students need these kinds of knowledge to write accurately and appropriately in any language (the types of knowledge that effective writers demonstrate have already been described in Section 1.9.2). Therefore, language knowledge is, in its broad sense, "a critical component of writing ability and the foundation for text construction" (Grabe and Kaplan 1998: 216), and "plays a crucial role in academic and professional writing" (Ferris 2017: 336). That is why TL writers need to focus on it in order to develop their writing proficiency and achieve communicative goals (Frodesen 2001: 246, 2014: 251).

Back in the 1980s, Murray (1985: 239) contended that "[w]e cannot teach writing without grammar". Hyland (2007b: 153), years later, still supports this view when he says: "[*l*]*earning to write involves learning to use language* [emphasis in the original, MŚ]" and posits that "language exercises are a staple of ESL writing instruction" (Hyland 2011b: 122). These opinions are humorously summed up by Hinkel (2015: 79) who says: "it is not

likely that L2 writers can cook up an academic paper without the requisite essential language skills or knowing how to be able to produce academic prose". For the components of the language knowledge essential to *cook up* an academic text, see Table 9. The reasons for including language-based instruction in the writing-based classroom are addressed in the remaining paragraphs of this section.

Table 9. Components of language knowledge (adapted from Grabe and Kaplan 1998: 220).

Linguistic knowledge includes:	
A. Knowledge of the written code	• Orthography • Spelling • Punctuation • Formatting conventions (margins, paragraphing, spacing, etc.)
B. Knowledge of phonology and morphology	• Sound or letter correspondences • Syllables • Morpheme structure (word-part knowledge)
C. Knowledge of vocabulary	• Interpersonal words and phrases • Academic and pedagogical words and phrases • Formal and technical words and phrases • Topic-specific words and phrases • Non-literal and metaphoric language
D. Syntactic/structural knowledge	• Basic syntactic patterns • Preferred formal writing structures (appropriate style) • Tropes and figures of expression • Metaphors/similes
E. Awareness of differences across languages	
F. Awareness of relative proficiency in different languages and registers	

As remarked in the preceding section, when compared with L1 authors, TL writers are "typically more limited in their knowledge and control of lexical, syntactic and rhetorical tools to express their ideas effectively" (Ferris 2012: 227), which puts them at a disadvantage in their careers (Hinkel 2004: 35, 43). Therefore, many student writers "need opportunities to focus on and develop the *language* [emphasis in the original, MŚ] of their texts (Ferris 2014: iii). Hinkel (2015: 80) admits it when he says: "[a]t present, research has clearly and unambiguously demonstrated that L2 writers' skill level in vocabulary and grammar disadvantages the quality of formal prose" that they produce. Even if some NNESs may be extensively exposed to naturalistic language settings, advanced syntactic constructions and academic lexis cannot be acquired or learned through daily conversation-

al activities. Rather, what is necessary – apart from reading extensively in chosen fields – is explicit lexical, grammatical and discoursal instruction as well as learning how to construct a TL academic text. That is why the teaching of TL writing should be devoted to these aspects of the written discourse too. This opinion can be found in Ferris and Hedgcock (2011: 25) who note that "[i]nstruction in L2 composition may be maximally effective when it intentionally directs writers' attention towards macro- and micro-level textual concerns, including audience expectation, rhetorical forms, lexicogrammatical variety, and formal accuracy". Similarly, even if the language typical of academic discourse can be learned by reading relevant literature and by noticing its specific features, teachers' role in guiding learners on what vocabulary and grammar constructions are worth remembering, and in discussing their uses, meanings and functions is crucial. This is confirmed by Ferris (2002: 4) when she says: "[b]ecause L2 students (…) are still in the process of acquiring the L2 lexicon and morphological and syntactic systems, they need distinct and additional intervention from their writing teachers to make up these deficits and develop strategies for finding, correcting, and avoiding errors". In a similar vein, Hinkel (2004: 1) states that "extensive, thorough, and focused instruction in L2 academic vocabulary, grammar, and discourse is essential for developing L2 written proficiency". In recent years, Warchał (2019: 82) expresses a similar view while referring to the teaching of writing in the Polish university context. For her, study skills involving, for example, academic vocabulary, selected syntactic patterns and lexical cohesive devices appear "indisputable" in the writing classroom. Therefore, teachers of writing need to be "teachers of *language* [emphasis in the original, MŚ]" in order to equip their students with the ability to "exercise appropriate linguistic choices" and to "codify meanings in distinct and recognisable ways", as Hyland (2007b: 151) puts it. In Frodesen and Holten's (2011: 148) words, "[i]ssues of language are inseparable from content, organization, and audience considerations, and they should all be given equal weight in ESL composition classes". Ferris (2014: iv) sums up the above discussion when she expresses the following view: "[w]hile instructors may worry about boring or alienating students with the technicalities of language, many students in fact wish for more such instruction, especially with regard to how to apply it to their own writing". These opinions are based on what an investigation into TL writing indicates.

For example, back in the 1990s, Silva's (1992: 43) research results showed that TL students, as a group, expected their composition instructors to help them with language issues, especially grammar and vocabulary, because of certain limitations in this respect. In

his overview of research into TL academic writing, he claimed that "[i]t may also be necessary for L2 writing teachers to work to enhance (…) writers' grammatical and lexical resources" (Silva 1993: 671). Consequently, learners would be able to expand their syntactic and lexical repertoires and thus produce more sophisticated and academically valued texts. Moreover, they would be able to understand the forms and functions of language patterns much better, and use correct options to express intended meanings, which is essential, for example, while citing other authors. To improve student writers' paraphrasing skills, however, there should be a special focus placed on reducing certain limitations the students might have (e.g. the level of difficulty of the text analysed for citations, students' reading-comprehension abilities and their unfamiliarity with the topic). Additionally, language-focused development of TL writers would enable them to refrain from direct replication of source text language in their own texts, which is "pervasive" (Grabe and Zhang 2013: 115) among the students with lower English language proficiency. Last but not least, they would be able to produce grammatically correct texts, which in some contexts may be of crucial importance. For example, a high level of language correctness is required to communicate effectively in formal written discourse (Little 1994: 101f.), which encompasses, among others, academic or professional texts.

Considering the above, the teaching of vocabulary and sentence structure holds a high rank in the teaching of language competences until the learners have fluent and automatized access to lexical and syntactic choices (Weigle 2005: 140). If the role of language knowledge is secondary, the written texts may remain "overly simple and rhetorically unimpressive" (Ferris 2012: 230). Therefore, by devoting more time and attention to linguistic and rhetorical concerns, TL writing instructors can offer their students "the greatest benefit" (Haan and Mallett 2010: 108). However, as Ferris (2014: iv) spells out, language instruction in a writing class should be "*brief, narrowly focused, and directly responsive to the needs of the students in that particular class*" [emphasis in the original, MŚ]. Otherwise, it will turn into a grammar class.

The sections that follow focus on grammar and vocabulary development in a TL writing classroom (Sections 3.3.1.1-3.3.1.2), and on the importance of teaching accurate language and adequate writing conventions in the written production of target language students (Sections 3.3.1.3-3.3.1.4).

3.3.1.1. Grammar development for student writers

> If we view grammar as an essential component of all communication – as a set of linguistic resources from which native and non-native speakers alike select forms based on appropriateness for meaning, for audience, and for textual demands – then grammar and writing are inseparable. (…) Grammar in ESL writing is not just about error, and this aspect should not be the sole focus of grammar instruction in second language writing pedagogy (Frodesen and Holten 2011: 157).

Undeniably, it is grammar that constitutes "a resource for creating and shaping accurate and effective communication" (Frodesen 2001: 234, 2014: 240), so its knowledge is essential for clear writing (Bade 2009: 182). In Waever's (2008: xii) words, grammar "is not only inherently connected to the teaching of writing; it is, broadly construed, the *essence* [emphasis in the original, MŚ] of writing". It needs pointing out, however, that the extent to which formal features are discussed in a writing-oriented classroom depends on the approach to writing instruction followed in a given setting. For example, language activities are vital in genre-focused writing classes and at the editing stage of process-based instruction (Ferris and Hedgcock 2011: 273; Hyland 2011b: 122).

The knowledge of grammar enables students to use language forms "accurately, meaningfully, and appropriately" (Larsen-Freeman 2007: 255, 2014: 258), which involves using a form or structure that conveys a lexical and grammatical meaning in a given social context for specific purposes. As pointed out in Section 1.9.2, in order to communicate effectively, all three (3) dimensions – from, meaning and use – must be attended to (see Figure 5 below adapted from Celce-Murcia and Larsen-Freeman 1999: 4; Larsen-Freeman 2014: 253). This is why grammar constitutes "a toolbox for the writer", as Weaver (2008: xi) puts it. She describes the role grammar plays in writing in the following way: "[t]he more the writer knows about his or her tools and the more practice – and guidance from a teacher – in using them, the more expert the student writer becomes at using those tools in crafting words, phrases, sentences, paragraphs, transitions, images, and eventually complete, polished writings" (Weaver 2008: xif.).

Being able to compose "a decent sentence" (Montgomery 2005: 21) is a prerequisite for effective communication. As Frodesen and Holten (2011: 157) rightly note, "[w]e simply cannot convey meaning properly without grammar, and it stands to reason that the richer our students' grammatical resources are and the better their knowledge of form-function relationships are, the better they will be able to communicate". Likewise, Hyland (2011b:

25) states that "[a] knowledge of grammar (…) becomes central to learning to write". In Kolln and Gray's (2013: xiii) words, grammar is "a rhetorical tool that all writers should understand and control". That is why the concept of rhetorical grammar or "the marriage of grammar and rhetoric" (Kolln and Gray 2013: xii) seems like a valuable addition to a writing classroom. The concept of *rhetorical grammar* encompasses the sentence-level choices that can help a writer efficiently convey his or her ideas (Ferris 2014: 105). Sentence-structure choices may highlight specific information or convey mood and tone, so paying attention to sentence-level devices can improve a writing style. More specifically, they make a writing style "clear, appropriate, interesting, and powerful" (Ferris 2014: 105). Haan and Mallett's (2010: 118) research findings confirm that students benefit when "rhetorically effective grammar and style" (Haan and Mallett 2010: 107) are directly addressed in the TL classroom, so integrating them into the writing practice of TL students seems indisputable. Finally, Blamires (2020: 245) points out a close relationship between grammar and logic. If the text's grammar is faulty, its logic suffers too, which, consequently, leads to ineffective writing.

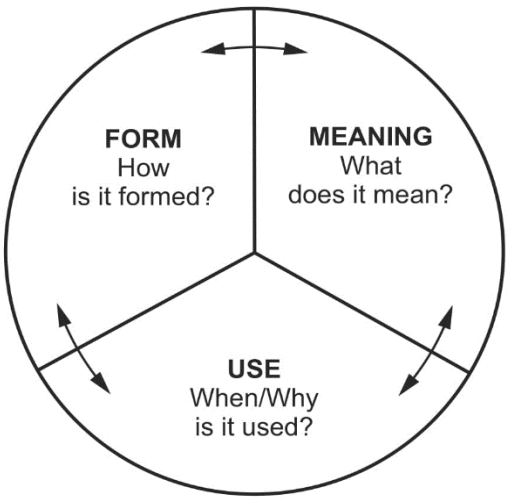

Fig. 5. Three-dimensional grammar framework (adapted from Celce-Murcia and Larsen-Freeman 1999: 4; Larsen-Freeman 2014: 253).

Summing up the above discussion, grammar instruction should not be unduly limited in writing-oriented classrooms, although "[u]nder no circumstances should a writing class be turned primarily into a grammar class" (Ferris 2002: 101). Undeniably, weaving grammar-focused instruction into the writing classroom is indispensable and beneficial to

the students, provided that language development does not take priority over other writing activities, and that it is directly applicable to writing tasks in the course or relevant to writing problems demonstrated by the students. Balance is essential to devote teaching time to both linguistic and extra-linguistic issues.

The ability to produce clear and accurate sentences is not sufficient to compose an effective text, though, and competence in composing does not result from the study of forms and rules that describe the written language (Hedge 2001: 8; Weaver 2008: 6-8). As Grabe and Kaplan (1998: 422) once rightly observed, the teaching of composing is "separate and distinct" from the teaching of accurate syntax and text conventions, so the study of grammar does not necessarily help learn and use the conventions of written English to produce well-organised texts, nor does it develop the ability to think and read critically or to synthesise information and opinions from analysed sources in a logical way (Frodesen and Holten 2011: 141). The research into L1 writing has suggested that grammar instruction in the classroom is not effective in helping students write better (Weaver 1979: 4-6; Krashen 1984: 12; Zemelman and Harvey 1993: 351; Frodesen 2001: 233f.). A similar assertion is made about TL writing. Undoubtedly, apart from language accuracy, there are other issues that are essential to the writing development of students, and focusing exclusively on formal features may divert the writer's attention from the chief purpose of the composition: communication. In other words, focusing on grammatical forms may block the students' ability to focus on the meaning these forms convey (Brown 2007: 293).

In the context of TL student writers, however, "many aspects of grammar are never fully under the command of the L2 writer" (Grabe and Zhang 2013: 111), so focusing on grammatical features should be an integral and "non-negotiable" (Frodesen and Holten 2011: 148) part of the TL writing instruction (Ferris 1995: 42f.; Frodesen 2001: 234, 2014: 240, 251). Likewise, Frodesen (2001: 246, 2014: 251) highlights the need for target language writers to focus on form when learning to write in order to develop the linguistic tools essential for effective communication as writers. Interestingly, as Casanave (2004: 71) points out, the students whose writing fluency and reading comprehension grew substantially due to high exposure to reading and writing, wished to receive more grammar instruction anyway. Similarly, Bekar's (2011: 113) research results show that both L1 and TL students need instruction on creating better-structured sentences because, for fear of making mistakes with constructing complex utterances, they overuse simple ones. Although it is the content and meaning that should be addressed first in the process of writing, not the

language issues[46], the limitations in language proficiency may affect the writers' ability to conceptualise the intended meanings and organise the text (Zamel 1983: 183; Cumming 1989: 85). That is why placing the focus on language accuracy in the classroom with writing development plays "a far greater role" (Scott 1996: 38) in a target language than in a native language. Nonetheless, Glasman-Deal (2021: xxi) is convinced that a text in perfectly grammatical English is "ineffective and even unintelligible if the information is jumbled or presented incoherently". This view is supported by many experienced non-native writers (p.c.).

The remaining paragraphs in this section exemplify **what** grammatical features can be taught and **how** these features can be integrated into the fabric of the TL writing classroom.

When it comes to deciding what issues can be included in form-focused teaching, Weaver (2008: xii, 3) advocates for selecting and prioritising grammatical features that enrich and enhance writing. It means that teachers should guide their students to choose grammatical options that make their writing more engaging and well received by readers. Such options may include grammatical structures used to express meanings concisely and consistently (e.g. strong verbs, parallel forms), and create connections between parts of the text by means of cohesive devices (both grammatical and lexical). Preferably, a grammatical focus should not be far beyond learners' developmental stages (Frodesen 2014: 245). In genre-oriented classrooms, grammar instruction involves analysing and practising certain features of a given genre (e.g. passive voice in the methodology section of a research paper). Also, "common or persistent errors" (Ferris 2012: 231), or areas that are problematic or important for student writers that teachers find in their texts can act as a starting point for language instruction (Ferris 2014: iv). Besides, teachers may wish to highlight special examples of common usage in academic discourse or work on expanding students' repertoire of linguistic choices on syntactic and textual levels. All in all, considering a writing activity as a communicative task performed by an individual learner in a given context plays an important role in selecting and incorporating grammatical concepts into writing.

[46] Because TL student writers also develop their language competences in the process of writing, they may expect their teachers to help them advance this development (e.g. by providing corrective feedback). However, if the language issues are focused on at an early stage of the writing process, the writers may feel less motivated to develop their composing skills which should be prioritised in the writing class (Zamel 1983: 183).

To cater for a variety of language aspects underlying the teaching of writing in a TL classroom, teachers can turn to different instructional options. They can be operationalised as, for example, a series of **mini-lessons**, that is, brief, narrowly focused presentations based on language issues selected after analysing students' initial needs (expressed in questionnaires, etc.) or examining their writing samples. The mini-lessons can contain analysis or discovery of structures (e.g. grammatical or lexical cohesive devices) or rules (e.g. the present simple tense in processes) exemplified in authentic texts; brief instruction on a given structure or rule with examples; practice activities, in which students examine their own (or their peers') writing for correct and incorrect uses of the particular structures or rules being studied; and, for example, the editing practice of students' own or their peers' texts (Ferris 2002: 97, 2012: 231; Ferris and Hedgcock 2011: 273). If students are not provided with opportunities to make a hands-on connection between what they have learned and what they produce, the improvement in accuracy would be negligible (Ferris and Hedgcock 2011: 275). Next, **noticing** and **awareness-raising tasks** can be effectively used too. Although pointing out a certain language issue while analysing a text may not lead directly and instantly to acquiring it, the noticing practice (e.g. in the form of text-based activities and followed by productive tasks) raises students' awareness of this feature, which may eventually result in its more accurate production both in speaking and writing (Fotos 2001: 273; Hinkel and Fotos 2008a: 6f.; Thornbury 2008: 24; Frodesen and Holten 2011: 155), especially if the feature is suitable for the learner's proficiency level (Frodesen and Holten 2011: 142; Frodesen 2014: 245). Consciousness-raising can also be based on students' own texts written early in the writing course; the teachers can provide them with formative feedback by indicating the areas of weakness, which develops their editing skills (Ferris and Hedgcock 2011: 282). All the participants of the present empirical study confirmed that after the intervention, they had started noticing the discussed forms in their specialist reading materials, analysed them and imitated them later in their own texts. They believe being aware of how language is structured on lexical, syntactic and textual levels, and how certain grammatical features create connections between different parts of a scientific text as well as applying this knowledge in their own writing helps them become more conscious, confident and independent TL writers (for details, see Sections 5.1-5.2). Clearly, grammar instruction thoughtfully integrated into the writing class does not need to be "dry and technical" (Ferris 2014: 105). Nonetheless, TL writer variables, for example, age and cultural identity, together with metacognitive and cognitive strategy use in the writing process, in-

fluence the way in which the teacher handles grammar-based tasks in the classroom and provides feedback to an individual learner (Frodesen 2014: 240f.).

In closing, NNES junior researchers are still language learners who need support in developing language proficiency, which encompasses broadening their language knowledge competence. Because their vocabulary and grammar ranges are, in general, limited compared with those of NESs and because they lack native-speaking writers' intuition about the language and have, in numerous cases, limited exposure to the TL, they find themselves at a disadvantage in their academic careers. Therefore, writing instructors "have a role to play in making writers aware of language form" (Fordesen and Holten 2011: 144), which often meets students' expectations. Student writers appreciate a lot the shift from unconscious, intuitive language use to conscious manipulation of the language forms in their own writing (Ferris 2014: iv; p.c.). At the same time, lots of writing teachers can successfully integrate the teaching of grammar with the teaching of writing due to their intuition and classroom experience. Their engagement in "[o]vert and systematic grammar instruction can help students access the grammar rules that they know and use their intuitions about the language judiciously" (Fordesen and Holten 2011: 144). This instruction will enable writing students to trace and correct a large number of their own errors, improving the overall comprehensibility of their texts (Dakowska 2005: 251). Nonetheless, as Hinkel (2015: 77f.) asserts, to this day, composition curricula in TL writing classrooms "do not make an attempt to develop L2 learners' incremental and essential language skills".

Because grammar and vocabulary interact in many ways in a writing classroom, grammar-focused instruction should take place "in tandem with instruction on vocabulary and academic collocations" (Hinkel 2004: 38). The section below provides relevant details on this issue.

3.3.1.2. Vocabulary development for student writers

It is commonly assumed that learning or acquiring a language begins with learning words that are most frequently used in this language (Fries and Traver 1950: v; Kelly 1976: 185; Howatt 2004: 258). Developing a higher level of language proficiency, in turn, is closely related to expanding lexical resources, as precise wording is indispensable for effective speaking and writing in target situations.

When it comes to writing, research findings summarised by Grabe and Zhang (2013: 128) indicate that "L2 writing abilities are correlated with L2 vocabulary knowledge – a key aspect of language proficiency". Undoubtedly, it is the breadth and depth of learners' vocabulary repertoire that greatly affects the descriptiveness, accuracy and overall quality of their written output. Lexical variety can make a text and its writer sound more sophisticated, mature and thoughtful, and texts with varied vocabulary choices are rated higher by objective graders. In addition, carefully selected lexical items complement the text's content: its organisation, arguments and logical development of ideas, which contributes to "the rhetorical effect of (…) prose" (Kolln and Gray 2013: 212). If the vocabulary of student writers is underdeveloped, precision and effective expression in their texts are limited (Ferris 2014: viii). The development of diction can be enhanced by means of listening and reading tasks as well as speaking and writing tasks, as these productive activities can draw on the knowledge of previously met vocabulary.

As discussed in the preceding section, knowing a grammatical feature involves knowing its form, meaning and use. In other words, what is involved in knowing a lexical item covers "vocabulary depth" (Zimmerman 2014: 289), that is: the form of the word (spelling, pronunciation and word parts), the meaning of the word (concepts for the word and its referents, associations with other words with a similar meaning, synonyms) and the knowledge of how the word is used (grammatical functions, collocations and constraints of use). In addition, word knowledge can be described by distinguishing between receptive knowledge of the word (i.e. recognising it in listening or reading) and productive knowledge (i.e. using a word in speaking and writing). Productive use of the word in writing, however, can be delayed in time since its reception (Nation 2005: 584, 588). Whether learning words is intentional (i.e. with a focus on the study of words) or incidental (i.e. when words are learned while the learner's attention is on the language use) depends on the lexical item. Some aspects of the word are best learned through explicit instruction (e.g. exact meaning, register), whereas others are best acquired incidentally when learners are engaged in meaningful interaction (e.g. word classes, collocations) (Nation 2013: 348f.). Creating opportunities for learners to focus on the word's form and meaning, and providing them with engaging tasks and topics so that they can reflect on the words' use result in effective vocabulary learning. This contributes to overall vocabulary development.

When it comes to vocabulary instruction in a TL writing classroom, there are groups of lexis that might be of interest to academic writers, irrespective of the type of text they need to produce. These groups include, for example:

- listings of words that appear with great frequency in a wide selection of academic texts (e.g. the Academic Word List [Coxhead 2000: 216-218]; the Academic Vocabulary List [Gardner and Davies 2013: 317-321]);
- discipline-appropriate specialist terminology that can be either practised by means of text-based activities or via extensive reading of authentic specialist literature in the language classroom and other learning spaces;
- lexical phrases (e.g. collocations, lexical bundles, idioms) that are "conventionalized form/function composites" (Nattinger and DeCarrico [1992] 2009: 1) found in any written text, regardless of the discipline.

Although being familiar with all of these groups of words is beneficial to any writer, as it facilitates the development of writing fluency and precision of information transfer in various types of texts, the example of lexical phrases (also called *formulaic expressions*, *prefabricated structures* or *multi-word lexical units*) is discussed at greater length in the paragraphs below. The other vocabulary groups are not further elaborated on in the dissertation, even though the value of using them in written production in academic contexts is indisputable.

Lexical phrases are "multi-word lexical phenomena that exist somewhere between the traditional poles of lexicon and syntax" (Nattinger and DeCarrico [1992] 2009: 1). Among these multi-word units of language, there are also sentence stems, i.e. phrases, whole sentences and recurrent patterned expressions. Each lexical phrase is associated with a particular discourse function, for example, expressing logical connections or relationships among ideas. The chunks are "an important feature of language structure and language use" (Richards and Rodgers 2018: 217) and provide native-like naturalness of expression and communicative fluency both in speaking and writing. That is why they are crucial for fluent language production and successful language learning (Hyland 2008: 4). In fact, learning the chunks of language as wholes is characteristic of good (i.e. successful) language learners (Nunan 1999: 58).

An interest in lexical phrases led to the development of lexical approaches in language teaching (e.g. Nattinger and DeCarrico [1992] 2009); Lewis 1993; Willis 1996) with their fundamental principle that "[l]anguage consists of grammaticalised lexis, not lexicalised grammar" (Lewis 1993: 13). All the approaches were based on the assumption that native-like language, to a large extent, consists of multi-word units that provide naturalness of expression and communicative fluency both in speaking and writing. Formulaic expressions are frequent in any discourse, genre and register because they are used, among many others, to organise the discourse, state casual relationships or make deductions (Flowerdew 2000: 374). They are not restricted to English; they are frequent in other languages too. One of the advantages of using multi-word units is that TL students do not have to go through the time-consuming process of generating an utterance, which means that processing time and effort can be used for other tasks in the writing process. It also guarantees accurate (and appropriate) phraseology and syntactic structures used in the texts they compose. Last but not least, learning the target language by means of formulaic expressions becomes more efficient, and language gains are maximised (Hinkel 2004: 39). Therefore, sensitising students to these expressions in the language input received through classroom instruction and out-of-the-classroom exposure definitely contributes to their development as TL users.

When it comes to how lexical phrases can be learned in academic settings, a TL classroom can be a place where students develop conscious awareness of the nature of the lexical units and are provided with "strategies for recognising, learning, structuring, storing, and using chunks which they encounter" (Richards and Rodgers 2018: 219). Put another way, they are encouraged to notice these multi-word expressions through exposure to academic texts and learn them through practice activities (e.g. item identification or matching). In addition, for every classroom practice, Nation (2005: 589) recommends linked skills activities that can put receptive lexis to productive use. In these activities, lexical items are used in listening, reading and/or speaking tasks before students use them in writing. An example of a link skills activity is a dictogloss where students listen to a text, take notes when they listen and reconstruct the text. The final stage of this activity is comparing their texts to the original. Linked skills tasks stimulate the growth of writing fluency, as the students can perform at a higher level because of prior lexical preparation. Also, they can practise formulaic sequences in free writing activities to learn how to use them in particular contexts for specific purposes – how to make their writing resemble academic prose in their

disciplines and how to satisfy expert readers' expectations. Such practice can be an important component of PhD language development at a technical university, especially if, as Hyland (2008: 9) observes, electrical engineering students rely on formulaic expressions more strongly than students of other fields (e.g. applied linguistics, business studies). Therefore, it may be assumed that students of other engineering disciplines demonstrate a similarly heavy reliance on prefabricated structures.

The Author observes that many researchers (both junior and senior) state they are able to write well-organised texts with highly specialised terms because they imitate the organisation and phraseology of the texts they regularly read out of their academic and professional interests. Also, imitating chunks typical of their disciplines enables them to perform effectively through writing, often beyond their lexical and syntactic competence. Therefore, practising multi-word lexical units is a valuable component of a writing classroom in the PhD language programme.

In sum, lexical phrases help students avoid oddities and foreign sounding in the language they produce. These native-like building blocks of discourse enable writers to produce idiomatic language on the lexical, syntactic and textual levels expected by international readers belonging to the same discourse community.

3.3.1.3. The importance of teaching accurate language in a writing class

It was once claimed that teachers should provide their students with "valuable training in habits of accuracy" (Rivers 1968: 256). Currently, in the golden era of communicative language teaching, this claim may receive much less support, as "[w]riting aims to communicate, not to be correct" (Fowler 2006: 150). Nevertheless, attention to micro-level accuracy is unchangeably critical in academic and professional writing (Little 1994: 101f.; Haan and Mallett 2010: 109). In other words, "linguistic accuracy is (…) one essential component (among many) of effective writing" (Ferris and Hedgcock 2011: 279), and "L2 writers need to pay attention to form in developing writing proficiency" (Frodesen 2014: 251) because "[c]orrectness is more highly valued in writing than in speaking" (Weigle 2014: 224). In some contexts, however, the accuracy of spoken utterances is also expected by the intended audience (e.g. in conference presentations).

Since writing is a tool for transmitting information and knowledge, writers need correct grammar to facilitate precise transmission (Johnson 2016: 38). In the context of academic or professional writing, mistakes in grammar make writing inaccurate, imprecise and ambiguous, so grammatical competence (included in language knowledge) is not "something that can be ignored" (Barrass 2005: 108). In fact, writers, especially in academic and professional settings, are judged by their writing. Grammatically accurate utterances are easier to understand and reduce ambiguity, which makes communication and information transfer easier. They create a favourable impression of a speaker or writer as intelligent, competent and well-organised, and as a clear thinker (Barrass 2005: 2; Ferris 2014: x; Komorowska 2015: 172). Contrastively, a text written with disorderly, ungrammatical constructions and faulty cohesion is read with difficulty and may fail to communicate ideas clearly and effectively. If grammatical rules or writing conventions are unattended, the text gets "an unpolished and uneducated look" (Krashen 1984: 35), and the quality of the written texts is perceived by NES readers as low (Ferris 2009: 16f.). Thus, the errors of TL writers may be "stigmatizing and thus harmful" (Ferris and Hedgcock 2011: 279) for them. According to Ferris (2014: 141), surface-level errors present in certain contexts may give the impression that the writer is "careless, unprofessional, or even unintelligent", which undermines his or her credibility as a knowledge provider[47]. These views are supported by Widdowson (2015b: 39) who notes that the written text "will be assigned less importance if it is not expressed in the grammatically approved manner". He also directly addresses the writing student when he says: "if you express yourself in writing which is both ungrammatical and incorrectly spelt, you are not likely to be taken seriously". The fear of being perceived as unknowledgeable and incompetent has been expressed by most of the participants in the present study.

In the scientific style, "the most valued attributes are accuracy, precision, clarity, concision, and grace (in that order)", as Mack (2018: 13) puts it. In a manuscript, occasional global errors (which have the potential to decrease accuracy) are inconsequential, but frequent ones affect its readability, even if the organisation and development of ideas are strong. The poor language quality of the scientific paper reduces its overall quality. That is

[47] Academic writers often use a variety of reading sources for their own writing, but they need to evaluate them for credibility. They may use the CRAAP (Currency-Relevance-Authority-Accuracy-Purpose) Test, which is a list of questions to help authors evaluate the information they find. One of the evaluation criteria is accuracy, and one of its questions is: "Are there spelling, grammar or typographical errors?" (https://library.csuchico.edu/sites/default/files/craap-test.pdf).

why adult, advanced and well-educated learners who need to write for scientific purposes stress the need for formal accuracy and the clarity of the message they wish to deliver, as in such contexts tolerance for language errors is lower. For those learners, language instruction is an important component of a writing classroom, and this is what several members of academia – from juniors to seniors – confirm (p.c.). This is what Ferris (2014: iv) supports when she says that "[*i*]*f language instruction in combination with strategy training is clear, brief, well focused, and applicable, students will enjoy and appreciate it* [emphasis in the original, MŚ]". She believes that students, in general, are aware of gaps in their knowledge, and they "find it empowering to gain control over problem areas in their writing" (Ferris 2014: iv). Therefore, direct instruction on, for example, editing and practising it (alone or in collaboration with peers) can positively affect student writers, as such instruction raises their awareness of what language issues are important in writing and how they can self-reliantly handle them.

Even though in the present realities of the Polish educational context, there is a tendency in the language policy to favour communicative effectiveness of information transfer over its accuracy (Pawlak 2006: 485), language issues should enjoy a special status in an TL writing-oriented classroom in academic contexts. It does not imply that meaning and message conveyance are assigned a lower rating. It means that avoiding sufficient attention to the language forms could lead to communicative competences that are "patently inadequate to ensure success in academic, vocational or professional terms" (Pawlak 2006: 485). Hinkel (2015: 80) supports this view when he says: "[r]esearch has clearly and unambiguously demonstrated that L2 writers' skill level in vocabulary and grammar disadvantages the quality of their formal prose". Thus, in the TL classroom aimed at developing academic writing skills, there should be a place for language-based instruction beneficial to the adequate delivery of information and knowledge.

Summing up the above discussion, it is not surprising that many advanced and adult TL student writers are much more concerned with grammar and usage than, for example, voice in their written texts (Ferris 2009: 24), especially if these texts are highly specialised and conceptually complex. Providing that only over 40% of Polish authors who disseminate their research results in English declare themselves as its competent users (Warchał and Zajkowski 2021), the necessity for teaching grammatical competence in the ERPP classroom is self-evident. Even if the results of the present study may not be conclusive for all TL writers in the sciences, the Author's long experience teaching English to junior re-

searchers in a Polish tertiary-level institution confirms they all need some kind of language-focused instruction.

3.3.1.4. The role of teaching writing conventions to student writers

Apart from language accuracy, there is also appropriacy (or appropriateness) that covers language issues that make the written text suitable for the context, function and intention; it also handles visual rhetoric. This notion of appropriateness opposes the idea of accuracy, as it is more intuitive and usage-oriented (Hedge 2001: 147; McArthur et al. 2018: 47). Nonetheless, teaching writing in a target language involves not only teaching how to put ideas into a written form correctly (which reflects the formal and written norms of this language) and appropriately (which reflects the suitability of a given word or phrase for the context it is used in), but it also involves teaching rhetorical conventions typical of a target language (Hyland 2009b: 93; McArthur et al. 2018: 47). Thus, rhetorical consciousness-raising (i.e. awareness of differences across languages, which linguistic knowledge encompasses) should be the starting point of a TL writing classroom. Weaver (2008: 67, 3) supports this view when she says that "[c]onventions are the keys to communication" enabling student writers to compose with "greater rhetorical effectiveness". That is why writing instruction should also focus on suiting the author's style and individual voice, and rhetorical preferences of the intended audience (Weaver 2008: 4). However, teaching common rhetorical patterns in, for example, definitions, descriptions or classifications involves teaching grammar and the lexical phrases necessary to produce them. For example, defining relative clauses are needed to construct a definition, so grammatical and genre-specific rhetorical features often overlap. Since "[g]rammar, along with word choice, is a cornerstone of rhetoric" (Weaver 2008: 3), formal instruction intertwined with rhetorical patterns should not be ignored in the teaching of writing.

As already discussed in Sections 1.6 and 2.3.4.2, research into TL learning and the everyday teaching practice of many TL teachers has confirmed that non-native authors of English, especially at lower levels of language proficiency, often transfer their L1 sentence- and discourse-level features to TL writing. That is why compositions of NESs and NNESs, as the research into TL learning has attested, are to a large extent different in terms of rhetorical objectivity devices, and syntactic and referential markers (e.g. modal verbs, the pas-

sive voice or conjunctions) (Hinkel 2009a: 91, 106-108). The writers frequently resort to L1 lexis and syntax when looking for suitable ways of expressing meaning in a TL, especially if the content is conceptually difficult and their command of English is lower. Some novice researchers openly admit they do all the planning and drafting of manuscripts in L1 and then translate the final draft into a TL (p.c.). This habit may result in adopting a rhetorical style characteristic of the native language with numerous interferences that make a TL text rhetorically different. For example, unlike in English, where "wordiness leading to unnecessary redundancy is banned on cognitive and aesthetic grounds", in Polish, less attention is paid to the "economical management of linguistic form" (Duszak 1997: 1911), so structural complexity and verbosity are often sanctioned in Polish scientific discourse. Another example comes from Chinese, Japanese, Korean and Indonesian; their native speakers are not used to expressing subjective opinions and stating their point directly, which NES readers expect in the texts they encounter (Hinkel 2006: 90f.). Moreover, what differs from language to language is ordering the material and commenting on previous authors (in citations). This can translate into plagiarism whose avoidance is essential to ensure academic integrity. Additionally, NNESs need to know that academic writing in English, which complies with the Aristotelian tradition favoured in Europe, should be objective, persuasive, rational and credible. It should also contain reasoning devices contributing to its cohesion and coherence (Hinkel 2009a: 90-91). If the text is deficient in this respect, it does not satisfy the expectations of English readers and may be considered ineffective. In the writing classroom, juxtaposing these features in a native and a target language helps reflect on the conventions that these languages favour in a particular discourse and, consequently, understand what conventions can be properly adopted in TL target texts.

In the context of EAP/ERPP instruction, teaching writing norms of a particular disciplinary community with its own standards may be expected by or even essential in some academic or professional settings. However, unlike texts from social sciences or humanistic disciplines, academic texts in hard science are not influenced by culturally bound and conventionalised rhetorical patterns (Wood 2001: 73; p.c.). Consequently, a potential cultural mismatch resulting from negative interlingual transfer is of lesser importance. Nevertheless, analysing the discourse that adapts "the norms of an institution and of a particular discipline of that institution and of a particular genre within that discipline" (Brookes and Grundy 1991: 43) may be an interesting and useful component of the TL writing classroom in a PhD language programme in engineering disciplines. What is more, scientific texts

(e.g. research articles) illustrate several patterns of grammatical features and vocabulary typical of different genres (Frodesen and Holten 2011: 153), and they serve as a source of authentic examples of English usage. Unquestionably, such authentic texts can be mined for lexis, grammatical forms and rhetorical structures to meet the particular demands of the texts scholars produce for their own purposes. Later, they can use them in their own works not only to demonstrate the more native-like naturalness of English, but, most likely, to comply with the requirements of their discourse community and the publication standards of the journals they submit their manuscripts to. The role of convetnions in scientific writing for international scholarly publications has been discussed in Section 2.3.4.2.

3.3.2. Genre knowledge

This section focuses on another discursive aspect of writing that is worth integrating into the TL writing classroom. The 1990s saw a growing interest in how a language could be used to achieve a particular communicative goal (e.g. to describe, define or summarise), which led to a shift from process-focused to genre-focused writing research and pedagogy (Daffern and Mackenzie 2020a: 9). The best-known research into analysing and teaching academic genres has been conducted by John M. Swales ([1990] 2011), the doyen of genre studies. He defines a **genre** as:

> a class of communicative events, the members of which share some set of communicative purposes. These purposes are recognised by the expert members of the parent discourse community, and thereby constitute the rationale for the genre. This rationale shapes the schematic structure of the discourse and influences and constrains choice of content and style (Swales [1990] 2011: 58).

Clearly, it is the communicative purpose of the text that lies at the heart of Swales's concept of the genre. Likewise, in Casanave's (2004: 82) words, genres are produced for "social purposes of communication within groups that share purposes, understanding, and ways of using language". From Hyland's (2007b: 45) perspective, they are "purposive social actions routinely used and recognised by community members to achieve a particular purpose, written for a particular audience and employed in a particular context" or, in a shorter form, "abstract, socially recognised ways of using language for particular purposes" (Hyland 2011b: 18). These definitions indicate that genres are text types that are informed

by the expectations of the audience they are written for with regard to the texts' communicative purpose as well as their organisation, style and content.

Swales's ([1990] 2011) genre-based research led to the devising of many teaching materials for academic and professional purposes, and became the main alternative to the process approach in writing instruction (e.g. Bhatia [1993] 2014). He argued for pedagogy that favours "explicitness over exploration and discovery" (Swales [1990] 2011: 82), which is exemplified by the influential CaRS (Create-a-Research-Space) Model demonstrating how introductions to academic articles are organised (Swales [1990] 2011: 141). Swales's analyses of rhetorical *moves* (or functional stages) in academic article introductions gave rise to numerous genre-oriented publications around the world. His work has also influenced other areas of ESP research, for example, Bhatia's ([1993] 2014) analyses of texts in business and legal settings (e.g. covering letters, legal cases), and the implications of these analyses for ESP contexts (Johns 2011: 205).

All above considered, because the genres are "the property of the communities that use them rather than wider culture" (Hyland 2007a: 45), **genre knowledge** is indispensable if a novice writer aspires to become an expert writer and a member of a particular discourse community with its own conventions and rules for writing. Genre knowledge, understood most simply, is the knowledge of the communicative purposes of a particular text type and its value in particular settings. In the words of Matsuda and Silva (2020: 280), genre knowledge is "the knowledge that helps shape possible responses to particular rhetorical situations, functions as a scaffolding that assists writers in managing the complexity of writing and readers in interpreting the text". Learners who demonstrate considerable knowledge of the genres are able to recognise similarities (both discursive and non-discursive) in the texts they read frequently in their target contexts, understand them and apply them easily in their own texts. Weigle (2005: 137) describes how expertise in writing can be developed:

> the process of becoming an expert writer involves becoming a full member of a 'discourse community' (e.g., writers in biology or journalists) by learning how writing is used in that community for various purposes and with specific audiences in mind. In an academic setting, for example, each discipline has its own conventions and (often implicit) rules for writing. Students entering the discipline are exposed to the literacy practices of that particular discipline through reading texts, writing papers, and ultimately conducting and publishing their own research. The same can be said for non-academic discourse communities, such as businesses or government agencies. Writing in each setting relies on understanding how written texts are used to fulfil specific communicative functions, the roles of various participants, and so on.

This understanding can be boosted in a language classroom with explicit examination of the text types aimed at target discourse communities. The sections that follow discuss the basic constituents of genre-based language instruction (Section 3.3.2.1) and ways in which the teaching of genres can be implemented in the TL classroom (Section 3.3.2.2).

3.3.2.1. The content of a genre-based classroom

The study of the genre in TL writing, which has been growing in popularity in recent decades, addresses both general texts (e.g. narratives, descriptive and argumentative essays) and more specific types of writing, both academic and professional (e.g. laboratory reports, research articles, diploma theses and PhD dissertations, legal cases and briefs, business faxes) (Hyland 2007a: 46; Matsuda and Silva 2020: 289). Genre analysis, together with contrastive rhetoric, yields insights into how different text types can be structured, which, in turn, usefully informs TL writing instructors and gives student writers explicit criteria for maximising effectiveness in their writing (Hedge 2019: 320f.). It can be "a useful springboard for an instructional focus on the specific uses of grammar structures and contextualized lexis" (Hinkel 2011b: 535). This is why the genre's central role in EAP courses continues to be widely recognised (de Chazal 2018: 12). The genre-oriented writing classroom has already been referred to in Section 3.1. This section elaborates on it in greater detail.

According to Hyland (2007b: 150), introducing genre pedagogies was a response to "the still widespread emphasis on a planning-writing-reviewing framework which focuses learners on strategies for writing rather than on the linguistic resources they need to express themselves effectively". A genre-based approach to the teaching of writing provides an explicit description of the genres and the ways in which patterns of language work to shape meanings as well as a coherent framework for studying both the language and contexts of these texts. This is why it has become commonplace in many educational settings, thus often replacing or complementing process-driven pedagogies (Hyland 2007b: 149).

EAP writing instruction focuses on discussing academic-discourse genres and the nature of academic writing tasks as well as producing texts that are recognised by a particular discourse community with its specific expectations. Genre pedagogy includes the following tasks:

- exploring the relationship between the use of a particular genre and the cultural context in which this genre is located to fulfil a specific communicative purpose;
- analysing the language demands of situations relevant to learners' lives and educational goals;
- analysing models of specific genres that students will later attempt to write themselves;
- identifying key grammatical and organisational patterns characteristic of a particular genre, focusing on how these patterns vary between the genres and making them explicit to student writers; and
- practising text creation (Flowerdew 2000: 372; Hammond and Derewianka 2007: 190; Hinkel 2011b: 535; Richards 2015: 535; Lipińska 2016: 11f.).

Such instruction enables students from different cultural backgrounds, with prior knowledge and different cognitive skills and technical abilities, to follow certain conventions for organising a message and thus achieve an intended purpose. By being exposed to exemplar texts of different genres, the students can develop awareness of the ways the language is used for a particular purpose and audience, discover how writers organise texts and learn what constitutes effective writing (Hedge 2001: 11; Hyland 2009b: 90, 2011b: 23). That is why teaching the genres is "an area that cannot be ignored" (Kroll 2011: 192) in a TL writing course.

Undeniably, genre-focused instruction, if explicit, systematic and needs-based, fills a gap in discourse and language knowledge that can often be found in TL students. Students who become familiar with genres "develop shortcuts to the successful processing and production of written texts" (Johns 2011: 196). As a result, their awareness of the rhetorical organisation and language features of a specific genre increases, which contributes to overcoming any writing difficulties they may have when composing a text in academic or professional contexts. Bearing in mind that "helping students develop the ability to select and accurately produce structures typical of written (…) genres is an important instructional objective" (Frodesen 2014: 238), exemplifying what can be addressed in a genre-oriented classroom in ERPP contexts in terms of text organisation and language seems expedient. These foci are briefly discussed below.

The **organisational structure** refers to how the text is sequenced. Most science RAs are written according to a conventional structure: they start with a title, an abstract, followed by an introduction and central report sections (e.g. Methodology) and then discus-

sion and/or conclusions. The research paper ends with references and acknowledgements. However, there are different formats of RAs (e.g. AIMRaDC, IRDaM, IMRMRMRD and ILMRaD, where A stands for abstract, I stands for Introduction, R stands for Results, D stands for Discussion, M stands for Methodology or Methods, C stands for Conclusion and L stands for Literature review), and the structure depends on the preferences of a particular discourse community. In fact, written texts differ not only between genres but also between disciplines within the same genre; writing conventions used by writers in engineering disciplines contrast those of the humanities (Reid 2007: 31). In addition, each journal has its own preferences as regards the structure, which often means writing separate manuscripts for different journals (Murray 2007: 8). In Glasman-Deal's (2016: vii) view, organising the paper in a conventional way is very important, especially if the language competences of the author are not perfect. She believes writing according to an established model will eventually foster higher-level skills to write professionally and independently. This belief can be confirmed by numerous student writers (p.c.).

When it comes to **language patterns**, genres have their own distinctive formats of language usage as regards vocabulary, grammar and cohesion. Each genre is typified by particular language forms that reflect its communicative purpose (Nunan 1999: 280). In genre-focused teaching, the students gain an understanding of how specific uses of grammar and vocabulary choices – both within and beyond the sentence – create meanings, and enhance clarity and readability. Not only do they learn to identify structural features typical of a particular genre in a given discipline, but they can also reflect on their own way of expressing ideas in order to become a more effective writer within a targeted discourse community. In other words, while learning to write, they learn how to "manipulate language according to specific sociocultural contexts" (Daffern and Mackenzie 2020a: 9), or how to use the language and what communicative role its components take in texts (Hammond and Derewianka 2007: 190f.; Hyland 2007a: 11, 2007b: 153; Haan and Mallett 2010: 108f.). The teachers can assist this by providing the students with examples of language that they can depend on when composing a text that meets the expectations of target readers. For example, the students who write RAs are expected to incorporate precise discipline-specific terminology into properly structured and punctuated utterances. They will definitely benefit from the classroom instruction which focuses on analysing relatable technical terminology (typical of a given discipline and text type), syntax options and correct use of punctuation marks (Haan and Mallett 2010: 113). Therefore, genre-related grammatical and lexical

structures used in a particular discourse community can constitute valuable content in the TL writing classroom. Another language-related challenge that writers face is establishing an authorial identity (or voice) in academic texts, which involves, for example, the use of self-mention. Some student writers believe that self-reference is not congruous in academic texts, but, in fact, its application varies from discipline to discipline. Similarly, novice research writers may have problems showing how strong or certain their claims are, which is often done by using hedges or boosters. For that reason, raising students' awareness of these language features as well as providing them with sufficient exposure and practice can assist in the development of balanced and unbiased arguments, which academic writing favours.

According to Gee (2023: 15), the writing of university students is strongly influenced by the academic discipline they study, so their English courses should be "as discipline-focused as possible". This could engage students, provide opportunities for professional development and enhance the reputation of the teacher in their faculty. In the context of language education aimed at PhD students at Bialystok University of Technology, it may be difficult, yet not impossible, to satisfy the genre-oriented needs of writing students (oriented towards a mixture of disciplines and seeking research publication in various scientific journals) who find themselves in the same language classroom run by a language teacher, not a writing instructor[48], an experienced researcher or a scientific writer. However, aspiring junior researchers are exposed to journal articles from their disciplines from the beginning of their doctoral programme, so they can get acquainted with their organisational structure and language patterns after reviewing existing literature from their subject area and analysing them in the texts already published in their targeted journals. They confirm being able to recognise a distinct (but at the same time predictable and repeatable) structure and identify language features they find in other scholars' writing (see Sections 5.1-5.2). In the course of their doctoral programme, they learn, mostly from their supervisors, how to replicate significant features of a particular genre in their own writing (e.g. a full journal article, a letter to the journal's editor, a reply to a peer-reviewer). They may find it helpful to consult guides that focus on generic models for writing RAs (e.g. Glasman-Deal 2016, 2021).

[48]At the university level in Poland, writing courses in language departments are usually taught by academics specialising in linguistics or literature studies (Hryniuk and Ene 2023: 264).

In closing, effective writing instruction must enable students to become readers and writers of the genres related to academic, professional or vocational discourse communities they aspire to join. Also, it should help them achieve the communicative goals they wish to achieve through their texts. Even though it is not always possible to address a wide variety of language concepts (both lexical and grammatical) in a writing classroom, attending to the issues that arise within a particular genre can help student writers recognise "the interplay of their language choices" (Haan and Mallett 2010: 114) and the expectations of the intended audience. While some experts in writing pedagogy argue that genres and their characteristic language features may be "subjective, culture-bound, vaguely defined, or even irrelevant to diverse types of ESL/EFL learners", as pointed out in Hinkel (2011a: 535), these limitations do not undermine or threaten the pedagogical viability of the genre-focused approach and its popularity in many educational contexts.

3.3.2.2. Teaching genres to writing students

As discussed in the previous section, students who wish to learn writing for specific purposes (e.g. business communication, technical writing, research publication) will certainly benefit from writing classes organised around the texts they may need to produce in particular target situations, as such instruction is very likely to contribute to their independent production of these genres in the classroom and outside. This is what Hyland (2007a: 10) confirms when he says that "teachers cannot ignore the diverse genres and literacy demands students will face outside the classroom and should provide texts and tasks that mirror the kinds of interactions they will have with these". Teachers who choose to follow a genre orientation in their writing-focused classrooms are concerned with teaching how to use language patterns to accomplish coherent prose rather than with teaching subject matter or composing processes. What is prioritised in the instructional setting is the writer's communicative goals in a particular rhetorical situation, so model text forms become resources used to accomplish these goals (Hyland 2011b: 18). If genre-oriented assignments are approached in an explicit way, the instruction becomes "visible" and does not rely on "hit-or-miss inductive methods" (Hyland 2007a: 12), which makes learning to write a conscious manipulation of language patterns. The paragraphs that follow briefly describe more specif-

ic ways in which genre teaching can be handled in a TL writing classroom. The list is by no means exhaustive.

To start with, an efficient way of illuminating genre-related aspects of a text's organisation and language is by raising student writers' **rhetorical consciousness**. They explore discourse conventions when they learn how grammatical, lexical and rhetorical features are used to serve a specific purpose and use this knowledge to construct their own sample texts of a particular genre. By analysing a text, the students increase their awareness of the importance of generic factors while writing for academic or professional purposes, and learn how to create meaning in their own writing. When the students become familiar with the genre that has been analysed in the classroom, they may later compose similar texts independently and eventually become better writers (Daffern and Mackenzie 2020a: 9).

Next, teachers can provide their students with **genre templates** that prompt and scaffold students' writing. The template can assist novices in effectively expressing their purposes and anticipating the reactions of the intended audience. After explicit discussion of the genre form, the template can be used to scaffold the other stages of writing the text, such as planning or drafting. It can also contain main grammatical characteristics of a given genre. Writing teachers may use the templates to develop activities to assist the students in understanding the genre and guide them in composing their own texts. The templates may become less and less useful when the students gain more confidence in writing and composing target text types (Hyland 2007b: 158f., 2011b: 124).

Moreover, genres can be taught by grouping them into **sets** and **repertoires**, **chronological sequences**, **families of the genres** or **topic domains**, as in the real world, they are rarely (if at all) found in isolation (Hyland 2007a: 109-113, 2007b: 156). For example, in ERPP contexts, junior scholars can write a research paper, a letter to the journal's editor and a response to the manuscript's reviewers, which represents both the set and the chronological sequence. The different genres can also be ordered according to their increasing level of **structural difficulty**. For instance, a process containing simple imperative clauses is less demanding to write than an explanation, which requires using sequential, causal and conditional conjunctions. Similarly, some text types contain several parts, so teaching them can be sequenced according to the increasing order of **rhetorical complexity**. For example, in a research article, the Methods section is perceived as easier than the Discussion section (Hyland 2007b: 158).

Another aspect that can be taken into consideration in a genre-focused classroom is **combining process writing activities with genre-oriented activities** (already discussed in Section 3.1) and drawing on their strengths can empower student writers. The teachers can organise pre-writing, writing and post-writing tasks by using the resources of both approaches. For example, students can focus on a genre analysis after starting the writing process when they need more information about the text organisation or specific language devices typical of a particular text type. This can help the students avoid uncritical imitation of a prescribed model. By being encouraged to self-initiate the genre analysis and armed with the findings of this analysis, the students, in the long-run, can automise their writing both in and beyond the classroom (Badger and White 2000: 157f.; Hyland 2007a: 1; Tribble 2009: 45).

Finally, the **collaboration of the students** when composing a text in the classroom. Learners work more effectively in groups than on their own, especially if their peers demonstrate high language proficiency and knowledge about the subject matter. Consequently, they can achieve higher levels of performance while collaborating with expert fellow students than they may achieve working separately (Hyland 2007b: 158).

In sum, whatever instructional tool is preferred in the writing classroom, the writing students are guided to make language-conscious choices in order to achieve their purposes in the social contexts they are placed in. If they are junior researchers who are novices to a discourse community, these tools aid their successful navigation of discipline-specific genres so that they can legitimately participate in targeted communities. If they are less proficient in English, they can notice, and practise the vocabulary and sentence structures found in model texts. Such practice helps them make their texts resemble the conventional language of scientific writing, which is expected and accepted by the discourse community to which they aspire.

3.3.3. Language learner strategies

This section describes a non-discursive aspect of writing that is worth discussing in the target language writing classroom.

With a growing emphasis on the communicative aspect of teaching a target language and learner-centred instruction that started in the 1970s, investigating good language

learners and their learning behaviours became a popular area of research. What inspired many researchers was the concept of language learner strategies (LLSs)[49] introduced by Joan Rubin in her seminal article "What the 'good language learner' can teach us" (1975) and by Hans H. Stern in his "What can we learn from the good language learners?" (1975). Their research results generated great interest in the behaviours that successful TL learners demonstrate when they develop TL skills. What studies of *good language learners* have indicated is that students' own active and creative participation in the process of learning by applying individualised learner techniques causes some learners to excel (Cohen and Henry 2020: 168). Research has found that *good language learners* are "in command of a rich and sufficiently personalized repertoire of (…) strategies" (Cohen and Henry 2020: 168), so the concept of the strategy has been enjoying enormous popularity in SLA research. Consequently, the term *strategy* has become a buzzword among target language educators. As a result, quite a few definitions of LLSs have been developed over the past decades by TL researchers to explore this phenomenon. Oxford (2017: 14-17) identified and analysed 33 definitions inside and outside the TL learning field, and proposed the following definition:

> *L2 learning strategies* [emphasis in the original, MŚ] are complex, dynamic thoughts and actions, selected and used by learners with some degree of consciousness in specific contexts in order to regulate multiple aspects of themselves (such as cognitive, emotional, and social) for the purpose of (a) accomplishing language tasks; (b) improving language performance or use; and/or (c) enhancing long-term proficiency. Strategies are mentally guided but may also have physical and therefore observable manifestations. Learners often use strategies flexibly and creatively; combine them in various ways, such as strategy clusters or strategy chains; and orchestrate them to meet learning needs. Strategies are teachable. Learners in their contexts decide which strategies to use. Appropriateness of strategies depends on multiple personal and contextual factors (Oxford 2017: 48).

Undeniably, strategies – deployed consciously and/or unconsciously – help make language learning and use more effective. They facilitate internalising, storing and retrieving the new language (Oxford 2006: 124). A number of empirical studies have demonstrated (for a brief review, see Griffiths and Oxford 2014: 3) that language learner strategies are "significantly related to achievement in language learning" (Griffiths 2018: 203). Their importance and beneficial influence were confirmed by strategy experts surveyed by Cohen

[49] In a vast body of literature, the term *language learner strategies* is used interchangeably with, for instance, *language learning strategies*, *learner strategies*, *learning strategies*, *self-regulated learning strategies* or *strategies*. In the dissertation, the Author uses only the terms *language learner strategies* and *LLSs* unless specifically stated otherwise (e.g. in quotations).

(2011a: 29-31). They pointed out that the purpose of the language learner strategies in the language learning process is to:

- enhance learning;
- perform specified tasks;
- solve specific problems;
- make learning easier, faster and more enjoyable; and
- compensate for a deficit in learning or language proficiency.

Considering the above, an insight into LLSs and their valuable impact on TL learning should definitely become a fundamental component of every target language classroom, regardless of the skill preference and the level of students' language proficiency as well as other learners' variables. More recently, Gu (2019: 22) summarises the discussion about the LLSs when he says: "strategic learning matters". The role of LLSs in the context of a writing classroom, which is of the Author's primary interest in her teaching practice targeted at doctoral students, is described in greater detail in Section 3.3.3.2.

Apart from various attempts to define the LLSs, there have been several attempts to itemise, label and organise strategic behaviours into taxonomies (for a review of taxonomies, see, for example, Griffiths and Oxford 2014, or Trendak 2015). The paragraphs that follow address the classifications proposed by Rubin (1987), O'Malley and Chamot (1990), Oxford (1990) and Cohen (2011a, 2011b).

The taxonomy offered by Rubin's (1987: 23-27) distinguishes between **direct** and **indirect** strategies, which contribute, as the name indicates, directly or indirectly to language learning at a cognitive level. That is to say, direct strategies involve the target language itself, whereas indirect strategies support and manage learning a TL without directly involving it. The direct strategies are concerned with clarifying, monitoring, memorising, inducing rules, guessing meaning and rehearsing. The indirect ones relate to bringing a learner into closer contact with the TL and increasing the opportunity to try out the language with other people. Additionally, Rubin distinguishes between three (3) major types of strategies deployed by the learners that can contribute, directly or indirectly, to learning the TL: learning strategies, communication strategies and social strategies. The **learning** strategies include both metacognitive and cognitive strategies and directly contribute to the development of the language system that the learner creates. **Communication** strategies

(which can also be classified as language use strategies according to Cohen [2011b: 682]) are deployed by learners to prevent communication breakdown when they come across difficulty in conveying the message to an interlocutor (e.g. gestures, facial expressions, paraphrases, coin words, cognate words or literal translation from their L1). The social strategies are used by the learners who wish to increase their exposure to the TL. They include reading books, watching films and starting conversations in the TL. Both communicative and social strategies indirectly contribute to language learning.

What approximately corresponds with Rubin's (1987) direct and indirect strategies are the metacognitive and cognitive strategies proposed by O'Malley and Chamot (1990: 44f.). Their taxonomy depends on the level or type of processing involved and distinguishes between metacognitive, cognitive and social/affective strategies. **Metacognitive** strategies (or, as Wenden [1991: 25] calls them, self-management strategies) are processes that learners consciously fall back upon when managing or supervising their language learning. They are higher-order executive skills that entail planning a learning task (when students make sure they understand task requirements, determine their goals and decide how they will achieve them, i.e. what learning strategies they will deploy), monitoring it (when the learners observe and self-assess the learning process in progress) and evaluating the task once it has been completed (when the learners assess comprehension or production, identify strategies used and reflect on their own learning). Metacognitive strategies are a component of metacognition, which is further described in the next section. **Cognitive** strategies operate directly on the incoming information, and they are, in essentials, concerned with processing the elements of the target language in order to obtain, comprehend, store, retrieve and deploy them. The role of cognitive strategies is to enhance learning and use what has been learned. A learner deploys cognitive strategies when s/he, for example, repeats words that s/he has learned, groups and classifies them according to their semantic or syntactic attributes, or visualises them to understand and remember them better. **Social** strategies involve interaction with other learners or native speakers to solve a problem or to get feedback on a learning activity, whereas **affective** strategies assist students to control (or regulate) their emotions, motivation and attitudes towards the language learned. They also provide learners with self-encouragement and help reduce anxiety about a task. Although all the strategies are vital in the learning-to-learn process, metacognitive strategies seem the most important for effective learning, as they allow every student to consciously manage the use of appropriate strategies for different situations and regulate his or her

thoughts, actions and interactions in the classroom and other learning spaces (Wenden 1987c: 148; O'Malley and Chamot 1990: 43-52; Oxford 1990: 17; Cohen 2011a: 19-21, 2011b: 682; Purpura 2014: 533; Cohen and Henry 2020: 171).

Oxford (1990: 17, 2001: 363-365, 2006: 128) went a step further and proposed six (6) strategy groups: three (3) direct and three (3) indirect. The direct strategies are those that directly involve the TL, for example, reviewing or practising. They are composed of strategies deployed to store information (**memory-related** strategies, e.g. grouping, rhyming), to make sense of learning (cognitive strategies, e.g. reasoning, analysing) and to assist learners in overcoming knowledge gaps to continue communication (**compensatory** strategies, e.g. guessing meanings from the context, using gestures to convey meanings). The indirect strategies include strategies used for regulating learning (metacognitive strategies, e.g. paying attention, self-evaluating progress), satisfying emotional requirements such as confidence (affective strategies, e.g. anxiety reduction through laughter, self-reward through praise) and increasing interaction in the target language (social strategies, e.g. asking questions, cooperating with native speakers of the language). She later refined the categories, which led to four (4) strategy categories: cognitive, affective, **sociocultural-interactive** and **metastrategies** (including metacognitive strategies) (e.g. Oxford 2017). The master category of *metastrategies* is further referred to in Section 3.3.3.1.

Cohen (2011a: 17-21, 2011b: 682-692) is yet another strategy expert who offers his classification of LLSs. He classifies the strategies in the following way:

- strategies according to function;
- strategies for learning and use; and
- strategies according to the skill area to which they relate.

There are still other ways that strategies could be categorised, for example, by age, sex/gender, culture or language proficiency level (Cohen 2011a: 21-24), but they are not further elaborated on in this dissertation.

Firstly, LLSs are viewed as cognitive processes that serve a particular function, hence the classification scheme that distinguishes between metacognitive, cognitive, social and affective strategies whose characteristics have already been described in this section. Another distinction for defining the LLSs is between language learning strategies and language use strategies. The former are semi-conscious and conscious thoughts and behav-

iours that learners use to improve their knowledge and understanding of a TL. The latter refers to strategies that a learner applies while using the language s/he learns. These strategies include **retrieval** (for calling up learned material from storage), rehearsal (for practising TL structures), **communication** (for conveying a message to a reader or listener) and **cover** (for pretending to have a language ability) strategies (Cohen and Henry 2020: 169). Yet another way of classifying strategies is by skill area. There are **speaking**, **listening**, **reading** and **writing** strategies as well as strategies related to learning **vocabulary** and **grammar**, and doing **translation** (Cohen 2011a: 17-19; Cohen and Henry 2020: 172-174). For example, learners can initiate converstations in the TL as often as possible; imitate the way native speakers talk; guess the approximate meaning of unknown words; revise a written text to improve the language and content; use words just learned in order to see if they work; use a model sentence to remember a structure; and plan out what one wants to say or write in the L1 and then translate it into the TL. What merits attention is repeating that in this dissertation, the focus is placed on writing, so only the writing strategies are extensively discussed (see Section 3.3.3.2).

To conclude, assisting the students to become self-reliant and independent writers in their target language is an important building block in language education. It must be remembered, though, that successful strategy use includes choosing the strategies appropriate for the task and orchestrating them to satisfy writers' needs. In other words, utilising the strategies effectively in order to maximise learning outcomes involves combining learner's personal characteristics, his or her study goals and learning environment (Griffiths and Cansiz 2015: 477). Clearly, although the LLSs can contribute to overall learning success, they play only one part in personal educational achievement.

Even though all the strategies influence the learning-to-learn process, the quality of the strategy used is fundamental. If students have metacognitive knowledge about their own thinking and learning, if they understand what a learning task entails, and if they are able to orchestrate strategies to meet their own learning strengths and task demands, their use of strategies is much more effective (Chamot 2009: 266). Because metacognition is "one of the central skills needed in order to learn how to learn effectively" (Williams and Burden 2010: 148), it comes into focus in the section that follows. Section 3.3.3.2 reviews writing strategies while Section 3.3.3.3 briefly discusses strategic training in a writing-oriented classroom.

3.3.3.1. The importance of metacognitive knowledge in learning to write

In essentials, *metacognition*, the term first introduced by John F. Flavell (1978), can be defined as "thinking about thinking" or "the ability to reflect on what is known" (Anderson 2009: 99). Metacognition has been widely recognised as playing a significant role in managing one's own learning. Metacognitively aware students are able to monitor how effective their learning is, to make conscious decisions about what they can do to enhance their learning and to control their problem-solving behaviours. According to Andersen (2003: 29),"[w]hen we incorporate a metacognitive component to learning, we force our learners to be aware of what they are doing. We make their learning visible". This results in taking more conscious decisions to facilitate one's learning. In other words, learners consciously select the task, plan a course of action to complete it, monitor the execution of the planned actions, and, finally, evaluate the whole learning process.

One of the components of metacognition, apart from metacognitive experience and metacognitive strategies, is **metacognitive knowledge** (also called metacognitive awareness or metaknowledge), which covers what people know about cognition in general and what they know about their own cognition. In the case of TL learners, metaknowledge refers to "beliefs, insights and concepts that they [learners – MŚ] have acquired about language and the language learning process" (Wenden 1991: 34). For Goh (2019: 270), years later, metacognitive knowledge is "declarative or stored knowledge about how learning is influenced (positively or negatively) by person, task and strategy factors". The paragraphs that follow address various types of metaknowledge, its role in strategy deployment in general contexts and in a writing classroom, and the importance of training student writers in metacognition.

Back in the 1990s, Wenden (1991, 2001), building on Flavell (e.g. 1978), described three (3) types of knowledge that explain how learners control and manage TL learning: person knowledge (or self-knowledge), task knowledge and strategy knowledge, and called them *metacognitive knowledge*. **Person knowledge** concerns general knowledge that the learners have about human learning and what they know about themselves as learners: their interests, needs, goals, strengths and weaknesses, preferred styles of learning and awareness of progress in learning a language. It is also knowledge about how cognitive and affective factors, such as age, personality, language aptitude and motivation may affect learning. **Task knowledge** refers to an awareness of the purpose and demands of the learning or

communication task so that the learners can accomplish it successfully. Besides, it refers to the knowledge and ability to assess the information provided for a particular task and select what is relevant from what is irrelevant for its completion. **Strategy knowledge** is the knowledge that the learners have about strategies and metastrategies[50] that can be chosen and effectively used (or avoided) for accomplishing different types of learning tasks (Wenden 1991: 35-49, 2001: 46f.; Goh 2019: 270). Pintrich (2002: 219) adds the notion of **conditional knowledge**, which is the knowledge of when, why and how to use a given learning strategy. It is needed for optimal use of strategies and metastrategies. Oxford (2017: 157) further extends the knowledge types to group/culture knowledge and whole-process knowledge (or long-term learning). **Group/culture knowledge**, which complements the person knowledge, deals with an understanding of expectations and norms in an L1 or a TL group or culture. **Whole-process knowledge**, which is contrasted with task knowledge, embraces the characteristics and requirements of the long-term process of learning the language. Figure 6 below (adapted from Oxford 2017: 156) presents the types of metacognitive knowledge necessary for optimal strategy and metastrategy use.

As regards the relationship between metacognitive awareness and LLSs, research indicates that metaknowledge enhances the efficient use of strategies of any type, which leads to the development of students' autonomous behaviours in learning a TL in and beyond the classroom (Wenden 1987c: 148f., 1991: 48, 2001: 45). This is summarised by Chamot (2019: 185) and Goh (2019: 274) who say that metacognition (which comprises metacognitive awareness) is "the foundation of learning strategies and their most important component" and "a construct for managing strategy use". Metacognitively aware students become more reflective in their approach to learning: they analyse any learning task pertaining to listening, speaking, reading and writing; develop a learning plan; monitor its implementation; and evaluate it (Wenden 2001: 63). That is why metaknowledge is considered fundamental for effective learning (Wenden 2001: 44f.; Pintrich 2002: 222; Williams

[50] Oxford (2017: 155-157) introduced the notion of a *master* category – metastrategies – that is not limited only to metacognitive strategies. In her view, the term *metacognitive knowledge* refers only to the knowledge helpful for controlling the cognitive dimension of learning. Therefore, it is more accurate to speak of *metaknowledge* that covers affective, motivational and social domains too. Hence, she suggested referring to metacognitive, meta-motivational, meta-social and meta-affective strategies that guide the planning, implementation, monitoring and evaluation of strategies that belong to cognitive, motivational, affective and social domains. The metastrategies have the role of "executive functions" (Oxford 2017: 155) in learning. They help language learners manage their own learning, "thereby rendering themselves less dependent on others or on the vicissitudes of the learning situation" (Anderson 2009: 108), which leads to autonomous behaviours.

and Burden 2010: 148; Purpura 2014: 546). Pintrich (2002: 222) admits that if students know about different kinds of strategies for learning, thinking and problem solving, they are more likely to use them. As a result, they are able to perform better and learn more. Moreover, they can transfer what they know from one setting or situation to another and complete new challenging tasks. This is why Anderson (2009: 104) advocates implementing it in the TL classroom: "rather than focusing learner attention only on language issues, educators can structure a learning atmosphere where thinking about what happens in the learning process will lead to stronger language skills". Among the tools to develop metacognitive knowledge, Anderson (2009: 105-107) points to questionnaires, language learning surveys, peer-assessment forms and self-evaluation of classroom activities.

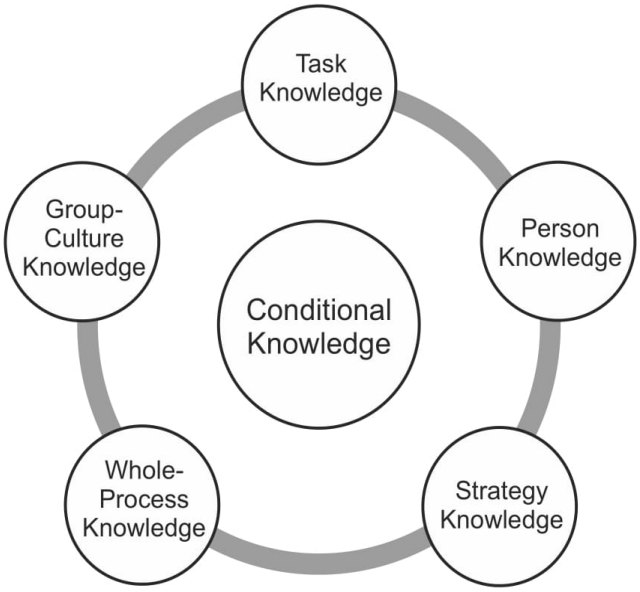

Fig. 6. Types of metaknowledge necessary for optimal strategy and metastrategy use (adapted from Oxford 2017: 156).

In the context of writing, demonstrating metaknowledge means that writers know what they are doing when they compose and why they are doing it. They are alert to the stages of the writing process and importance of the rhetorical situation so that they know how to adequately respond to a writing situation. As research has shown, successful TL writers have metacognitive knowledge about who they are as writers, features of the writing task and effective strategies for achieving their writing goals (Devine 1993). Kasper's (1997) study revealed a positive correlation between metacognitive knowledge and writing proficiency in adult TL students. Clearly, "creating a culture of thinking" (Anderson 2007:

39) facilitates the development of writing skills, for awareness of metaknowledge improves the knowledge of cognition (Anderson 2007: 35), which directly influences text production. This is what Anderson (2007: 41) confirms when he says: "[s]trong metacognitive skills empower the writer. The empowerment results not only in improved writing but also improved learning that will transfer to other aspects of the writer's life". According to Hirvela (2015: 39), in a writing-oriented classroom, students should be given opportunities to talk about their writing and reading encounters. This can enhance their metaknowledge about both skills and reading-writing connections.

When it comes to training in metacognition in writing contexts, the findings of intervention studies confirm that metacognitive-strategy instruction positively influenced the students' approach towards writing tasks and contributed to the development of their confidence and autonomy as writers (Manchón et al. 2014: 229-250). Training in metacognition – through discussion, modelling or explicit instruction – would aid students to select adequate behaviours while facing written language situations in the classroom and outside (Pintrich 2002: 223). It would also make the discussion of metaknowledge part of everyday classroom discourse, which, in the long run, would help students talk about their own cognition and learning processes. The training should include, echoing Wenden's (1987: 166) opinion about training students in metacognition in general, both awareness-raising and reflection on the nature of writing and training in the skills necessary to plan, monitor and evaluate writing activities. When student writers reflect on their writing behaviours, they become better prepared to make informed decisions about how to enhance their writing (Anderson 2007: 41). Williams and Burden (2010: 155) advocate a contrasting opinion when they say that the aim of TL learners is "not to be constantly thinking about (…) learning, but to move towards a situation where the use of appropriate strategies becomes unconscious, where the skills of learning become intuitive". For them, being able to deploy strategies unconsciously is necessary for learners to be effective in language learning.

Along with learners, attention must be called to teachers, who, ideally, should be provided with assistance in the development of their own metacognitive awareness. Their heightened awareness, in turn, better informs them of the ways in which their students can be assisted in gaining and developing knowledge of their learning processes (Williams and Burden 2010: 165). The teaching of metacognitive skills may be the most valuable use of instructional time for a writing teacher. When student writers engage in reflection on their writing strategies, they become prepared to make conscious decisions about what they can

do to improve their writing. After all, if the role of the present-day teacher is to equip the students with transferable skills, promoting general awareness of metacognition while focusing on writing as well as any other language skills is by all means expedient. It bears emphasising, however, that the metacognitive focus is on developing competences and processes that support learning rather than immediate outcomes of learning (e.g. improved test scores) (Goh 2019: 271).

To conclude, the use of strategies helps students develop metacognition about themselves as strategic learners, which, in turn, leads to a more extensive use of strategic behaviours. If students have metacognitive knowledge about their own thinking and learning, if they understand what a learning task entails, and if they are able to orchestrate strategies to meet task demands, they are likely to achieve satisfactory outcomes in the written discourse.

3.3.3.2. A review of writing strategies

Over the years, the study of writing in a TL has gradually shifted in line with trends in L1 composition. The cognitive approach, in which composing was viewed as a recursive, goal-oriented, problem-solving task, has given way to a more socio-cognitive orientation. In this orientation, composition is viewed as a social and communicative activity. Scholars have become interested in probing actions that writers "engage in when they generate, express, and refine their ideas in a non-native language" (Manchón et al. 2014: 229). In the words of Manchón et al. (2014: 231), writing strategies are "any actions employed in the act of producing text". Oxford (2017: 272) defines them as "teachable, dynamic thoughts and behaviours that learners consciously select and employ in specific contexts to improve their self-regulated, autonomous L2 writing development for effective task performance and long-term proficiency". They can be usefully employed by student writers irrespective of a writing approach that is favoured by their teacher in the classroom (Pawlak and Mystkowska-Wiertelak 2015: 110), although the process-oriented trend in writing pedagogy seems to be naturally related to the strategy use.

As a result of the studies focusing on the writing strategies deployed by TL learners, actions that *good writers* engage in have been collected and analysed. Echoing Rubin's

(1975) and Stern's (1975) characteristics of *good language learners*, Hedge (2001: 146, 2019: 328), for instance, lists the following competences that ***good writers*** demonstrate:

- having something to say;
- being aware of readers;
- controlling the development of ideas;
- organising the content clearly and in a logical manner;
- linking ideas in a variety of ways;
- using language conventions, such as grammar and spelling to develop accurate sentence structure;
- having a range of vocabulary; and
- using a clear layout.

Gordon (2009: 248-251) tentatively specifies the following behaviours that are characteristic of *good writers*:

1. Good writers read (…)
2. Good writers attend to vocabulary (…)
3. Good writers develop strategies to manage a degree of uncertainty (…)
4. Good writers attend to meaning (…)
5. Good writers attend to grammar (…)
6. Good writers work on their writing until it effectively responds to the set task and the ideas expressed are clear and coherent (…)
7. Good writers actively generate their own interest to write (…)
8. Good writers create opportunities to write outside the classroom.

Since the good writers are believed to provide excellent role models for those who wish to upgrade their writing skills, copying their strategic behaviours, in many cases, can affect written texts in a positive way. This is primarily due to the use of the writing strategies that largely separates successful writers (in any language) from less successful ones. It is believed that most learners are able to recognise the strategies that help them write well in their native language, evaluate the effectiveness of these strategies and transfer them to the TL learning situation. A number of studies have confirmed an advantageous impact on the writing development of students who deploy a variety of strategies when composing written texts (e.g. O'Malley and Chamot 1990; Cohen 2011a, 2011b; Manchón et al. 2014). Nevertheless, strategic knowledge (i.e. knowing about the strategies) does not automatically translate into better results, that is, higher linguisitic dexterity and range, and better con-

trol over language skills, including the ability to write in English, as Drożdział-Szelest and Domińska's (2016: 74) study dealing with poor language learners shows.

When it comes to the classification of the strategies, after analysing prior studies on writing strategies (e.g. Oxford 1990; Wenden 1991; Sasaki 2000), Mu (2005) offers his own classification that is based on the following theories related to TL writing: contrastive rhetoric, cognitive development, communication theory and social constructionism (see Table 10 after Mu 2005). For example, writers use rhetorical strategies to model a text in a particular genre, metacognitive strategies to control the writing process consciously and cognitive strategies to implement actual writing actions. Communication strategies can be deployed, for example, to facilitate the process of information transfer, whereas some social/affective strategies enable writers to get feedback from peers and/or teachers, or reduce the writer's block. All the strategies are examined in detail and exemplified in the reminder of this section.

Table 10. The taxonomy of TL writing strategies (after Mu 2005).

Writing strategies	**Sub-strategies**	**Speculation**
Rhetorical strategies	Organisation	Beginning/development/ending
	Use of L1	Translating generated ideas into a TL
	Formatting/Modelling	Genre consideration
	Comparing	Different rhetorical conventions
Metacognitive strategies	Planning	Finding a focus
	Monitoring	Checking and identifying problems
	Evaluating	Reconsidering a written text and its goals
Cognitive strategies	Generating ideas	Repeating, lead-in, interferencing, etc.
	Revising	Making changes in a plan and a written text
	Elaborating	Extending the contents of writing
	Clarification	Disposing of confusion
	Retrieval	Getting the information from memory
	Rehearsing	Trying out ideas or language
	Summarising	Synthesising what has been read
Communicative strategies	Avoidance	Avoiding some problems
	Reduction	Giving up some difficulties
	Sense of readers	Anticipating readers' responses
Social/affective strategies	Resourcing	Referring to libraries and dictionaries
	Getting feedback	Getting support from the teacher and peers
	Assigning goals	Dissolving the load of the task
	Rest/deferral	Reducing anxiety

Initially, some students apply **rhetorical strategies** when they use L1 at the stages of generating ideas and outlining the text in order to formulate concepts without trying to express them in a TL. This frequently facilitates producing better outcomes, but many fac-

tors, such as the nature of the task, the difference between native and target languages, and students' familiarity with the topic, also play their roles. Some writers may postpone the use of the TL in text production (especially if the texts are conceptually complex), as they may wish to carefully attend to the content matter first. Therefore, they plan and compose in their native language and then translate what they have composed into the TL. Resorting to L1 often results in more detailed plans and drafts, and consequently better organised texts with well-developed ideas and a wealth of detail (Manchón et al. 2014: 239-242). No matter, however, how useful these strategies may seem to the students, overusing them may have some undesirable side effects on TL writing (e.g. negative interlingual transfer of rhetorical conventions).

Next, common **metacognitive strategies** include planning (e.g. preparing for a writing task: finding a focus concerning the purpose of writing, audience, content and strategies to be used), monitoring (e.g. controlling the process of writing when composing a text: checking the content, organisation, grammar and mechanics; being aware of strategy use during writing) and evaluating (assessing the text in terms of global and local writing features; determining if the strategies chosen can assist in the accomplishment of the writing objective). Anderson (2007: 41) proposes a worksheet for monitoring metacognitive strategies, which is supposed to guide student writers through the process of writing (see Table 11 on p. 185 after Anderson 2007: 41).

Popular **cognitive strategies** are directly related to the writing process. They include activities fostering fluency, such as freewriting and looping. Other techniques (e.g. clustering, mapping or creating an outline) help select adequate ideas for further development of the text. There are also speaking tasks that some students willingly undertake in the pre-writing stage. For example, talking with peers activates their background knowledge and expectations of a writing task, and boosts the development of ideas and ways to express them. The Author's observations confirm that not only do the students find such pre-writing time enjoyable, valuable and motivating, but they actually produce more mature texts. Moreover, the students can apply self-correction strategies (revision and editing) at the end of the writing process, which, in due time, can be beneficial for their development as writers. Strategies for revising, which are "at the heart of the writing process" (Johnson 2016: 5,7), include, for example, adding more specific details or removing ideas that are repeated; looking for more specific words or phrases that make the meaning more precise; and using a variety of sentence structures. Also, practising peer review, which involves

reading the work of the other writer critically, helps students develop revision skills and enables them to recognise, diagnose and solve their own writing concerns. As regards editing, according to Kroll (2001: 229), learning to edit one's own work by detecting one's own inaccuracies is important for becoming a better writer. In a similar vein, Ferris (2014: iv) states that "*teaching students to be more effective self-editors* (…) *is a critical component for language development and error treatment* [emphasis in the original, MŚ]". For de Chazal (2018: 10), fostering students' proofreading skills is one of the aims of EAP teaching. Strategies for finding and correcting errors involve reading the text aloud; leaving time between writing and final editing; identifying one type of error at a time and focusing on correcting solely this error type; and starting with high-gravity errors and then searching for lower-gravity errors (Ferris and Hedgcock 2011: 282f.; Ferris 2014: 143-147). Both stages of the writing process can be facilitated by the checklist, which raises writers' awareness of potential areas of difficulty and reduces the problem of what to look for in the proofread texts. The study of Drożdział-Szelest and Domińska (2016: 72f.) shows that self-correction is one of the most frequently used writing strategies. There are assertions, however, that student writers devote too little time to revision and editing, which decreases the text's overall clarity.

When it comes to **communicative strategies**, writers can avoid certain information if they struggle to find a way to express the intended meaning in English. The resulting text may be shorter to avoid an area of difficulty. It can also be longer, as instead of concise diction, the writer decides to use circumlocution. The writers can also anticipate the readers' response to their written output. For example, if the readers are only peers, the text can be informal, less accurate and shorter. If the audience is the teacher, student writers attend to language issues more carefully; the text is usually better revised and edited; it may also be longer.

As for **social/affective strategies**, some students may need to deploy various behaviours to reduce anxiety levels and facilitate text production, for their self-image as writers and anxiety about writing can make the writing task overwhelming. For example, they ask their teachers for additional feedback on a draft or ask more proficient peers to proofread their assignment before the final draft is submitted. Moreover, they may use dictionaries to overcome gaps in their knowledge, spelling and grammar checkers to improve the mechanics of their texts, or AWCF tools to upgrade the texts' overall quality. They can also com-

municate with peers and teachers in digital environments (e.g. via e-mails, discussion fora, collaboration platforms) using English solely to practise writing in a TL.

Table 11. Metacognitive strategies: a strategies monitoring worksheet (after Anderson 2007: 41).

	Appropriate questions
Planning	• Who is my audience? • Why am I writing this? • What do I already know? • How can I organise my ideas? • How will I know if I have achieved my goal for writing this piece?
Using	• What strategies am I using to make this writing task easier? • Why am I using this strategy or these strategies?
Monitoring	• Are the writing strategies I am using helping me? • Are there other strategies that I could be using?
Orchestrating	• What strategies am I combining to accomplish my task? • Should any one of them be changed to better orchestrate their use?
Evaluating	• Are these additional ideas I need to add? • Do I need to delete something? • Are there grammar, spelling or punctuation issues I need to take care of? • Will my audience understand what I mean? • Did I accomplish my purpose?

As regards the practical application of the strategies, it must be pointed out that strategy choice and use are influenced by several interdependent learner variables (such as age, sex/gender, nationality, culture, general learning style(s), personality, TL learning motivation and purpose for learning the language, proficiency level and academic major) and learning variables (such as the nature of the TL task, a teaching and learning method, strategy instruction and error correction) (Ruben 1987: 23-27; O'Malley and Chamot 1990: 44f.; Oxford 1990: 17, 2001: 365; Drożdział-Szelest 2004: 36f.; Dörnyei 2005: 169; Williams and Burden 2010: 149-156; Griffiths 2009a: 86, 2018: 102-109, 186-189). These learner-internal and learner-external factors are not, however, further explored in the dissertation. In addition, it should be remembered that "[t]here is no 'right' or 'wrong' strategy but rather one that works for the particular learner for the particular task and goal" (Rubin et al. 2014: 153). Likewise, Oxford's (2017: 105) opinion is that "[a] given learning strategy is neither inherently good nor inherently bad. We call a strategy *good* [emphasis in the original, MŚ] if it relates well to the student's learning style and helps achieve personally

important learning aims in an authentic context". That is why learners need to develop "a repertoire of effective strategies that can be deployed flexibly in response to the changing conditions of learning and use" (Purpura 2014: 548). Undeniably, to achieve the best results in TL writing, students should employ various strategies from metacognitive, cognitive, and social and affective domains that are congruent with, for example, their language proficiency and motivation. However, as Oxford (2001: 167) rightly observes, using less compatible or adjusted strategies may also be beneficial while learning a TL. Nevertheless, clustering and orchestrating strategies effectively, i.e. selecting, combining and applying various strategies to complete a particular writing task, produce more successful results (Anderson 2009: 100-102; Chamot 2019: 189).

In closing, it is worth emphasising that there is no one model of a *good language learner*, and successful language learners orchestrate various strategies (especially metacognitive ones) to achieve what they achieve (Cohen 2011b: 683). An analogical claim can be made about *good writers*. Recent studies into good language learners indicate that not only age, personality types but also socioeconomic and sociocultural environments, alongside proficiency in the use of strategies, impact successful language learning. That is why it is important to avoid fostering an idealised image of a perfect learner whose success is solely determined by strategy choice (Harris 2019: 38). Nonetheless, the use of LLSs strengthens students' ability to manage their own learning in the classroom and in other learning spaces; provides them with the knowledge and skills to continue learning a TL on their own; and increases their motivation and overall performance.

3.3.3.3. Ways of teaching strategies in a target language writing classroom

As stated in earlier sections, there has been an extensive body of research interested in exploring the facilitative role of LLSs in a TL classroom and confirming that their use aids learners to achieve various educational and professional goals (e.g. Chamot 1987; Reid 1987; O'Malley and Chamot 1990; Gordon 2009; Cohen 2011b; Cohen and Macaro 2014; Trendak 2015; Drożdział-Szelest and Domińska 2016; Pawlak 2017). Therefore, as once observed by Wenden (1987: 159), TL teachers might profitably spend their teaching time on learner training as much as they spend on language training. This observation led to the

idea of strategy instruction (i.e. training students in the conscious use of the LLSs) aimed at upgrading language learning effectiveness.

The notion of **strategy training** has been examined by many strategy experts (e.g. Wenden 1987, 1991; O'Malley and Chamot 1990; Oxford 1990, 2017; Droździał-Szelest 1997, 2007; Cohen 2011a, 2011b; Ellis 2013; Cohen and Macaro 2014; Rubin et al. 2014; Pawlak 2017; Griffiths 2018; Chamot and Harris 2019). According to Oxford (1990: 12), back in the 1990s, strategy training helped "guide learners to become more conscious of strategy use and more adept at employing appropriate strategies". In recent years, Gu (2019: 35) supports this opinion when he says that strategy instruction is "one of the best tools available for teachers to enhance their [students' – MŚ] process of learning, cultivate facilitative learning behaviours and, hopefully, prepare the next generation of autonomous problem solvers". Therefore, "learning to learn and use of adequate study skills is simply indispensable" (Droździał-Szelest and Domińska 2016: 75) and introducing LLSs into classrooms by means of strategy training, in any form, is truly justified and strongly recommended.

With regard to writing skills, Ferris and Hedgcock (2011: 279) rightly observe that target language writers need strategy training to become independent self-editors. According to Nguyen and Gu's (2013: 26) study results, strategy-based instruction proved to be beneficial to students in terms of their more active engagement in writing, increased strategy use and better learning outcomes. They concluded that learners who received strategy training enhanced their ability to plan, monitor and evaluate the writing task, which, in turn, fostered their autonomy in writing and generally in learning. This rationalises the necessity of teaching strategies intentionally and systematically in the classroom.

Basically, strategy instruction in any classroom can take the form of:

- awareness (or consciousness) training, which familiarises students with learning strategies and their role in completing language activities, which strengthens the need for strategies' intentional use;
- one-time strategy training, which focuses on learning and practising a strategy (or strategies) with a language task, and informs students about the value of strategies in TL learning;
- long-term strategy training, which involves learning and practising strategies with actual tasks, but the number of strategies is higher, and the instruction is carried out for a

longer time, which makes it more effective;

- a separate training programme, which has no connection to the class content but aims at teaching students how to use learning strategies effectively;
- integrated strategy instruction, which offers the immediate applicability of strategies, and facilitates the transfer of strategies to new learning tasks and contexts in the classroom and other learning spaces;
- direct (or explicit) strategy training, which makes strategies visible to students so that they can later refer to them while doing regular class activities and take conscious decisions while studying a TL outside the classroom; and
- embedded (or implicit) instruction, in which the strategies are implemented in the classroom without any open explanation about reasons for strategy training, which is advantageous for the teacher, as it requires little teacher training (O'Malley and Chamot 1990: 152-154; Oxford 1990: 202f.; Chamot 2001: 37; Griffiths 2009a: 273).

Although any kind of training seems to be better than none, **explicit** strategies-based instruction (with a focus placed on a metacognitive component together with multiple practice opportunities) is claimed (by most research) to be optimal to maximise students' language learning abilities and create ideal conditions for more effective self-directed language development (e.g. O'Malley and Chamot 1990: 184; Manchon et al. 2014: 247; Rubin et al. 2014: 142; Oxford 2006: 126, 2017: 272). This development, however, is facilitated if, in the instruction, teachers attend to learners' personal qualities, such as motivation, commitment and awareness of what is required alongside their ability to persevere, manage set-backs, and overcome frustration or writer's block. If the instruction is **direct**, the students can reflect on the strategies, which fosters metacognitive knowledge and transfers opportunities to different learning tasks. If it is **integrated** into regular class activities on a normal basis, the learners can easily notice the strategies' relevance and learn how to deploy them in writing activities (Rubin et al. 2014: 142; Goh 2019: 268). **Long** strategic training seems to produce better outcomes in terms of writing, which, in fact, means that copious writing practice is necessary for learners to excel (Manchón et al. 2014: 247). A writing instructor can assist the students in making use of the strategies in text production by offering them explicit instruction, expert modelling and think-aloud training. If writing students are instructed how to generate ideas, plan, compose, revise, edit and respond to the texts, they heighten their awareness of what issues are important in writing and how they

can independently handle the writing process. Student writers can also benefit from self-questioning, which produces insights into their own writing processes. Consequently, they become more self-sufficient as self-editors and increasingly independent as writers. Last but not least, if they are provided with ample opportunities for practising the discussed strategies, the chance of transferring them to new (learning) tasks increases and thus facilitates the process of learning in general.

It has to be brought to attention that, as regards strategy training, various teacher- and learner-related issues need to be considered. When it comes to the **teachers**, they definitely need "a great deal of knowledge and skill" (Rubin et al. 2014: 158) to teach strategies to their students; they should be able to "pass on to their students a clear vision of how strategies can be used to learn effectively" (Griffiths 2018: 203). In other words, if the teachers are acquainted with LLSs, have a good conceptual understanding of how they work and possess good pedagogical skills to deploy them in the classroom, they should teach them intentionally and systematically (Goh 2019: 269, 274). Also, their own interest in giving the students strategic training is crucial. This provides a framework for convincing the students of the value of teaching LLSs (Manchón et al. 2014: 247). But the fact remains that unless teachers are specifically trained or, at least, self-trained to teach learner strategies and reflect on their own teaching strategies, they may do too little to support the students in their efforts to learn writing skills more efficiently (Drożdział-Szelest 2008; Rubin et al. 2014: 158; Grifiths 2018: 203f.).

As for the **students**, strategy instruction should be customised to the learning situation, the task, the characteristics of the learner (e.g. his or her background knowledge, sociocultural environment, sensory preferences, reasons for learning a TL and learning objectives) and the nature of the language itself (Cohen 2011b: 684; Goh 2019: 266). Otherwise, strategic training may be seen as a waste of classroom time. However, if the teachers emphasise that "the HOW [emphasis in the original, MŚ] and the WHAT [emphasis in the original, MŚ] may be brought together in a mutually supportive partnership" (Griffiths 2018: 204), the attitude is likely to change. Also, if strategy choice and use develop in a spiral rather than a linear way (i.e. one strategy facilitates the development of others), the growth of language proficiency is likely to accelerate. This "tornado effect" (Griffiths 2018: 204) may greatly encourage learners to take an active role in their own learning.

In the Author's educational settings, awareness training as well as direct and embedded strategy training can be easily integrated into the fabric of her lessons. If these types

of strategy interventions employ goal-appropriate strategies and provide enough practice for strategies to become automatic, they will definitely bring considerable benefits to novices in scientific writing.

To sum up the discussion on discursive and non-discursive aspects of writing instruction presented in Section 3.3, it bears repeating that "without (…) reasonably accurate, and coherent text, there can be no academic writing in a second language" (Hinkel 2004: x). In order to produce such a text, the writer needs to choose accurate vocabulary, grammatical patterns and sentence structures to avoid ambiguity in meaning; s/he needs to be able to organise the adequate development of ideas or information; and s/he needs to ensure that the style and level of formality are appropriate to the subject matter and intended reader within a target discourse community.

In the light of the "unique instructional needs" (Ferris and Hedgcock 2011: 24) that TL writers have, language-focused teaching that develops language knowledge should be an essential component of TL writing curricula. In addition, integrating genre-based instruction into the TL writing classroom can provide insight into how to fulfil communicative purposes in targeted contexts. Genre-focused teaching helps student writers identify language features and texts' organisation as well as understand the attitudes and values of a particular discourse community, especially if its members come from different educational cultures. Finally, the theory of language learning strategy postulates that students are capable of consciously influencing their own learning, which makes language learning a cognitive process similar in many ways to any other kind of learning. Since this theory operates alongside most of the contemporary language teaching and learning theories, it fits well with a wide range of different approaches and methods that TL practitioners apply in their classrooms. Therefore, it may well prove to be effective in the modern language classroom with its principled eclecticism. In other words, these approaches to teaching writing are not mutually exclusive, but they can be used in combination in the writing classroom. Also, regardless of the methodology that TL teachers prefer in their classrooms, it is an undeniable fact that students should write a lot because learning to write (well) in English requires a lot of practice (Hedge 2001: 11; Ferris 2002: 46; Harmer 2018: 127; Daffern and Mackenzie 2020a). Clearly, writing classes should integrate different dimensions of textual literacy education.

3.4. The features of a (writing) teacher in a target language writing classroom

> Classes were conducted in a professional manner by a professional and passionate person, which gave a great opportunity to learn new things. Classes were really interesting and full of useful facts. The amount of classes wasn't nearly enough though, it would be good to have more hours of such classes as they will surely be useful in the future (original wording; p.c.).

Although the methodology teachers follow in their classrooms is important, "[a]ny method in the hands of a good teacher is a good method" (Maclin 2001: vi). This opinion seems valid, regardless of learner variables and educational settings. Yet, there are several factors that affect learning and are associated neither with a particular teaching method nor an educational context. These factors include teacher-learner and learner-activity interactions; teachers' involvement in their teaching practice; and their ability to personalise teaching and make classroom tasks engaging. As all these factors foster successful learning (Hinkel and Fotos 2002c: 10; Reid 2007: 162; Żylińska 2013: 55f., 60, 136; Komorowska 2015: 113-117), they cannot be neglected in target language instruction.

Since a teacher of adults is an adult among adults, successful teaching of the TL involves integrating the following factors that adult learners value:

a) enthusiasm and involvement;
b) high cultural responsiveness;
c) wide knowledge about the topic;
d) high quality of instruction;
e) instructional clarity;
f) simplicity of explanation; and
g) moderate pace in presentation and practice (Ellis 2005; Wlodkowki 2008: 68-94).

These factors belong to **interpersonal** (a-b) and **instructional-methodological aspects** (c-g) of teacher behaviour. The former are concerned with generating and keeping a positive classroom atmosphere, which is conducive to learning. The latter are related to, for example, the selection of content and materials, teaching methods, forms of evaluation and general pedagogy (Williams and Burden 2010: 199f.). The paragraphs that follow describe all the aspects in more detail.

Interpersonal teacher behaviour plays an essential role in the learning environment, regardless of students' age, sex/gender, cognitive and classroom participation styles, learning objectives, etc. Teachers can successfully manage students' learning, provided that they are able to gain learners' respect and cooperation in the classroom. Also, they can maximise their students' learning if they are able to build up a supportive learning environment and maintain an encouraging classroom climate. If they demonstrate positive and understanding behaviours while interacting with their students, they can foster a friendlier attitude towards their subjects and greater learning achievement. Those teachers who show admonishing behaviours or develop no rapport with the students bring about the reverse effect. Therefore, as research results cited in Williams and Burden (2010: 200) indicate, "interpersonal teacher behaviour is an important contributor to learners' cognitive and affective outcomes". There is no denying that a friendly environment is as important as the content of the lesson and its delivery. What follows below addresses the teacher's enthusiasm, involvement and high cultural responsiveness.

Firstly, **teachers' enthusiasm and involvement** in what they teach are "an absolute necessity for motivating instruction" (Wlodkowski 2008: 71), as enthusiastic lecturers are believable. If teachers care about their instructional topics; if emotions, energy and expressiveness are outwardly visible in their teaching, they may encourage similar feelings in their students and instil in them a willingness to pursue knowledge. If the teachers build good rapport with their students, this enthusiasm becomes a shared quality, which increases students' motivation and achievement (Ellis 2005; Wlodkowski 2008: 70; Żylińska 2013: 60). As a result, they are more likely to pay attention and thus understand what is discussed in the classroom. Consequently, their learning outcomes may be more satisfactory, which perpetuates greater attentiveness and better learning. From Wlodkowski's (2008: 71) perspective, language teachers are sellers of language skills; if the product they offer is advertised by "bored, listless and uninvolved" instructors, its commercial success is doubtful because "[f]or learners, *how* [emphasis in the original, MŚ] instructors say it will always take priority over *what* [emphasis in the original, MŚ] instructors say". This opinion can be confirmed by many practitioners at all levels of education. Clearly, if the teachers engage their students in the classroom tasks that they find cognitively challenging, useful, interesting and new, the chance of their active involvement in the learning process is maximised (Żylińska 2013: 256).

Secondly, if the instruction is to be motivating and successful, **cultural responsiveness**, which includes respecting and understanding people's diversity that results from history, socialisation, experience and biology, cannot be neglected. In educational settings, cultural responsiveness means creating a safe, inclusive and respectful learning environment with course content that is relatable to all learners (Wlodkowski 2008: 87). The responsiveness is strengthened if the teacher creates a culturally sensitive classroom by legitimising students' cultures and experiences as well as including in lessons information about different cultures and their contributions (Richards and Farrell 2013: 115-117). Because of the increased international student intake in tertiary-level institutions in Poland, high cultural responsiveness is expected from academia. The Author has considerable experience in this respect in her home institution and partner universities she has visited within the Erasmus+ Teaching Mobility. She has taught academic writing (with a special focus on Plain English) to students from Algeria, Azerbaijan, Belarus, Bhutan, China, Egypt, Ethiopia, India, Kirgizstan, Norway, Pakistan, Slovenia, Spain, Tunisia, Turkey and Ukraine, which required both cultural responsiveness and an adequate level of cultural sensitivity.

As regards instructional-methodical aspects of teacher behaviour, **teachers' knowledge** about the subject and their own interest in it are highly valued by adult students. The Author's special attention to what she teaches – Plain English and its role in polishing the writing skills of junior researchers – led to writing a PhD dissertation in English and conducting small-scale teacher research. Lindemann (2001: 13) notes that teachers act as models for students. If they teach writing, they should write themselves in order to share with the learners the strategies that "experienced writers develop in their wars with words". A composition teacher can provide his or her students not only with observations on the grammatical structure of the target language, but also guidance on exploring the system independently (Odlin 1994: 14).This approach fosters the development of more accurate, appropriate and, above all, more self-reliant writers. Casanave (2004: 22) adds another valuable opinion to this discussion: "[w]hat teachers believe about themselves as writers influences their decisions as teachers of writing in ways that can be enlightening and inspiring". Also, bearing in mind what behaviours *good writers* exhibit (Gordon 2009: 248-251), the teachers can integrate these behaviours into their own writing practices to share their effectiveness with the student writers. This view is shared more recently by Ferris and Hedgcock (2011: 62) who recommend the following implications for teaching TL writing:

"[t]eachers of ESL should expose their students to their own processes and practices of engaging in literary events". Since the Author teaches how to use English clearly and effectively in scientific writing, the experience of being a writer who produces her own academic texts in the vein of Plain English, and encounters various difficulties in the process of composing, revising and editing is of profound importance in her teaching practice. Applying the guidelines of Plain English to the Author's own writing and checking if they are *writeable* and useful is a direct professional experience. Moreover, all her practices become a source of numerous examples of language usage that are later analysed in the classroom. Most importantly, they add credibility to her instructions. In addition, "[i]f teachers are to help students become independent analysts, they must be competent analysts themselves", as Odlin (1994: 14) once put it. This competence goes on a par with the growth of critical-thinking skills, which are indispensable in evidenced and unbiased writing for academic purposes. Once again, the Author's first-hand experience in the craft she teaches plays an essential role in handling this fundamental aspect of academic literacy. Lastly, conducting her own research expanded the Author's professional horizons and raised her personal involvement in classroom activities, which, in other instructional settings, may translate into strengthening students' motivation and their positive attitude towards the English language and learning it (Reid 2007: 162).

Another prerequisite for motivating and cognitively valuable instruction is **instructional clarity** or "teaching something in a manner that is easy for learners to understand and that is organized so that they can smoothly follow and participate in the intended lesson" (Wlodkowski 2008: 79). Instructional clarity is associated with teachers who are well-organised and thoughtful about their teaching procedures. If parts of the instructional process are logically connected and if there is an "orderly relationship" (Wlodkowski 2008: 80) between each part of the instructional process, the learners easily follow the instruction and their attention span is longer. This can be achieved by, for example, anticipating problems the learners may have with a particular language issue, and preparing relevant examples and activities to increase their understanding. This can also be achieved by simplifying the way content issues are delivered. For example, removing wordiness and circumlocution from the teacher's own language, as Plain English recommends, makes the language of instruction easier to follow. It also exemplifies how plain language can shape the form of the language to effectively reflect the content. In other words, the language used by teachers in the classroom serves as an example of the language that students learn (Richards and

Farrell 2013: 138). Wlodkowski (2008: 79) aptly observes that "[i]f the teacher's language or teaching methods are vague and confusing, the interaction is likely to break down and lead to learner's confusion or frustration". This has never happened in the Author's classroom. Conversely, the Author fell upon a simpler language to enhance the clarity of instruction, which, according to the students' feedback voiced in the interviews or MOOC's discussion forum (DF), had served a very useful purpose during the intervention. One of the participants of the present study – Participant 4 – commented on the MOOC in the following way: "[s]tart from the beginning, I need to say, that the all of viedo are understable for me. I think, it depands on simply and clear language. This is really important, cause more of the information is new for me" (original wording). Finally, the students' perception of teachers' instructional clarity may result from the convergence between their preferences as learners and their instructors' ways of teaching, which provides a sound basis for more effective classroom cooperation and learning success. For example, analytical teachers prefer a logical and clear structure of the class, whereas global teachers enjoy a classroom characterised by "organized chaos" (Oxford et al. 1991: 10). If the teacher exhibits a style preference that differs from the stylistic tendency of his or her students, the friction may lead to anxiety and a tense atmosphere in the classroom, which may, in turn, negatively affect the overall learning experience and evaluation of the students' and teachers' performance. If the stylistic preferences are similar, the teaching and learning experience may be enjoyable and rewarding (Oxford et al. 1991: 10).

Finally, apart from an approachable explanation of the subject matter, learners value setting a **reasonable pace** and providing **reasonable time for practice**. Being aware of the individual differences of her students, the Author understood varying time requirements to complete certain types of tasks (cf. Dörnyei 2005: 158), so pace and time for practice were always adjusted to the students' needs.

In sum, a composition teacher can act as a motivator for writing students, as practising the craft of writing makes him or her a learner rather than an authority, and increases his or her own credibility as a writing instructor and the credibility of the subject matter s/he teaches (Murray 1985: 224). Emig et al. (1983: 141) claim "[t]eachers of writing (…) must themselves write, frequently and widely". They believe only through writing can teachers become more effective as writing instructors because, by means of this first-hand experience, they can critically evaluate their own didactic practices (Emig et al. 1983: 144). If their writing practice is scarce, they are not able to help their students learn to write, and

the Author – the teacher and the writer – wholeheartedly endorses this opinion. Moreover, if the writing teacher sincerely believes what s/he teaches, enthusiasm and involvement in the teaching practice are generated almost automatically. Last but not least, gains in knowledge about the researched topic definitely contribute to greater professional expertise and higher job satisfaction, especially if these gains are noticed and positively commented on by the students.

It needs emphasising at this point that all interpersonal and instructional-methodological aspects of teacher behaviour, among many others, can be described under the umbrella term *pedagogical innovation* in TL teaching, according to the participants of Półtorak and Gałan's (2018: 52-56) study. Not only does pedagogical innovation take an important place in contemporary glottodidactics as a tool to improve TL teaching and learning, but it also resonates with teacher professional development (see Section 4.1), which is the Author's driving force in carrying out scholarly work and writing a doctoral dissertation in English. Undeniably, undertaking her own small-scale research was one of the ways to develop the innovative competence that every present-day TL teacher should demonstrate (Drożdział-Szelest 2018: 40). In addition, the features that have been explored in this section overlap with the qualities of an *effective teacher*, both in terms of personality and explicit classroom behaviours. These features include, for example, enthusiasm, subject matter knowledge, clarity in explaining tasks and presenting instructional content, a good pace of the lesson and internal authenticity. A thorough overview of major studies on effective teachers is provided by Werbińska (2011: 20-36).

Appendix D, p. 403, contains quite a few comments expressed by the Author's students on the form and content of the writing classes they attended. One of them, written by a Bhutanese student doing her Master's thesis in English at the Faculty of Engineering Management at Bialystok University of Technology, started this section.

CONCLUSION

Because of its cognitive complexity, writing is not very popular with either native and target language student writers, or with language teachers who are expected by curriculum requirements to teach writing. However, its importance has never been greater, and becoming a competent writer can open up ample opportunities for educational and professional

development. Undeniably, the writing-focused TL classroom can be an important contributor to this development. Hence the fundamental role of the teachers, who, in line with the primary goal of modern education, are "responsible for arming their students with knowledge, strategies and resources so that they can function effectively outside the classroom" (Ferris 2002: 9).

Since "[t]here is no *one* [emphasis in the original, MŚ] way to teach writing, but many ways" (Raimes 1983b: 11), the way a particular teacher chooses for his or her students depends on several variables that are related to the teachers themselves, the learners and the rhetorical situation they all face. When teachers focus on developing language knowledge, genre knowledge and the use of language learner strategies, they equip their students with knowledge of how and what they can do to become better and more autonomous writers. More specifically, when the teaching is language-based, it enables the student writers to build "linguistic resources for academic literacy" (Frodesen and Holten 2011: 148) and to understand how language forms convey meanings in the written discourse. When it is genre-focused, the students learn to identify and manipulate language forms typically used to express functions in particular text types. Finally, when instructional practices combine both what-to-learn and how-to-learn concepts, they contribute to developing strategic learners who can transfer knowledge and skills to other tasks they encounter outside of the instructional setting. When these approaches to writing are combined with and strengthened by the deployment of metaknowledge, the outcome of the instruction can be satisfactory for both teachers of writing and their writing students.

Chapter 4: Integrating Plain English into a PhD programme: an empirical study

Introduction

Given the prevalent and growing position of English as the international language of dissemination of academic research and publication, English-medium journals have become a hallmark of the contemporary academic world. As discussed earlier in the dissertation, publication in these journals is regarded as a necessity. In many countries and specialisations, tenure and promotion are closely tied to writing and publishing in English. Therefore, the pressure on academics increases year by year and is international. Polish researchers, from juniors to seniors, are required to disseminate their research results in highly specialised English-medium journals because their academic careers are based on the evaluation system related to citations and the impact on the development of knowledge in their fields.

An indispensable competence of a research scientist who wishes to pursue a successful scholarly career is clear and effective writing, i.e. being able to express oneself unambiguously and convincingly in the written language. This ability is expected by journal gatekeepers (i.e. editors and peer-reviewers) in the manuscripts submitted to their journals. *Correct scientific English* required by the journals' editorial staff embodies what Plain English recommends: simple, clear and comprehensible delivery of specialist concepts. Its application makes the manuscripts more *writeable*, which is vital for novice science writers. Their knowledge of the plain style and their ability to apply it can help them grow as more confident and independent authors of scientific texts.

In order to verify whether Plain English can be an empowering means of knowledge transfer in the hands of novices to scientific writing, the Author conducted small-scale re-

search in her own classroom, also with a view to improving her didactic practices, expanding her own professional horizons and stimulating innovative teaching. The research project was in line with the opinion expressed by Drożdział-Szelest (2019: 162) that "continual professional development constitutes an integral and necessary part of every teacher's life". Conducting teacher research was an essential part of this development.

To the Author's best knowledge, no current research project in Polish educational settings has explored how the integration of Plain English guidelines into the teaching of PhD students at a technical university has influenced their science writing skills. The study described in Chapters 4-5 aims to fill this gap. It may also serve as a point of reference for researchers who would like to thoroughly explore this area.

The chapter consists of two (2) parts. **Part 1** discusses key aspects of teachers' professional development. The focus is on a reflective and autonomous teacher who practises the craft of writing and on a teacher-researcher who wishes to professionalise teaching practices by conducting small-scale research in his or her own classroom. **Part 2** first describes the background to the present study: meeting student needs and the reasons for teaching Plain English to PhD students. It proceeds with a description of the aims and conceptual framework of the multiple-case study on the improvement of the writing skills of 13 Polish doctoral students from Bialystok University of Technology. It then presents four (4) research questions (RQs) operationalised by a total of nine (9) hypotheses (Hs). The final sections of the chapter are concerned with a full picture of the study participants, the instructional tools applied in the didactic intervention, the study design and the data elicitation instruments.

4.1. Teachers' development as professionals

What comes to focus in this section is the development of teachers as professionals, which is currently a prerequisite for their successful careers in educational institutions and for maintaining enthusiasm, creativity and interest in their profession. This concept lies at the heart of the Author's activities as an English teacher and is closely related to the secondary aim of the study (see Section 4.3), hence her decision to adequately describe it in **Part 1** of this chapter.

Quite an extensive body of literature exists on handling an issue of teachers' professional development (e.g. Lange 2000; Bailey et al. 2001; Wysocka 2003; Richards and Farrell 2008; Richards and Rodgers 2011; Werbińska 2011; Droździał-Szelest 2013; Farrell 2018; Półtorak and Gałan 2018). In Lange's words (2000: 250), teacher development is "a process of continual intellectual, experiential, and attitudinal growth of teachers" that takes place both before and throughout the teaching career. Richards and Farrell (2008: 4) explain that the development "serves a longer-term goal and seeks to facilitate the growth of teachers' understanding of teaching and of themselves as teachers". In essentials, language teachers can professionalise their practices by developing their own approach to teaching when they reflect on their role in the classroom; the nature of effective teaching and learning; and the structure of effective lesson and learning activities (Richards and Rodgers 2011: 251). This reflection can be driven by several factors, for example, teachers' prominent role in teaching students how to learn languages and gain other subject-specific knowledge.

Back in the 1990s, Reid (1993: 257) believed that "ESL teachers have a responsibility for the development and betterment of the field as well as for their own professional development". Currently, due to the changing dimensions of the position of teachers that have been imposed by changes in the teaching environment, social trends and labour market, taking greater responsibility for one's own professional development is considered a "lifelong learning perspective" (Droździał-Szelest 2013: 17) for every language teacher. According to Droździał-Szelest (2013: 17), "[i]t is essential to realize that to stay in the profession, we [teachers – MŚ] have no other choice but to keep developing". This development as professionals can be done by addressing difficulties that learners face in the learning process, organising student learning opportunities more efficiently, and managing their learning progression more and more effectively (Richards and Rodgers 2011: 251). From the teacher's perspective, it can be done by:

- engaging in self-reflection and evaluation of teachers' own teaching practices;
- developing specialised knowledge and skills about many aspects of teaching;
- expanding knowledge about theory and research in teaching;
- taking on new roles and responsibilities (e.g. a supervisor/mentor teacher, a teacher-researcher or a materials writer); and
- developing collaboration with other teachers (Richards and Farrell 2008: vii).

Following these practices should contribute to more effective teaching and satisfaction on the part of teachers as well as more effective and enjoyable learning on the part of their students (Drożdział-Szelest 2019: 162f.). Nevertheless, it has to be emphasised that teachers need to be convinced that developing as professionals is "indeed worth pursuing" (Bailey et al. 2001:4). This need may result from various reasons at the institutional and personal levels or both. For example, the teachers may wish to:

- increase their knowledge in the areas relevant to the teaching profession;
- master new areas of teaching;
- acquire new knowledge and skills in order to introduce novelty or variety in the classrooms;
- deepen understanding of their learners and the learning process;
- follow up-to-date teaching methods to improve their instructional effectiveness;
- add credibility to the form and content of their classrooms;
- develop knowledge of oneself as a teacher;
- build a network of professionals in order to cascade new knowledge, find inspiration and get further development opportunities;
- expand their metalanguage for discussing teaching issues with students, colleagues and other professionals;
- gain promotion and higher remuneration at their workplace;
- be equipped for new roles and responsibilities in their institutions;
- advance an academic career;
- become more competitive in the job market;
- prevent job burnout; and
- stimulate personal development (Bailey et al. 2001; Richards and Farrell 2008; Richards 2015; Drożdział-Szelest 2019).

What the teacher selects from this list is conditioned by a number of circumstances, for example, his or her age, a sense of personal fulfilment, career development prospects, financial resources and a level of motivation. According to Bailey et al. (2001: 246), it is motivation that plays a key role in the process of becoming a professional. In fact, the Au-

thor's aim for boosting her career as a professional[51] resulted from a growing willingness to reflect on her classroom practices, further develop teaching competences, enhance her own academic writing skills and raise her market value. It bears pointing out that these motives were not directly influenced by any institutional factors.

Teachers' professional development, which is a multifaceted phenomenon, cannot be discussed without an insight into the concepts of **reflective language teaching** and **teacher autonomy** because only reflective and autonomous teachers can develop as professionals (e.g. Holec 1981; Schön 1987; Bailey et al. 2001; Benson 2001, 2011; McGrath 2001; Sinclair et al. 2001; Pawlak 2008; Richards and Farrell 2008; Pawlak et al. 2009; Willams and Burden 2010; Werbińska 2011; Bailey 2012; Gabryś-Barker 2012; Richards and Lockhart 2013; Droździał-Szelest 2019). They are "the ones who are aware of why, when, where, and how they can develop and/or improve their pedagogical skills" (Droździał-Szelest 2019: 174). This awareness can be enhanced by undertaking specific activities promoting professional growth, such as **teacher research** (e.g. Crookes 1993; Wells 1994a, 1994b; Brumfit and Mitchell 1995; Ellis 1995, 2010; Bailey 2001; Hyland 2003, 2011b; Nunan 2005; Hopkins 2008; Wilczyńska 2008; Nunan and Bailey 2009; Bell 2010; Dikilitaş and Griffiths 2017; Droździał-Szelest 2018). The sections that follow describe the notions of reflection and autonomy in greater detail, and look at the role of teacher research in teachers' development as professionals.

4.1.1. Reflective (language) teaching

Since Dewey's (1933) seminal book *How we think* and a detailed insight into the concept of *reflective thought* (Dewey 1933: 1-13), there have been several theories and levels of reflection that have some bearing on theories and practices in various contexts (Farrell 2007: 2-4). In educational contexts, the concept of reflective teaching has been embraced by researchers, teachers and teacher trainers around the world. For Chamot and Harris (2019: 215), reflection is "a means of teachers' continuous professional development". Reflective

[51] The Author has exercised many forms of professional development that de Chazal (2018: 51) discusses, e.g. attending staff development sessions within and outside her institution, attending conferences, giving presentations at conferences, reading relevant books and journals, writing articles for publication in post-conference journals, and studying for a higher professional qualification.

teachers have been recognised as active participants in the teaching process whose ideas and beliefs, supported by direct involvement in the classroom, make them important contributors (if not leaders) to, for example, curriculum development.

Reflection is viewed as "the process of critical examination of experiences, a process that can lead to a better understanding of one's teaching practices and routines" (Richards and Farrell 2008: 7). To put it in different words, if a teacher "never questions the goals and the values that guide his or her work, never considers the context in which he or she teaches, or never examines his or her assumptions" (Zeichner and Liston 2011: 1), then such a teacher is not engaged in what is understood as reflective teaching. By definition, this practice involves a critical examination of teachers' motivation as well as the assumptions and values they bring to teaching and classroom practice. Key features of reflective teaching are participating in curriculum development, being involved in school change efforts and assuming responsibility for developing as a professional (Zeichner and Liston 2011: 6f.). In fact, such responsibility, together with open-mindedness (e.g. attending to alternative possibilities and recognising the possibility of error) and wholeheartedness (e.g. understanding one's own teaching and making intentional efforts to see the situation from different perspectives), are key attitudes that are necessary for teachers in order to be reflective (e.g. Dewey 1933; Zeichner and Liston 2011). For Bailey and Springer (2013: 108), reflective teaching exemplifies an educational innovation referred to later in this section.

The paragraphs that follow provide a brief insight into types of reflective practice and the benefits of reflective teaching, whereas the concept of reflective language teaching is addressed at greater length.

There are three (3) key **types of** teachers' conscious **reflective practice** based on time frames:

- reflection-in-action, which occurs during an instructional experience or practice; its intention is to help teachers reshape what the teacher does while doing it;
- reflection-on-action, which occurs after an instructional experience or practice; its intention is to help teachers improve their future teaching practice; and
- reflection-for-action, which involves systematic and evidence-based analysis; its intention is to help teachers improve their own overall teaching effectiveness (Schön 1987; Farrell 2007: 4-6; Chamot and Harris 2019: 217).

In reflection-in-action, the teachers can observe themselves and note the ideas from their current practice that they can later draw on. They react immediately to the event that occurs in a given moment; the reaction is spontaneous but based on previous experiences and (sometimes) routine behaviours. That is why Zeichner and Liston (2011: 45) call it *rapid reflection*. Reflection-on-action enables teachers to raise metacognitive awareness of classroom events with the aim of analysing and interpreting them. For Zeichner and Liston (2011: 45f.) this behaviour is referred to as *review*. If it becomes more systematic and involves collecting data over time, this type of reflection becomes *research*. Reflection-for-action combines the two (2) types of reflection and is aimed at planning future actions as well as revisiting one's beliefs, principles, assumptions, and attitudes underlying actions and teaching routines (Farrell 2007: 4-6). Zeichner and Liston (2011: 45f.) describe another dimension of reflection, namely, *retheorizing* and *reformulating.* They are long-term processes that are informed by academic theories.

As regards the **benefits of reflective teaching**, Farrell (2007: 7) puts forward the following ways in which reflective teaching aids teachers:

- It frees the teacher from routine and impulsive action.
- It helps teachers become more confident in their actions and decisions.
- It provides information for teachers to make informed decisions.
- It helps teachers to critically reflect on all aspects of their work.
- It helps teachers to develop strategies for intervention and change.
- It recognises teachers as professionals.
- It is a cathartic experience for practising (and novice) teachers.

Clearly, reflection is desirable for all educators, so it is hardly surprising that reflective teaching has become a buzzword in various educational settings, and is promoted in teacher education and development programmes all over the world.

Finally, the concept of **reflective language teaching**, which comes from Richards and Lockhart (2013), has attracted worldwide research interest, also in the wake of a press for teachers' empowerment and development as professionals. According to Farrell (2007: 9), reflective language teaching is "a bottom-up approach to teacher professional development that is based on the belief that experienced and novice language teachers can improve their understanding of their own teaching by consciously and systematically reflecting on their teaching experiences". In Bailey and Springer's (2013: 107) words, what constitutes reflective teaching is "critical examination of (…) motivation, thinking, and practice". This examination can be performed by gathering and analysing data resulting

from research a reflective teacher conducts in his or her own classroom. Likewise, Richards and Lockhart (2013: 1) assert that in reflective language teaching, "teachers and student teachers collect data about teaching, examine their attitudes, beliefs, assumptions, and teaching practices, and use the information obtained as a basis for critical reflection about teaching". The data can be collected by self-monitoring, observing students and conducting case studies (Farrell 2007: 9; Richards and Farrell 2008: 7).

Teachers' philosophy of teaching can be explored and developed on the basis of initial knowledge about target language teaching approaches and methods. Besides, self-inquiry and critical questioning of their own practices can aid teachers in increasing their self-awareness, and replacing intuition and routine in teaching with conscious and informed decision-taking. They raise their confidence and strengthen their self-motivation as well. Consequently, teachers may become more independent in their practices. This view is supported by Richards and Rodgers (2011: 251) when they note: "[a]s the teacher gains experience and knowledge, he or she will begin to develop an individual approach or personal method of teaching, one that draws on an established approach or method but that also uniquely reflects the teacher's individual beliefs, values, principles, and experiences". Consequently, reflective teachers can adjust and modify approaches or methods to the realities of their classrooms and, if possible and expedient, modify or change curricula.

It is worth emphasising at this point that writing instructors who become writers themselves become more reflective and, consequently, more effective practitioners (Hyland 2007a: 16). Echoing Emig et al.'s (1983: 141) claim that teachers of writing need to write themselves if they want to help their students learn to write, the Author took on the demanding task of writing a doctoral dissertation in English and conducting research for the benefit of her students and her own professional development. The Author believes that engagement in her personal writing practice for authentic purposes has increased her competence as a writing instructor, so she can transmit the benefits of personal writing routines to her teaching. This extensive practice provides insights that she can share with her students, which, in turn, influences *what* and *how* in her writing instruction. In other words, being a writer leads to increased levels of awareness of the writing processes, writing strategies, and genre- and language-focused issues (e.g. cohesive devices, lexical phrases, sentence structure and punctuation). As a result, she is in a better position to intervene successfully in the writing of her students and provide more informed feedback on their texts. Because she has drawn on her own writing experience, her first-hand reflection on what

works on discursive and non-discursive levels and what should be avoided when composing a text in English may be invaluable to her students. In fact, not only does it extensively inform her students and novices to science writing, but it is also the source of her professional growth by gaining greater confidence as a writer, which, in turn, becomes a source of her empowerment. Also, she is able to make more reasoned decisions about course materials and critically approach current instructional paradigms. In addition, she takes on the role of a partner, co-learner, fellow writer and model provider, which strengthens her authority and credibility as a writing instructor. All these characteristics, according to Półtorak and Gałan (2018: 57), fit into the mould of the umbrella term *innovative teacher* – the concept that is highly valued in modern education.

4.1.2. Teacher autonomy

The study of autonomy in educational settings has been focused on processes that take place between the teacher and learner, and on the interaction between the teacher and the learner. All three (3) foci play a considerable role in language learning, so in this section, the Author turns to these processes.

Teacher autonomy can be viewed from two (2) perspectives. McGrath (2001: 100f.) understands it as control over one's own self-directed professional development and (professional) freedom from external control. The former focuses on raising awareness of what autonomous teaching is, and why, when, where and how it can be achieved in the teaching practice itself. Stress is placed on teachers' capacity to control their learning of teaching as well as the importance of reflection on teacher-learning and on teaching itself. The latter concerns the feeling of powerfulness that the teachers have in their immediate institutions, for example, in selecting course books, developing learning materials, or designing and following their own syllabi. In fact, enhancing self-directed development and enjoying professional freedom are interrelated because the latter often indirectly affects the former.

Apart from teacher autonomy as a professional, there is also learner autonomy – commented on several times in previous chapters – that takes an essential place in contemporary (language) learning. These two (2) kinds of autonomy are interrelated. According to McGrath (2001: 109), "teacher autonomy is a prerequisite for the support of learner autonomy". Likewise, Benson (2001: 117) opines that "[i]n order to allow learners the opportuni-

ty to develop autonomy, teachers must themselves exercise autonomy in relation to their own practice". In a similar vein, Sinclair et al. (2001: 74) rightly claim that the development of learner autonomy is "related to how autonomous teachers are, and to the extent to which teachers are able to explore their own right to autonomy". Clearly, autonomous teachers can facilitate learner autonomy, which is a vital and expected educational goal of modern education.

In order to promote the autonomous behaviours of their learners, teachers should become autonomous learners themselves, for example, by practising self-awareness either as learners of other foreign languages (and thus becoming teacher-learners) or as participants in teacher development courses and programmes (and thus acquiring pedagogical and didactic skills useful in their classroom practice). In addition, they should trust in learners' capacity to act autonomously. In fact, if the teachers have experience promoting learner autonomy in their own education, they are more likely to be successful in fostering autonomy in their own students. However, there are also constraints on the exercise of the autonomy that can be present in a given learning context. Benson (2001: 116) lists the following factors: policy constraints (that determine what language can or cannot be learned in schools), institutional constraints (that determine the content and methods of language learning, for they should be in line with curriculum requirements, examinations, classroom practices, etc.), conceptions of language (that determine what learning a language involves) and language teaching methodologies (that influence the choice of professional assumptions about how languages are learned and how they should be taught).

Undeniably, when teachers engage in learning, they gain valuable insights that inform them on how to best teach their students and professionalise their practices. The Author decided to undertake the challenging task of learning the basics of Mandarin Chinese (taught by native speakers in the Confucius Classroom at BUT) and completing online certified courses in order to become the teacher-learner who draws on this learning experience to gain expertise and upgrade teaching skills. In addition, she has become a certified academic tutor, which may boost her career as a professional[52]. Last but not least, she has

[52] The courses include *Writing in the Sciences* (run by Stanford University, the US), *Simplified Technical English* (conducted by International Telematic University UNINETTUNO, Italy), *Tech Writer Master Class* (run by WordWorx and hosted on udemy.com), and *Developing and Teaching Academic Writing Courses* (administered by the Online Professional English Network Program, financed by the U.S. Department of State and delivered by Iowa State University, the US). The tutor's certificate was issued by Collegium Wratislaviense, Poland.

grown into a more informed teacher of simpler English in academic writing by following quite a few guidelines of Plain English while writing this dissertation. Looking at teacher autonomy from the perspective of freedom from external control, as the syllabus designer and coordinator of the PhD language programme in her institution, the Author can exercise fully professional freedom from any formal requirements or external course content developers, which definitely fosters her overall autonomy. However, this privilege lays full responsibility on her curriculum choices and decisions. That is why becoming a learner who exercises learner autonomy, reflects on the process of learning as well as cascades this reflection on fellow teachers has been of invaluable significance in her professional growth as a learner facilitator, materials writer, syllabus designer and writing instructor.

4.1.3. A rationale for teacher research into target language writing

Alongside reflection and autonomy, an exploratory approach in the teachers' professional development movement exists, overviewed in a substantial body of literature, encouraging teachers to carry their own research into what happens in their classrooms. This is because being a teacher-researcher brings numerous benefits to teachers and their practice in what happens in their classrooms (Crookes 1993; Wells 1994a, 1994b; Brumfit and Mitchell 1995; Ellis 1995, 2010; Bailey 2001; Hyland 2003, 2011b; Nunan 2005; Hopkins 2008; Wilczyńska 2008; Nunan and Bailey 2009; Bell 2010; Dikilitaş and Griffiths 2017; Droździał-Szelest 2018). In fact, undertaking research is part of a general trend towards the development of reflective teaching and innovative competence, which progresses by finding solutions to didactic or pedagogical problems (Farrell 2007: 95; Wilczyńska 2008: 508).

Bailey et al. (2001: 143), for example, encourage teachers to consider conducting research as "an avenue for professional development", for practitioners who, by investigating teaching and learning processes in their classrooms, improve their work as teachers (Bailey 2001: 490). From Hyland's (2003: 245, 2009b: 139f.) perspective, research that the teachers do "stimulates curiosity, validates classroom observations, and helps develop a critical perspective on practice". Therefore, it should be, as he claims, "at the heart of professional development since it helps to transform a personal understanding into informed awareness" (Hyland 2011b: 245f.). Pawlak (2006: 348) approves of such small-scale re-

search when he says: "the utility of pedagogic proposals can only be verified when they are employed not only in a particular broadly-defined instructional setting, but also in a specific classroom with a specific group of students". Dikilitaş and Griffiths (2017: 2) confirm that teacher research is "an important strategy for professional development since it allows teachers to create opportunities for developing awareness and autonomy in teacher development". Clearly, becoming a teacher and researcher undertaking classroom-based research is "increasingly recommended" (Raimes 1991: 423), as it broadens professional horizons.

Even though there are criticisms that research conducted by teachers seems to be less precise and rigorous, thus reducing its usefulness (e.g. Brumfit and Mitchell 1995: 9; Hopkins 2008: 129f.), some scholars disagree with this stance and strongly encourage conducting teacher-based research (e.g. Crookes 1993; Bailey 2001; Ellis 2010). For example, Hopkins (2008: 1) envisions teachers as classroom researchers "who have extended their role to include systematic reflection upon their craft with the aim of improving it". No matter what kind of research teachers do in their classrooms, even if it is not always "problem-driven and change-oriented" (Hyland 2011b: 246) like action research, adopting a critical approach towards their own practice can lead to "meaningful professional development" and significant improvement in the quality of education provided in the classroom (Hopkins 2008: 3, 6). This fits into the mould of innovative teaching, as, together with introducing new and non-standard solutions to the language classroom that bring changes of various kinds, innovative teachers are reflective researchers who analyse, modify, and improve their instructional practices and effectiveness (Hyland and Wong 2013; Droździał-Szelest 2018; Półtorak and Gałan 2018). Integrating the Internet-based course materials supplement in the language instruction aimed at doctoral students at BUT (the MOOC) falls into the notion of innovativeness in modern education too (for details, see Section 4.6.1).

The reason why the Author decided to carry out a classroom-based research project was to validate the advantage of incorporating a writing-oriented component based on Plain English into the English course that she had devised and taught for one semester to PhD students at Bialystok University of Technology in the 2020-2021 academic year. This research heavily draws on the Author's experience as the teacher and developer of the syllabi for all BUT's doctoral programmes (2013-2022) and its Doctoral School (since 2019). As the coordinator of the PhD language programme, she takes total responsibility for the syllabi and organisation of the language programme designed for doctoral students in her institution. As a teacher-researcher, she hoped to receive valid results that would transform her

convictions about the value of syllabus content and classroom methodology into informed awareness. The study findings might also influence curriculum changes. However, the results of the present study can only be preliminary and tentative because of the curricular time constraints of the intervention and the small study sample.

In sum, every teacher needs to realise that developing as a professional is currently the prerequisite for his or her successful teaching career. However, as Drożdział-Szelest (2019: 165) rightly observes, "there is no professional development without autonomy and reflection" because they make the process of becoming a professional more engaging and motivate teachers to take responsibility for it.

The development is deserved but, as Bailey et al. (2001: 246) once rightly asserted, "professional development is not something that just happens: It must be actively pursued". More recently, Drożdział-Szelest (2019: 160) admits that, as a life-long perspective, teacher development "depends, primarily, on one's ability and willingness to develop and change". No one can make the teacher develop unless s/he chooses to do so, hence the Author's engagement in conducting research and writing a doctoral dissertation in English, which were acts of her own initiative. Undeniably, the ability to change and the willingness to develop are facilitated by high motivation. If the motivation is intrinsic, in-service teachers are likely to have strong determination to overcome the difficulties they face throughout their teaching career (e.g. administrative and teaching workload, curriculum constraints, examination requirements, inadequate earnings, stress and health problems).

As for teacher autonomy, it is viewed "not only as a precondition for learner autonomy but as an important element in teacher professionalism" (McGrath 2001: 110). Therefore, even if the teacher is not free from external control, s/he can take full responsibility for expanding his or her own professional horizons.

Lastly, conducting classroom-based research becomes another building block in the teacher's growth as a professional, for it facilitates reflective language teaching by questioning the goals and values that guide his or her work (Farrell 2007: 95). Also, research experience can act as "a springboard to an academic career" (Dikilitaş and Griffiths 2017: 3), which is what some teachers may be interested in apart from being in-service practitioners. Therefore, teachers' research initiatives should be encouraged and supported by their institutions and various stakeholders. By undertaking a small-scale classroom-based study and writing a dissertation in English, the Author wanted to:

- develop a deeper understanding of teaching and learning processes;
- explore her beliefs, principles, assumptions and attitudes that provide the basis for her own teaching practice;
- become more self-critical of her own practices;
- expand her repertoire of teaching methods;
- be empowered by getting the tools that she can use to further impact changes within the profession in which she works;
- make informed decisions when modifying the syllabi of her institution's doctoral language programme;
- develop her research skills useful for classroom enquiry;
- improve her knowledge of the language system; and
- become a better writer and teacher of writing.

What follows below is **Part 2** of the chapter. It provides relevant information on the background to the research project carried out by the Author and the reasons for integrating Plain English into the PhD programme at Bialystok University of Technology. Following that, the empirical study undertaken for the purpose of this dissertation is described in depth.

4.2. Teaching Plain English to doctoral students: the background to the study

As discussed in previous chapters, writing a scientific text that reads well and carries the intended meaning is a demanding task, no matter whether a native or target language is used. From the time of entry into a research programme and research work, early-career academics start communicating scientific information in various forms, and writing becomes an inseparable part of their professional lives. They are obliged to write papers for publication to advance their careers, gain promotion and obtain funding to keep doing research. This is why they need to know how to express themselves clearly and effectively through written texts they submit to English-medium scientific journals. While producing a scientific paper, they need to remember that its function is "to convey logically ordered ideas exactly, concisely, and clearly", as Woodford (1986: 36) once stated. This prerequisite should be fulfilled regardless of the writing tradition of a given discipline, editorial

practice, scientific ethics or publishing procedures (Gastel and Day 2017: 18). Whether Polish PhD students are eligible to skilfully compose scientific texts in English with respect to these prerequisites or not is referred to in the reminder of this section.

As for general writing competences in a native language, all graduating secondary school students in Poland are obliged to take Polish (at least at the basic level) as one of their school-leaving written examinations, so doctoral students – adults with substantial intellectual capabilities – are supposed (or expected) to be competent L1 writers. Nevertheless, when it comes to writing in academic contexts, "there is little recognition among high-school graduates of what distinguishes academic prose from a nonacademic piece of writing in Polish, and still less of what constitutes a well-written academic text" (Warchał 2019: 79). As university students, they are expected to develop and progress as academic writers and critical thinkers by means of extensive self-study and L1 cross-curriculum writing instruction, which they may informally receive from content teachers and thesis supervisors. Zalewski (2011: 6) admits it when he says that "[a]t the tertiary level, academic literacy is expected but never explicitly defined and taught", which means that "[f]urther development of (…) reading and writing abilities (…) is commonly believed to take place spontaneously and in a natural way by learning content in different subject courses in later education". De Chazal (2018: 48) affirms academic skills are not explicitly taught in many universities, no matter the language of instruction, as it is assumed that students either already have this knowledge or they gain it independently. Consequently, as already pointed out in Section 1.4, little literacy instruction is provided in Polish, let alone English, in higher technical education, and students rarely have the opportunity to practise composing academic discourse (which is essential for cultivating their academic literacy[53]) (Zalewski 2011: 11). In the area of academic textual literacy, the Author assumed, however, that PhD students are competent academic writers in their native language. This assumption was based largely on the fact that they hold a Master's degree. In Poland, this degree is conferred on graduates after completing Bachelor's or Engineer's as well as Master's theses, which requires an adequate level of expertise in composing academic texts. Also, some doctoral students have already co-authored articles in scientific journals.

[53] It refers to proficiency in reading and writing about academic issues as well as the ability to analyse, summarise and think critically, to mention but a few.

With regard to TL knowledge, PhD students must demonstrate a significant level of proficiency in the target language, as the National Qualifications Framework for Higher Education requires the B2 *CEFR* level (henceforth B2) in end-of-course language examinations during the first cycle of study. Whether these examinations contain a writing component or not depends on the institution. No external regulations validate this aspect. Since 2020, the intake in the Doctoral School at BUT has become selective as regards the level of language proficiency, and PhD students should have at least a B1 *CEFR* (henceforth B1) level of English to be eligible to enrol in the doctoral programme. Most of them have a better command of English, though (B2-C1). It means they are independent enough as language learners to pursue their own educational goals autonomously outside the classroom through self-study. As for writing skills, it also means they should be able to "produce straightforward connected texts on a range of familiar subjects within their field of interest, by linking a series of shorter discrete elements into a linear sequence" (at the B1 level); "produce clear, detailed texts on a variety of subjects related to their field of interest, synthesising and evaluating information and arguments from a number of sources" (at the B2 level); and "produce clear, well-structured texts of complex subjects, underlining the relevant salient issues, expanding and supporting points of view at some length with subsidiary points, reasons and relevant examples, and rounding off with an appropriate conclusion" as well as "employ the structure and conventions of a variety of genres, varying the tone, style and register according to addressee, text type and theme" (at C1 *CEFR* [henceforth C1] level) (Council of Europe 2020: 66). Basing on this, it can be inferred that junior researchers are already familiar with an extensive range of language features on lexical, syntactical and textual levels, and can use them competently for communicative purposes in various contexts. Considering the above, the Author assumed that doctoral students at the B2 level are capable of meeting writing standards when composing in English.

The idea to integrate Plain English into the writing activities of the language instruction in the Doctoral School at BUT was drawn from the Author's experience in revising and editing the students' texts, mainly abstracts, full journal articles and presentation slides. It became clear that junior writers in the sciences do not know, in general, how to express their research results concisely and unambiguously in English. In fact, numerous students have the same problem when they compose written texts in Polish (p.c.). While writing in English, they often approve of unnecessary lexical and syntactic density that arises in the words, phrases or clauses they produce. One of the justifiable reasons is that sophisticated

words and a complex internal structure of sentences, not economy and clarity of expression, are traditionally recommended and greatly valued in formal writing, especially at higher levels of language learning (as already indicated in Sections 2.4.1-2.4.2). If this recommendation is followed by novice research writers, what they produce is often wordy and vague. However, according to Yang (2006: v), researchers who wish to reach a wide readership must write lucidly in a well-organised manner. That is why all scientists, from beginners to seniors, should be provided with language development that broadens their language knowledge and, consequently, through extensive practice in the classroom and out of it, fosters their writing skills aimed at composing clear, effective, and readable texts. The Author, who had the authority to devise a syllabus for PhD students, developed the language programme based on teacher-generated materials that incorporated the features of Plain English into the teaching of scientific written discourse. It was integrated into regular classes taught to PhD students of various engineering disciplines at Bialystok University of Technology in the 2020-2021 academic year. An opportunity to reflect on the consequences of her didactic actions ran parallel with recent changes in Polish tertiary-level education.

The introduction of the 2018 Law on Higher Education and Science (LoHES), called Law 2.0 and also the Constitution of Science (*Ustawa z dnia 20 lipca 2018 r. – Prawo o szkolnictwie wyższym i nauce, Dziennik Ustaw 2018 poz. 1668 z poźn. zm.* – Act of 20 July 2018, The Law on Higher Education and Science; Journal of Law of 2018, Item 1668 with later changes) has reshaped doctoral education in Poland. Doctoral programmes run by university faculties were replaced by doctoral schools in particular disciplines run by universities as well as research and educational institutions. The Author' home institution (Bialystok University of Technology) started implementing the provisions of the LoHES on 1st October 2019. In the academic year 2019/2020, heterogeneous (as regards the level of English language proficiency) grouping of PhD students with a varied number of mandatory (8 h-56 h) and optional (4 h-12 h) hours of English classes spread over 2-5 semesters in four (4) faculty-run doctoral programmes was replaced by homogenous grouping of PhD students from different disciplines with a predetermined number of mandatory hours (95 h) spread over seven (7) semesters in one multi-disciplinary Doctoral School. In the academic year 2021/2022, extensive and highly desirable changes were introduced to the Doctoral School at BUT regarding, for example, intake procedures, types of classes, assessment, and the number of instructional hours in the English course (it increased from 95 h to 160 h spread over eight semesters). Therefore, re-establishing to what extent the content matter of

the English course takes care of the needs of student researchers and what requires modifications coincided with the Author's keen interest in promoting the use of Plain English in scientific discourse, both spoken and written. Because PE seems to be unknown for most teachers of English, let alone students (p.c.), the Author decided to fill up the gap and actively support this form of expression during regular classes in the Doctoral School, language courses for BUT's students and academia as well as presentations at conferences and university science festivals. She is convinced that understanding what plain language is and how it can influence the quality of spoken and written utterances is worth sharing.

The sections that follow give a deeper insight into the rationale for choosing Plain English as a vital component of the language programme designed to meet the needs of student-scholars. They also explain why PhD students should be acquainted with PE if they want to successfully demonstrate their competence and performance as users of *correct scientific English*.

4.2.1. Teaching scientific writing to doctoral students: meeting student needs

Since the need to publish research results in English-medium journals starts at the very beginning of the research programme, the Author has translated this need into writing-oriented language support that takes priority in language education at the BUT's Doctoral School. In other words, her goal is to help junior scholars and novice research writers improve their command of English and ability to effectively communicate scientific information through writing. Beyond doubt, machine translation and paid translation services offered by English-medium scientific journals as well as writing-support technology, e.g. spelling and grammar checkers or AWCF tools, can be conducive to scientists' development as professionals. Nevertheless, being a part of the global scientific community and not being able to contribute to it in a self-standing way is often considered by quite a few academics a serious drawback in pursuing science as a career (p.c.).

Not many teachers of English based in Polish third-level institutions may realise that a scholarly text written in Polish is often developed by accommodating a variety of digressions, reformulations, elaborations or amplifications that raise the level of redundancy in the formal written discourse. As already pointed out in Sections 2.4.1. and 3.3.1.4, this style results from following a Teutonic tradition in scientific writing. According to

Duszak (1995: 64), the difficulty of the text written in this way is an attribute of its *scientificness* and should not be changed. Consequently, structural complexity (e.g. a large number of nominalisations, hypotactic constructions, agentless passives and informationally overloaded sentences) is sanctioned, and scientific communities often expect their young adepts to follow these generally acknowledged norms of writing (p.c.). Even if, for example, Młyniec and Ufnalska (2003: 13-21), Wytrębowicz (2009: 4f.), Stępień (2020: 17-40), and Siuda and Wasylczyk (2021: 63f.) advocate a different scientific style for Polish scientists, traditional patterns are often (thought to be) expected by discourse communities and thus dutifully followed by novices to scientific writing. If junior researchers copy traditional Polish writing conventions in their texts written in English (which follows the so-called Saxon scientific style), what they get is prose that is far from what gatekeepers of scientific English-medium journals expect and accept, especially if the way English is handled creates ambiguity in conveying the subject matter. This may happen, as PhD students are rarely (if at all) specifically instructed or guided on how to produce scientific prose in their native language and in English, let alone identify the differences between the scientific styles typical of these languages. Rather, they are often self-taught imitators of the styles of the Polish and English authors before them, with all their virtues and defects.

Following a writing style that NNES novice research writers find in scientific literature written in English may be helpful, on condition that the texts they read and take as models are well written, which is sometimes an erroneous assumption (Woodford 1986: v; Wells 2004: 757; Greene 2013: 1-3; Johnson 2016: 51). Back in the 1960s, Orwell (1963: 325) claimed that bad writing habits are spread by imitation. Sword (2012: 24) still agrees with his opinion when she says that learning to write by imitation may result in copying "jargon-ridden, shoddily-organized, sloppily argued, and syntactically imprecise prose", so Zinsser's (2006: 34) recommendation to "cultivate the best models" is by all means valid. However, TL writers may be unaware of what models are worth cultivating. Therefore, the primary aim of the writing-oriented course designed and taught by the Author in the PhD language classroom at BUT is not to expand, for example, a range of specialist vocabulary typical of a particular discipline because junior researchers usually get acquainted with the terminology of their subject matter in the course of their PhD programme. Rather, her aim is to familiarise her students with the language-focused guidelines of Plain English and sensitise them to the benefits of a simpler style in academic discourse. Convinced by Kirkman (2001: 138) who contends that "[f]or expert readers (…), it is not usually the special

terminology in English that causes trouble", but "the 'ordinary' language in between", she believes the complexity of the specialist subject matter can be expressed effectively in scientific texts if the *ordinary language in between* is adequately attended to.

In order to find out how to use *ordinary language* to express meanings clearly and effectively, and to find teaching materials for her course, the Author analysed what various manuals of style propose for scientific discourse. In essentials, on a discursive level, they all favour plain language. However, they are guides to a simple scientific style (or rather, intelligible scientific prose) rather than textbooks with practical activities. Consequently, their readers get a vast number of guidelines (and examples) on how to do scientific writing but a limited opportunity to experience putting theory into practice. Because there are no regular course books that address the needs of non-native authors who wish to learn to write in simpler English for international audiences, the Author prepared her own materials. Her practice activities tailored for Polish doctoral students of various engineering disciplines redress a deficit in this area. What deserves a special mention at this point is that an exception to the lack of teaching materials about applying Plain English in ESP is a course book for doctors and medical scientists that objects to *medicus incomprehensibilis*, i.e. long sentences, passive voice and polysyllabic words, and instructs how to write about medical sciences in a clear and vivid way[54].

Bearing in mind that "it is (…) the job of EAP teachers to position language – in its broadest sense – at the heart of teaching and learning environment" (de Chazal 2018: 84), the Author faced the challenge of selecting and presenting the language to be learned. The course the Author designed for research students at BUT is based on the main language-focused guidelines of Plain English. This content matter represented "E-factor criteria" (Thornbury 2008: 26), that is, the economy of presenting language issues, ease of preparing materials and efficacy of reaching the goal. The last factor, according to Thornbury (2008: 26), is related to the students' interest in the presented material, their understanding and memorisation of it as well as their motivation to attend to it. Also, the features of the plain style discussed in the classroom seemed to address the students' needs, expectations and level of language proficiency. Last but not least, what guided the Author in the selection of discursive aspects for the course with writing development was the criterion of facility and its principles, i.e. brevity of lexical items, their clear meaning and the low learning load.

[54] Linares, Oscar, David T. Daly and Gertrude A. Daly. 2017. *Plain English for doctors and other medical scientists.* Oxford: Oxford University Press.

All in all, choosing Plain English as a component of the language programme aimed at research students seemed by all means rational. The section that follows explains this rationale in greater detail.

4.2.2. Reasons for teaching Plain English to doctoral students

There are quite a few style guides available on the market, not to mention online tools for translating texts or correcting English language errors in written texts that direct scholars towards publishable writing (e.g. CorrectGrammar, DeepL, Editor, Ginger, Google Translate, Grammatik, Grammarly, Grammar Suggestions, PaperPol, ProWritingAid, Research Writing Tutor, RightWriter, QuillBot, SciFlow, Wordtune, Writefull, Writing Mentor). The question arises whether novice research writers can reliably resort to style guides, machine translation or corrective feedback tools before submitting their manuscripts to scientific journals. This issue is briefly commented on below.

As for the manuals of style, after analysing one hundred advanced academic style guides published in the years 2000-2010, Sword (2012: 25-27) confirmed they offer inconsistent or conflicting recommendations related to stylish writing. Only six (6) specific techniques associated with the style in academic discourse were unanimous:

- necessity to produce clear, concise and coherent sentences;
- keeping the sentences short and simple, and varying the text's rhythm by alternating longer sentences with shorter ones;
- avoiding ornate, Latinate vocabulary;
- avoiding vagueness and imprecision;
- favouring the active voice; and
- creating story-like prose[55].

All but the last one are included in the guidelines of Plain English that the Author discusses and practises with her students (see Table 6, p. 83 and Appendix B, p. 369). Consequently, early-career researchers follow recommendations that are commonly approved of. Imple-

[55] For Siuda and Wasylczyk (2021: 30), if a scientific article "tells a good story", it means it is well written and easy to understand.

menting them leads to polishing the scientific style the author uses and establishing "comfortable communication" between the writer and reader by removing "impediments to the transfer of ideas" (Woodford 1986: 5, 35). The recommendations seem to cover the *correct scientific English* that is expected by the editorial staff of international English-medium scientific journals. Gastel and Day (2017: xvi) note that the requirements of journals vary from discipline to discipline and even within the same discipline, so there are no universally accepted recommendations. The main guidelines of PE described in detail in this dissertation (Appendix B, p. 369) are likely to be approved by all disciplines. Interestingly, what the writing guides analysed by Sword (2102: 26f.) do not agree on, for example, is using first-person pronouns, disciplinary jargon and figurative language or non-standard structures as well as employing the author's personal voice and giving texts strictly informative or playful, headline-like titles.

As for machine translation and AWCF tools, they are developing rapidly, but, according to Biel in 2021, they are not yet fully reliable. She lists frequent mistakes in machine translation. These are, for example, the lack of word agreement, inaccurate verb forms, faulty sentence structure and punctuation. The translated texts are incohesive and lexically inconsistent. The register is too formal or too informal. The message can be imprecisely conveyed by including or excluding a text fragment, and skewing the meaning (Biel 2021: 25). The Author has noticed that DeepL confuses the terms like *incoherent* and *incohesive*, or *learning* and *acquisition*. However, her colleague, an experienced NES teacher and proofreader of scientific texts believes that QuillBot is capable of generating useful alternatives in realistic scenarios and can be trusted at an academic level. Nonetheless, novices need to know what to accept and what to change when using technology to support their writing. This is also because the tools often offer different options. Even if, in scholarly writing, the key is the academic concept and message of the research, and the style and even mistake frequency are believed to come second to the science (p.c.), discussing language-related issues in the writing classroom seems necessary. All above considered, it seems reasonable to introduce PhD students to a simple writing style embedded in Plain English because the language it recommends is what *good writing* in English encompasses. A brief note on using generative artificial intelligence (AI) and AI-assisted technologies in academic writing concludes Section 5.3.2.

Because plain language facilitates composing academic texts with concisely and clearly expressed concepts, and logically ordered thoughts, choosing it as a key component of doctoral language education at BUT seems justified for the following reasons:

- Plain English embodies what *correct scientific English* is, so it is a suitable form of expression in English for research writing and publication purposes; it is what editors, reviewers and readers particularly value and expect of journal articles.
- Plain English favours simplicity on lexical, sentential and textual levels; that is why it is perceived as a more approachable form of written discourse by novices to science writing who do not often feel competent enough to produce scientific texts in English.
- Plain English can be used in scientific, technical, business, legal and medical writing; its guidelines are recognised in various text types and fields, which makes it a reliable tool of information and knowledge transfer within and across genres and disciplines.
- Plain English is an attractive form of expression for both native and non-native speakers of English because academic writers highly value effectiveness and clarity in scientific texts, regardless of language proficiency and mother tongue.
- Plain English covers language-focused features that are neither too difficult for most doctoral students to integrate into their writing nor too abstract to find them inapplicable or useless in scientific texts.
- Plain English facilitates the independent and autonomous behaviours of novice writers, and the language-based concepts it advocates are within the developmental ability of the doctoral students, which allows them to make self-reliant yet informed decisions about composing and editing their written utterances.

Firstly, the Author is convinced that a simple language can become an adequate **tool for** the efficient **transfer of specialist knowledge** in English-medium scientific journals. Plain English is, after all, not the English reduced to the lowest denominator with one-syllable words and short sentences. Favouring plainness in scholarly texts does not exclude using specialist terminology that is essential to convey precise meaning in highly specialised written communication. Rather, it is a form of simplified linguistic expression that encompasses what scientific writing favours and what is proposed in various manuals of style for NES and NNES authors (e.g. Barrass 1978, 2005; Day 1992, 1998; Alley 1996, 2018; Goldbort 2006; Yang 2006; Greene 2013; Wallwork 2016; Gastel and Day 2017;

EASE 2018; Mack 2018; Wallwork and Southern 2020). As a result, it enables junior researchers and novices to scientific writing, who strive for effective transfer of their ideas in writing, to adequately address a specialised matter by putting their thoughts and opinions into readable texts. Although each type of academic writing belongs to a separate genre, they all can integrate the language-oriented guidelines that Plain English endorses. At the same time, the principles of PE offer unanimous advice on a number of points of style, whereas writing guides often put forward conflicting recommendations, for example, about first-person pronoun usage or non-standard sentence structure (Sword 2012: 9). Also, knowledge of Plain English and the ability to apply it expand an area of competence and performance in the field of technical writing, which to a great extent draws on simpler English.

Secondly, the Author's aim in her PE-oriented teaching practice is to encourage PhD students to **compose scientific texts directly in English**. As interviews have confirmed, it is not a standard procedure that junior researchers follow. They often compose in Polish first and then translate the whole text into English, usually with the aid of AWCF tools. They explain that the cognitive load in the process of composing is too high to combine both the conceptual issues and language issues. That is why plenty of students prefer to write in L1 because they can develop thoughts more profoundly and select the intended meaning more deliberately (Leki 1992: 78; p.c.). Although generating ideas and putting them into words in L1, and then translating the text into the TL is not necessarily affected by negative transfer (Leki 1992: 80f.), the Author tries to convince research students that composing in the target language, with the guidelines of Plain English in mind, can be approachable for them as writers. Its application in journal articles strips the scientific discourse, which is often viewed as very sophisticated and hard to learn, of unnecessary lexical and syntactic complexity and thus makes overall writing in *ordinary language* easier. It also helps them avoid awkward expressions, commonly used by Polish scholars who write in English, which unnecessarily lengthen a sentence (e.g. *allows to measure* instead of *measures*) (Siuda and Wasylczyk 2021: 68-73).

Another reason for choosing the guidelines of Plain English as an essential component of the English course in the BUT's Doctoral School is its **discipline-free character**. Manuscripts written in different disciplines follow varying organisational patterns and discipline-specific writing conventions because each discipline has its own discourse culture and expectations of its practitioners (Raimes 2004: 268). In a multi-disciplinary group of

junior researchers taught by a language teacher, not a content instructor and an established scholar, teaching these patterns and conventions may be difficult. Since a number of PE guidelines relate to language knowledge and coincide, regardless of the discipline, with what *correct scientific English* is, integrating them into writing activities in the language classroom seems rational. Their employment can contribute to improving the quality of diverse types of scientific writing in many ways. Because problems with writing research papers, grant or fellowship proposals, or reports are common to various disciplines and at various levels, the Author assumes that Plain English guidelines can be discussed and practised not only in a scientific or technical context but also in a legal, business and medical English writing class developed by ESP teachers for both young researchers and established scientists.

Next, Plain English is a perfect choice to tailor instruction beneficial to **multilingual groups** with varying levels of language proficiency and scientific disciplines, which are becoming more and more popular due to the growing internationalisation of Polish universities. The Author believes it can be widely used to teach learners with different L1s who need English for academic writing purposes, mostly diploma theses. Following PE suggestions can contribute, in the long run, to the growth of the overall quality of the texts written by any student. The Author has taught the guidelines of Plain English to 2nd degree students from Algeria, Azerbaijan, Bhutan, China, Egypt, Ethiopia, India, Kirgizstan, Pakistan, Poland, Slovenia, Tunisia and Turkey. The PhD students (and participants of the present study) who learned how to use simpler English in scientific texts for publication purposes were Poles only.

As discussed in earlier sections of the dissertation, language instruction focusing on the surface structures of the written discourse may be necessary to provide students with a **higher level of language competence and performance** (Hinkel and Fotos 2008a: 5). Grammatical competence is definitely needed to successfully transfer information, especially if this information is specialised, and writing accurately is important for many students (Hyland 2011b: 32; Larsen-Freeman 2014: 269). Since "the most effective instruction builds on what students already know" (Celce-Murcia and Larsen-Freeman 1999: 10), establishing language-focused instruction based on the selected guidelines of Plain English seemed reasonable. In the interviews, the study participants confirmed they were developmentally ready to learn what had been offered in the course because most language-related issues discussed in the classroom – and typical of simple English – were not conceptually

new for them. This made the integration of language knowledge and writing more successful (Frodesen and Holten 2011: 142). Nevertheless, the teacher spiralled the syllabus (i.e. returned to the known language issues throughout the course and expanded them) (Larsen-Freeman 2007: 39). The targeted features were revisited and reinforced, which helped the learners at various stages of development integrate them into their implicit knowledge. This is what, for instance, Pawlak (2006: 479f.) advocates: teaching a grammatical feature should not be carried out in one teaching unit. Rather, learners should be provided with multiple opportunities to process the feature so that its form, use and meaning can be attended to in various comprehension and production contexts. The Author reminds her students to apply language-focused aspects of simpler English to their utterances throughout the language programme.

Finally, acquainting doctoral students with items selected from the guidelines of Plain English does not only involve directing their attention to how a particular language concept is structured, what it means and how it can be used, but it also involves making them aware why they should use one form rather than the other if both forms carry the same meaning. It gives the students greater **control over the word-level and sentence-level structures** used in the written texts so that they can make more informed and self-reliant choices while producing their own written utterances. Consequently, they develop the linguistic resources they need to communicate effectively in a wide range of writing tasks (e.g. professional correspondence, research writing, technical communication). Using language features rooted in the guidelines of Plain English to frame thoughts by choosing appropriate words and composing well-structured sentences is essential to independently produce more *writeable* and readable written texts. It needs repeating that stylistic problems in written discourse are rhetorically based, whereas grammar errors are rule-based. However, analysing style problems often initiates a wide-ranging discussion about errors in grammar, which makes the instruction highly language-oriented, leaving less time for non-linguistic aspects of writing. Nevertheless, if language concepts are the focal course objective, both rule-based and rhetorically-based areas can find their place in the classroom with writing development. All in all, simplified English can become a powerful tool that helps authors communicate more successfully through writing in a TL, even though they may not demonstrate a very high level of target language proficiency. It may also assist a novice writer in gaining autonomy as a writer (prioritised in a modern language classroom with

writing development) and successfully pursuing his or her writing goals outside the classroom and after completing institutional instruction (Drożdział-Szelest 2004: 31).

What deserves a special mention is the fact that the items selected for the language programme in the Doctoral School bore no (intentional) relation to formal and functional complexity, or similarity to Polish. Rather, they followed a *from-the-word-to-the-text* approach, as working with increasingly longer stretches of the text, the Author believed, brought the language use and usage under more effective control. They became tools in scaffolding the writing development of novices to writing in the sciences. Along with Plain English, the classroom instruction included some "firsts" (Wlodkowski 2008: 73) (e.g. using monolingual and collocations dictionaries, and an editing checklist), which attracted the learners' genuine interest and increased their motivation. Also, despite students' different expectations of language development in the PhD programme, as well as a variety of their learning experiences and prior knowledge, the language-focused concepts encompassed by Plain English were perceived as interesting, relatable and useful.

As the above discussion demonstrates, the Author decided to include Plain English in the language instruction of the Doctoral School because she believes that integrating a simpler writing style is a vital step towards efficient scientific communication. It enhances conciseness and precision in expressing meanings, which, in turn, positively affects the effectiveness, clarity and readability of the written texts. It also proves that grammar, discussed among other language issues, is not necessarily "a pain" [męczarnia], as one of the study subjects called it, but a component of the language knowledge that is essential in academic writing. Junior researchers at BUT are still learners who need support in their English language learning. This need goes in line with the Author's knowledge and professional interests, her philosophy of teaching and the practical constraints of local teaching and learning contexts.

In closing, although grammar is "only one small part of the skill of writing" (Brookes and Grundy 1991: 53), and language is only a "starting point" (Zalewski 2011: 11) in literacy pedagogy, it is the teaching of language knowledge that many NNES doctoral students outside English-medium educational institutions often point to as essential in the teaching of academic writing when their needs are discussed. Because they have to write a PhD dissertation (in Polish or English) and are expected to produce publishable journal articles (in Polish and/or English) during their research programme, they are aware that good writing

skills are not only highly valued but also truly deserved. The Author recognises that not all types of language features are useful in teaching TL writing, especially on a tertiary level, and that there are many learner variables, linguistic variables and situational variables that determine their choice. Being aware of these variables, she has decided to select the language-based features of Plain English that, in her view, deserved her students' attention and seemed reasonably practical in the local academic context. The study participants confirmed in Interview 1 that they had enjoyed the intervention due to the challenging and inspiring language-focused content. They were satisfied to discuss the ideas they had never discussed in their previous language learning experience (see Sections 5.1-5.2 and Appendix D, p. 403).

4.3. Aims of the study

The primary aim of this research project was to investigate integrating selected language-related guidelines of Plain English into the language programme designed to meet the needs of doctoral students, who are novices to writing in the sciences, and to answer the question of whether they could benefit from this integration. More specifically, the study sought to determine whether the teaching of simple English meets the expectations of research students, is relevant to their academic and professional needs, empowers them as science writers, and constitutes an adequate content matter of the English course in the doctoral programme at a technical university. Last but not least, the Author was interested in whether incorporating Plain English into writing activities could contribute to a better quality of written production that was sustained over time. The research concept had been inspired by the Author's observation that NNES junior researchers from different engineering disciplines often had problems relaying a variety of specialised concepts in English in a clear, effective and readable way. As a result, the Author designed an intervention that incorporated Plain English into writing-oriented language development.

The secondary aim of the study was to address the issues that the Author perceived as relevant to the practice of teaching English in her own classroom. First, she wished to examine her own beliefs, principles and assumptions about the writing gains that resulted from teaching selected guidelines of Plain English to doctoral students. Second, rather than relying on her own preconceptions, she wished to reflect on the effectiveness of her meth-

ods and find out whether these methods facilitated the development of doctoral students' writing skills and what could be improved. Third, the study provided an insight into the usefulness of the teaching materials the Author had developed for her students. All in all, not only did she get an ideal opportunity to ponder how to help her student writers progress in their writing, and become independent writers and editors of their own academic texts, but also to empower her as a professional.

4.4. Conceptual framework of the study

As Hyland (2011b: 249-252) and Denscombe (2021: 17f.) note, a researcher must take into account a research strategy (or a plan of actions designed to achieve specific research goals) that is suitable, feasible and ethical. Firstly, the strategy must produce data that answer research questions. Secondly, it must enable the researcher to gain access to the required data sources and collect them within specified time constraints. Lastly, the choice of the research strategy must be determined by its ethics. That is to say, participants should make an informed and voluntary decision about participating in the study, they should remain anonymous, and the data should be treated as confidential. Also, researchers must operate within the law, and must be honest and open in their dealings with study subjects. As the Author's aim was to help her students upgrade their writing skills in ERPP, the participants were definitely not used as "research fodder" (Silverman 2013: 88). She provided strict ethical standards by assuring the students freedom to decline their participation at any stage of the study; no participant was punished due to any unexpected disruptions in the study timetable (e.g. delays in submitting post-tests). That is why the students had strong motivation to complete the course, were willing to invest their time and effort in class activities, and performed to the best of their ability throughout the intervention.

To maximise its effectiveness, classroom research conducted by teachers should adhere to the following principles:

- A research method should not interfere with or disrupt the teacher's primary job, i.e. teaching.
- Methods of data gathering must not be too time-consuming for the teacher.
- The methodology employed must be applicable to the teacher's classroom situation.

- The teacher should be committed to the project (Hopkins 2008: 59f.).

All these principles were applied in the present study in the following ways:

- The researcher was the study participants' regular teacher, and the content of the intervention was part of the syllabus in the PhD language programme at BUT.
- Questionnaires were administered, and the intervention took place during regular class meetings; online interviews were convenient and less time-consuming for both the researcher and the subjects than those conducted offline.
- The methodology was in line with other research into TL writing and included data elicitation tools that were easy to access.
- The researcher was highly motivated and committed to the project, as she enjoyed teaching the content she had chosen and generated for PhD students; the intervention included a didactic tool she had developed and co-produced for navoica.pl, a Polish online educational platform.

As for research methodology, one of the methodologies a researcher can consider while investigating writing is a case study or, if possible, a **multiple-case study**. The case study is an approach that provides "an opportunity for one aspect of a problem to be studied in some depth" (Bell 2010: 8). Hyland (2011b: 253, 263) defines the case study in a different way. For him, it is "a collection of techniques capturing the experience of participants in a situation" or a technique providing "a rich and vivid description of real people acting in real situations". Similarly, Yin (2014: 16, 267) describes the case study as "an empirical inquiry that investigates a contemporary phenomenon (…) in depth within its real-world context". Hyland (2016) confirms that case studies are a popular approach with TL writing researchers (e.g. Zamel 1983; Cohen and Cavalcanti 1996; Flowerdew 1999), especially those who are teachers exploring their own classrooms. The case study approach is suitable for small-scale research, makes use of naturally occurring settings and facilitates the use of multiple methods (Denscombe 2021: 94, 96); hence, the Author decided to choose the case study research for her empirical investigation.

Because multi-case study research has considerable advantages over single-case research, the Author decided to examine multiple cases or entities (i.e. individual participants). The validity of implementing this strategy was confirmed by Saldanha and O'Brien

(2014: 212) who state that "[d]ata from several similar cases can help us present cumulative evidence about a single phenomenon". Also, Yin (2014: 64) recommends multi-case designs, noting that "the analytic benefits from having two (or more) cases may be substantial". The Author made cross-case and within-case comparisons, described in depth in Sections 5.1 and 5.2, respectively. She used the same data collection tools and analysis methods for all study participants, which lent credibility to the research results (Saldanha and O'Brien 2014: 35). In addition, because temporal, social and spatial boundaries need to be established to delimit the cases (Saldanha and O'Brien 2014: 215f.), in the present study, the Author conducted a 6-week intervention intended for 13 Polish research students from the Doctoral School at Bialystok University of Technology. The Author took advantage of the **qualitative research methodology** and used multiple sources of evidence: questionnaires, interviews and writing samples, as she found them appropriate for the task. A brief description of these data collection tools is given below.

Firstly, the Author designed a 35-item **questionnaire** with quantitative and qualitative items (Is). It helped collect information about subjects' characteristics as well as beliefs and facts about their writing. Because a group of study participants was too small to be representative of typical quantitative research, the questionnaire was analysed quantitatively only to be later explored in qualitative ways to reveal some tendencies within this particular group of students. Also, it acted as a useful precursor to Interview 1.

Next, the Author held one-to-one **semi-structured interviews** so that the participants had a chance to discuss core questions and various issues related to these questions at length. They also clarified and expanded some items from the questionnaire. The interviews resembled guided conversations rather than rigid queries (Yin 2014: 110). The interview transcripts are not included in the dissertation, but the respondents' utterances are widely quoted in Sections 5.1-5.2.

Finally, **text data** collected from the respondents were supposed to offer a deep insight into their writing skills and language choices before and after the intervention when composing scientific texts. In the present study, the students composed two (2) writing samples that were analysed and evaluated by the Author and two (2) independent NES raters (Rs) according to the selected guidelines of Plain English (discussed and practised during the intervention). The Author is aware, however, that the validity of the text data is "more complex and difficult to show psychometrically in a single small-case study" (Polio 2001: 94). That is why the results of the study, due to the curricular time constraints of the

intervention and a small convenience sample, should be only tentative, and its findings should be treated as explorative. Undeniably, a longitudinal, large-scale study with more precise data-gathering tools for text evaluation might bring more concluding research findings. This idea is further elaborated on in Section 5.3.1.

In sum, the Author employed a study design in which 13 PhD students at Bialystok University of Technology became the subjects of the didactic intervention in order to answer the study's research questions. She used the questionnaires, interviews and writing samples to carry out a cross-case analysis and within-case analyses because using "methodological triangulation" (Dörnyei 2019: 42) or multiple data-gathering procedures helped avoid validity threats resulting from possible subjective factors in the interpretation of research results (Hyland 2011b: 252, 2016a; Creswell 2014: 43; Yin 2014: 119-123; Seliger and Shohamy 2015: 123). Also, the triangulation of data was an optimal solution to potential researcher biases and weaknesses of one research instrument. Lastly, it enabled the researcher to approach research questions from different angles. The collected data were subjected to qualitative analyses (see Sections 5.1-5.2).

4.5. Research questions

The study addresses four (4) research questions (RQs) that are relevant to the research method selected for the present study (Yin 2014: 9-11). They are as follows:

- **Research Question 1**: How do the participants perceive the role of Plain English in writing for research publication purposes following the intervention?
- **Research Question 2**: Do the participants find language knowledge essential in writing for the sciences? If so, why?
- **Research Question 3**: Do the participants find Plain English a legitimate component of an English classroom in the doctoral programme? If so, why?
- **Research Question 4**: How will the participants' writing performance improve following the intervention?

With a view to answering the research questions, a total of nine (9) hypotheses (Hs) were formulated. The hypotheses operationalising the RQs were as follows:

- **Hypothesis 1**: Plain English is an effective tool for information transfer in writing for research publication purposes in engineering disciplines. (RQ1)
- **Hypothesis 2**: Written texts in engineering disciplines are clearer and more comprehensible for expert and non-expert readers when Plain English is employed. (RQ1)
- **Hypothesis 3**: The use of Plain English builds up the confidence of junior researchers as novices to scientific writing in English. (RQ1)
- **Hypothesis 4**: Language knowledge is indispensable to novice writers in the sciences. (RQ2)
- **Hypothesis 5**: Language knowledge enables research students to become more independent writers and editors of their own texts. (RQ2)
- **Hypothesis 6**: Language instruction based on the guidelines of Plain English meets the learning needs of PhD students at a technical university. (RQ3)
- **Hypothesis 7**: The knowledge of Plain English raises research students' awareness of what *correct scientific English* is. (RQ3)
- **Hypothesis 8**: The use of Plain English brings long-term gains to the writing of doctoral students in a Polish tertiary-level technical institution that can be sustained over time. (RQ4)
- **Hypothesis 9**: The use of language-focused guidelines of Plain English results in more effective, clearer and more readable written texts produced by doctoral students. (RQ4)

The study results will have implications for TL writing instruction in doctoral programmes in Poland. Such instruction will be conducive to upgrading the writing proficiency of TL student researchers, and it will also enable teachers of PhD students to make informed choices about the components of the language programme they have the authority to develop or modify. A more extensive list of potential stakeholders is provided in Section 5.3.2.

4.6. The didactic intervention: instructional tools

At the university level, there is considerable freedom in formulating the aims of a language course as well as selecting methods of work and teaching materials. Teachers of English are not bound by ministry guidelines such as the Core Curriculum. They are free to create their own detailed curricula that do not have to be approved by the ministry. For that reason, there are no specific curriculum objectives determined at the level of Bialystok University of Technology and imposed on language teachers in its Foreign Language Centre (FLC). Hence, the Author decided to use in her classroom the materials that she had produced for her students. The course content was selected by the Author because, as her first-hand experience indicates, the language needs of doctoral students from various engineering disciplines are usually multifold and often hard to reconcile. It was more sensible to take a one-person decision, at least initially, on course materials and mode of work, given a small number of classes, and a wide range of needs and expectations.

Because students have different stylistic and strategic preferences, the instructional methodology teachers employ to meet the needs of all the students in their class should be broad enough. Therefore, in order to integrate Plain English into writing activities in the PhD language programme at BUT and answer the research questions addressed in the present study, the Author designed a didactic intervention that consisted of the self-paced **massive open online course** (MOOC) that the students did outside the classroom and six (6) **90-minute online sessions** on the Microsoft Teams (henceforth MS Teams) collaboration platform that took place once a week during regularly scheduled English lessons. In Semester 1 of the Doctoral School at BUT, there were seven (7) 90-minute sessions and one (1) 45-minute session. The sessions were necessarily conducted only in the virtual environment because of the COVID-19 lockdown and university closure in the 2020-2021 academic year.

At the beginning of the intervention, the Author briefly overviewed the notion of the plain language, plainness in English, the characteristics of *correct scientific English*, and exemplified how Plan English can be realised in scientific and technical writing.

The sections below give insights into the instructional tools: the asynchronic MOOC (Section 4.6.1) and the synchronic online weekly sessions (Section 4.6.2).

4.6.1. The MOOC

To maximise the effectiveness and attractiveness of classroom practice as well as to usefully extend learning time and space beyond the constraints of the classroom, the Author adopted an innovative teaching tool – an online course she had designed and co-produced in 2019-2020 for navoica.pl, a Polish online educational platform. Because Internet-assisted teaching is "naturally conducive to the development of learner autonomy" (Krajka 2007: 17), and MOOCs can substantially support individual learning, the Author decided to integrate this form of instruction into her classroom.

The first Polish MOOC platform was initiated by the Ministry of Science and Higher Education in 2018, developed by the National Information Processing Institute and supported, until July 2020, by the Young Science Foundation. The platform falls within the concept of lifelong learning and is available to any Internet user. Polish universities and educational institutions that were granted founding to produce free online courses had been selected in a national competition. The competition was announced by the National Centre for Research and Development in 2018, and its results were read out in July 2019. The project submitted by BUT, "MOOC@PB – Nowoczesne technologie w procesie kształcenia" [New technologies in the educational process] (POWR.03.01.00-00-W040/18-00)**,** received the highest founding in Poland. The financial support enabled teachers and researchers from the Faculty of Computer Science, the Faculty of Engineering Management and the Foreign Language Centre to produce 19 certified online courses aimed at learners of all ages, interests and levels of expertise. The Author's course "How to write (science) better" was the only course offered by the platform dedicated to the development of writing skills in English. The course is still hosted on navoica.pl. Its post-implementation period has been prolonged by over two (2) years until 30th September 2024, due to the current geopolitical situation in Eastern Europe. By October 2023, 650 learners had registered for the course.

Because of the COVID-19 pandemic, the course became a valuable educational tool that helped the Author work more effectively towards her teaching goals in the online classroom of the 2020-2021 academic year. Integrating the online course into regular language instruction (which was also conducted in virtual environments owing to pandemic restrictions) went in line with the belief that "various technological innovations can supplement the regular ESP classes and contribute to the development of students' autonomy, indispensable in the XXIst century" (Sobkowiak 2008: 48). It fostered learner autonomy, as

the students were in charge of managing their time, setting themselves learning goals and maintaining high motivation to complete the course. The MOOC provided individualised feedback through quizzes and progress tests. The feedback was accessible to both the students and the teacher, providing a basis for further discussion and practice. In addition, the act of developing the course moved the Author into the role of "materials writer, lesson maker and course designer" (Krajka 2004: 31). This created unique opportunities to foster her professional freedom from external resources. In addition, as "ICT [Information and Communication Technology – MŚ] professional development also becomes hugely important" (Krajka 2007: 300), web-enhanced language teaching (both synchronic and asynchronic) became an ideal opportunity for ICT teacher training. As for the computer literacy necessary for doing the course, the Author rightly assumed all the students demonstrated adequate digital (i.e. computer and web) skills, so no prior training was necessary. They needed no teacher's supervision or instructions to complete the course.

As regards the MOOC, the introduction to the course reads:

> The course teaches students and academics from a variety of engineering disciplines how to choose words and phrases to construct well-polished sentences and how to combine sentences to produce readable scientific texts. (…) The aim of this course is to share with scientific writers that composing a specialist text can rely on simple English that provides tools for writing in a concise and well-organised manner. These tools, common to Plain English, can be applied on lexical, sentential and textual levels. As a result, a piece of specialist writing is easier to produce, and it can reach a wider readership because the economy of expression and a clear structure are always valued by expert and non-expert readers.

The course consists of four (4) modules (called *Weeks*) subdivided into two (2) lessons each (*Word classes*, *Words & phrases*, *Word saving*, *Strong verbs*, *Compound nouns*, *Parallel forms*, *Sentences*, *Text cohesion*). The course content is distributed as follows:

1. Week 1 reviews the key functions of verbs and nouns. It discusses the roles their grammatical categories played in sentence production and shows how to expand the vocabulary to enrich a writing style.
2. Week 2 focuses on writing with fewer words. The lessons teach how to cut lengthy phrases, avoid self-evident expressions and choose strong verbs rather than nouns to make a specialist text clearer and more concise.

3. Week 3 shows how to combine nouns into strings and how to apply parallelism to enhance the clarity and readability of sentences, paragraphs and presentation slides (for a sample slide, see Figure 7).
4. Week 4 teaches how to control sentence structure and produce a cohesive text. The lessons promote favouring the active voice, keeping the word agreement, employing the end-focus and varying the sentence length in a paragraph.

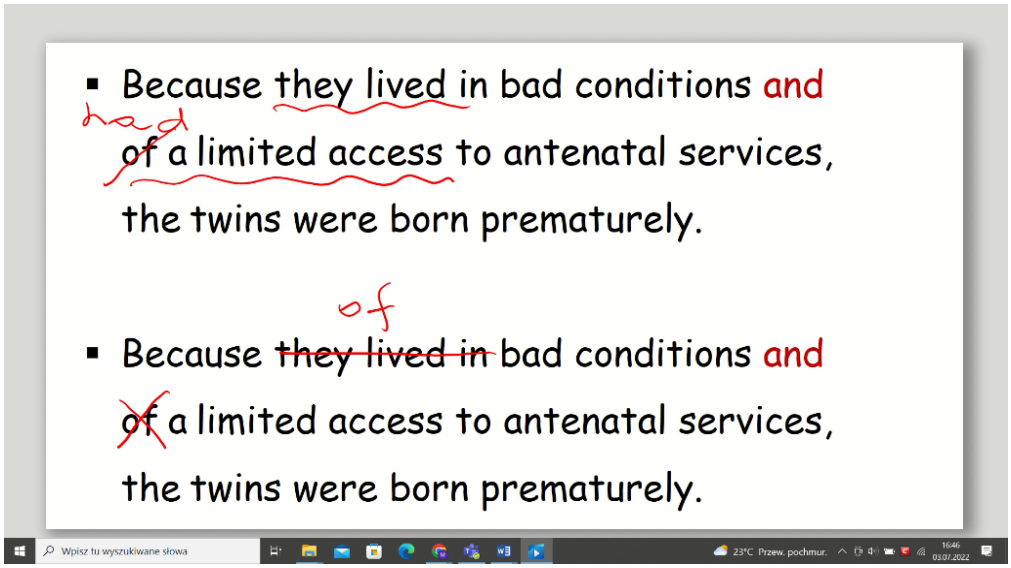

Fig. 7. A slide from the MOOC's video (Week 3, Lesson 2: Parallel forms).

Each lesson contains training material (videos of 2-12 minutes), a quiz based on the training material and a progress test, both graded (for more information about the course and sample modules, see Appendix C, p. 377). The course ends with a set of ungraded additional exercises and a graded final test. Concerning time commitment, the students were expected to spend 3-4 hours a week working through the course material, a burden to which they kindly agreed. Despite the additional workload, they voiced positive opinions about integrating this form of computer-assisted language learning into their classroom.

Throughout the course, the participants were encouraged to practise writing by sharing their views in the discussion forum, but only six (6) participants decided to take advantage of this opportunity and actually contributed to their development as writers. The most frequent explanations for not taking part in this writing practice were a lack of time and having nothing interesting to say. One of the students said he had never left his comments in online fora by habit. Although good writers "actively generate their own interest

to write" and "create opportunities to write outside the classroom" (Gordon 2009: 250f.), the opportunity of practising writing with a real purpose and an authentic audience was missed. Sadly, not only did most students miss this opportunity, but quieter students also did not find in the discussion forum a vehicle to express themselves to their teacher and groupmates. However, the Author insisted on using only English in the MS Teams' chat, which provided regular exercise in purposeful written communication aimed at a real audience. All the participants conformed to this requirement, which satisfied their teacher. The comments about the course the students left in the MOOC discussion forum and feedback form are compiled in Appendix D, p. 403.

It bears emphasising at this point that the asynchronic nature of the MOOC and unlimited access to it at navoica.pl enabled flexible learning. In other words, it gave the students a chance to analyse the course content repeatedly if they needed more time to understand and *digest* the subject matter, as one of the study participants said. Some participants admitted watching the MOOC videos more than once, taking notes and looking for extra information on the Internet. Such engagement was important in relation to the length of the intervention and its impact on the participants.

When it comes to learning styles, some students prefer visually-oriented language instruction; others – learners with dyslexia or dysgraphia – respond better to auditory input. Since from 50% to 80% of students in any class declare to be predominantly visual (Dörnyei 2005: 140f.), the MOOC might have appealed to visual and auditory learners, for the subject matter was covered by means of visual stimulation (videos). Auditory learners use auditory input most effectively, so each video, accompanied by a commentary (with subtitles in English), provided them with logical and organised language input. However, the Author had limited resources to offer to tactile and kinaesthetic learners. Despite this, all the participants confirmed that they had enjoyed the course, even if it might have involved adapting their personal styles to fit the materials and methods of the online instructional programme which, out of necessity, could not adopt a fully multi-sensory approach. They admitted boosting their competence anyway, which goes in line with Oxford et al.'s (1991: 18) view, once stated, that students need to use learning strategies associated with less preferred style dimensions for maximum learning success. For more information about how the students perceived the form and content of the MOOC, see Appendix D, p. 403.

4.6.2. Synchronic online sessions

The second instructional tool used in the intervention was a regular English course offered for first-semester students of the Doctoral School at BUT. The course was definitely more learner-centred than the MOOC, for its content and methodology catered to a greater extent for individual differences and learning style preferences.

Six (6) **90-minute-long online sessions** always started with a short feedback session in which the students' doubts and queries regarding the targeted features of a particular MOOC's module were dealt with. The session was then followed by a variety of writing-related activities. The Author structured online classes so that students could revise what they had learned via the MOOC and practise guidelines of Plain English in their own writing. The language features discussed in the MOOC were practised by means of text-manipulation activities (paraphrasing, sentence/text completion, text conversion) intertwined with text-creation activities, which required using the target feature in a more communicative way (reporting the meaning, free writing) and short writing assignments. As learning to write should include writing, the students were given writing assignments so that they could apply the guidelines in their own texts (e.g. abstracts, introductions to research articles, procedures). Moreover, error detection and correction exercises, based on the students' own writing and aided by an editing checklist (a helpful self-editing tool developed by the students as a class activity), were employed. These activities were, at times, preceded by think-aloud techniques used either by the teacher or by the students. Because of the learning burden imposed on the students every week, no graded tasks were set for self-study (homework). Therefore, except for MS Teams chats (and posts in the MOOC's discussion forum), the students were not provided with an arena for further practice of writing, but these environments seemed sufficient enough to share information and personal reflections. They never criticised not employing other digital spaces such as wikis, weblogs or webpages for practising TL writing.

To teach the selected guidelines of Plain English, the Author provided the students with authentic and relatable materials. Original sentences and text fragments were taken from student writing (e.g. abstracts, research papers, grant proposals) to illustrate various language points in real-life contexts. In addition, as teacher writing can also act as model texts, the Author exemplified various discursive and non-discursive aspects of writing with the suitable parts of this dissertation. Not only did it add credibility to the instruction, but it

also provided the students with examples of practical implementation of the discussed issues. Moreover, the Author tapped her students' interest area because, as Brookes and Grundy (1991: 45) believe, when feelings are engaged, students are more involved in writing. That is why the content of the exercises came from various engineering disciplines to match the interests of early-career researchers, regardless of the discipline.

Another important instruction-related issue is the language used in the online classroom. Even though the content of the whole course involved discussing several language-based concepts that required specialist terminology, the students very rarely resorted to Polish during pair or group discussions[56]. They reasonably took advantage of the opportunity to speak English and very occasionally switched the code. The Author's extensive use of specialist vocabulary (e.g. grammatical terms) in the classroom was justified by her conviction that it fitted the learners' maturity, prior knowledge and readiness for intensive work. The students explained in Interview 1 that they had accepted discussing language concepts by means of specialist linguistic nomenclature, just as they accept the use of specialist lexis in their engineering fields. What is more, they found the language-based terminology advantageous, for they were able to find and refer to relatable external resources for better understanding or more practice outside the class. Some students, however, admitted that they had not known numerous terms earlier, which increased their learning load. Nobody, however, complained about this excessive involvement in the English class. They contended it was because they felt their time had not been wasted; they had recognised their learning needs and discovered ways of directing their self-study to improve English.

As regards the online mode, the students did not report feeling less motivated or engaged, possibly due to their enthusiasm about new educational contexts. They did not report any difficulties with organising their working time either.

To conclude, the Author's aim in the language programme was to familiarise her students with Plain English, a useful tool for composing *writeable* and readable written texts in the sciences. Also, her teaching practices (both in form and content) were intended to demonstrate plainness: she did her best to present the subject matter – carefully selected and organised – to her students (both via the MOOC and during regular online classes) with a

[56] The MS Teams collaboration platform offers practical options for pair and group work during online meetings (the so-called channels and breakout rooms). Not only can the students work collaboratively in small groups, but the teacher can also join and leave them at any time.

high degree of instructional clarity. Her efforts had been noticed and appreciated by the students, which was later confirmed by one of the participants in Interview 1. This has already been pointed out in Section 3.4.

4.7. Participants

Study participants were not randomly sampled. Instead, they were a convenience sample of 13 first-year students from the Doctoral School at Bialystok University of Technology. They took part in the study as part of their 15-hour language course in the first semester of the English language programme. The researcher (the Author) was their regular teacher. To respect the privacy and anonymity of the participants, the Author refers to them in the dissertation as Participant 1 (P1), Participant 2 (P2), etc. The codes were assigned randomly.

In the 2020-2021 academic year, the PhD students were tentatively allocated to language groups on the basis of self-declaration forms that they had filled out in the recruitment process for the Doctoral School. The purpose of self-assessment was to ensure the homogeneity of language groups. In Semester 1, the university offered three (3) groups of language instruction, and the entrants were assigned to the groups at the following *CEFR* levels: B1 (14 students), B2 (13 students) and C1 (10 students). The Author chose to teach the students who represented an upper-intermediate level of advancement in English (B2) because it coincided with the required minimum level of language proficiency for the MOOC integrated into the intervention. No language test was administered before the intervention in order to examine whether the students had a comparable command of English, nor did the Author assess the participants' (academic) writing competence in Polish and in English. In the study questionnaire, 11 students described their level of proficiency as B2, one (1) student as B2/C1, and one (1) student did not indicate the level. Another important selection criterion in place was to include the students who had never attended the English course in the doctoral programme run by the Author so that none of the students was better equipped with knowledge about Plain English and practised writing according to its guidelines. Regarding sex/gender, nine (9) subjects were male and four (4) female; their ages ranged from 24 to 44. The mean age was 27.8. The subjects' L1 was Polish. They represented the following disciplines of science: Mechanical Engineering (5 students); Civil Engineering and Transport (2 students); Automation, Electronics and Electrical Engineering

(2 students); Environmental Engineering, Mining and Energy (1 student); Information and Communication Technology (1 student); Biomedical Engineering (1 student); and Management and Quality Sciences (1 student). There did not appear to be major differences between the study participants with regard to interest in the subject and motivation. The students were assured the research project was aimed at their development as writers, so they diligently contributed to all data collection procedures with a 100% response rate. The participants were asked to regularly do the components of the MOOC as a self-study activity and attend all 90-minute weekly online sessions on MS Teams. They all completed every single MOOC's module and achieved 100% attendance in online classes. None of the subjects changed the language group or quitted the Doctoral School during Semesters 1-2, so the study started and finished with a cohort of 13 students (see Table 12).

Table 12. Study participants.

Participant	Scientific discipline	YolE*	Age	Sex/Gender
P1	Automation, Electronics and Electrical Engineering	4-6	44	M
P2	Environmental Engineering, Mining and Energy	10-12	26	F
P3	Mechanical Engineering	over 12	24	M
P4	Biomedical Engineering	0-3	25	F
P5	Automation, Electronics and Electrical Engineering	7-9	26	F
P6	Civil Engineering and Transport	over 12	27	M
P7	Mechanical Engineering	over 12	25	F
P8	Mechanical Engineering	over 12	25	M
P9	Mechanical Engineering	over 12	30	M
P10	Information and Computer Technology	over 12	27	M
P11	Management and Quality Sciences	over 12	30	M
P12	Mechanical Engineering	over 12	26	M
P13	Civil Engineering and Transport	over 12	27	M

*YolE: years of learning English

The respondents filled out questionnaires, participated in treatment sessions, provided writing samples (pre- and post-tests) and took part in two (2) semi-structured interviews. As a token of gratitude for participating in the study, each student was offered a one-to-one student-teacher conference with feedback on both writing samples. Disappointingly to the Author, none of the students accepted this offer, even if the conference outcomes might have been beneficial to them. For example, the conference might have stimulated critical

and reflective attitudes towards their own writing, and facilitated defining their strengths and weaknesses as scientific writers. Even though Participants 1 and 12 complained in Interview 1 about getting no feedback on the pre-test, they did not take advantage of attending the conference after submitting their post-tests either.

4.8. The study

The students were informed about the nature of the study, its purpose and benefits, the content of the intervention and its organisation. It was emphasised that participation in the study was voluntary, and none of the students would be penalised if they refused to participate in it or did not submit the writing samples on time. They agreed to take part in the study by completing and submitting questionnaires. The subjects were pre-tested before the 6-week intervention and post-tested after it. They were interviewed twice. To ensure confidentiality, participants' data were stored on a password-protected computer and anonymised in all activities arising from the study.

As remarked in the previous section, the participants were asked to enrol in a 4-week self-paced distance-learning certified course hosted on navoica.pl that had been designed and developed by their teacher (for details about the course and sample modules, see Appendix C, p. 377). During the intervention, the participants met online on a weekly basis, and each session on the MS Teams lasted 90 minutes. The intervention was incorporated into six (6) classes (out of eight [8] assigned for Semester 1). This is due to the fact that Class 1 was a 45-minute diagnostic and administrative unit used to explain the research project to the participants and administer an online questionnaire. Similarly, the last class of the semester (Class 8) was used to round up the whole course.

Table 13 below provides particulars of the research schedule. The questionnaire was piloted to obtain information about the relevancy and clarity of the items, and the format in order to ensure its proper understanding by the subjects. Also, the amount of time required to respond to the items was pilot-tested. The revised version of the questionnaire was completed by the study participants one week before the intervention. The pre-tests were set for homework and collected before the onset of the intervention. After the completion of the treatment, the Author conducted a one-to-one semi-structured interview (Interview 1). The delayed post-testing started five (5) months after the completion of the intervention (at the

beginning of Semester 2), and the pre-tests were set for homework with a 2-week deadline. After analysing and evaluating both pre-tests and post-tests, the Author carried out another one-to-one semi-structured interview (Interview 2). All the data were collected in a virtual environment. A comprehensive account of the data elicitation tools is provided in Sections 4.9.1-4.9.3.

Table 13. Research schedule.

Timeline	**Activity; instrument(s) used, if applicable**
6th October 2020	Administering pilot questionnaires; pilot questionnaires
20th October 2020	Administering questionnaires; questionnaires
20th-27th October 2020	Setting and collecting writing samples; pre-tests
27th October-1st December 2020	Administering the intervention; intervention
14th-23th December 2020	Conducting interviews; Interview 1
January 2021-March 2021	Analysing questionnaires and interviews
20th-27th April 2021	Setting and collecting writing samples; delayed post-tests
June 2021-November 2021	Analysing and evaluating pre-tests and post-tests
December 2021	Conducting interviews; Interview 2
January 2022	Analysing Interviews 1 and 2
February 2022-May 2022	Preparing the study report

In accordance with the policy adopted by the Foreign Language Centre at BUT, to pass the English course, students need to achieve at least 51% of graded tasks. During the intervention, the Author followed the same grading policy. The students earned Grade 3.0 (satisfactory) by achieving a score of 51%-60% in the MOOC; Grade 3.5 (satisfactory plus): 61%-70%; Grade 4.0 (good): 71%-80%; Grade 4.5 (good plus): 81%-90%; and Grade 5.0 (excellent): over 91%. Receiving a higher end-of-course grade was possible after having written an additional test based on the language issues discussed in the classroom. Three (3) students took this chance, and two (2) of them succeeded. Class participation was mandatory, so no additional points were included in the final score. In Semester 2, no additional points were assigned for submitting post-tests. The students' achievements in the second semester were based on the relevant syllabus and graded according to the FLC's policy.

4.9. Data elicitation instruments

In the study, the data were elicited in controlled conditions (i.e. through the questionnaire, interviews and writing samples) as opposed to naturally occurring data (e.g. classroom observations and spontaneous writing) (Hyland 2011b: 252). To check the consistency of the study and ensure its validity, data collected from a variety of sources were used. The data elicitation instruments were both available and suitable for the research objectives (for an overview of the instruments and their objectives, see Table 14).

Table 14. Data elicitation instruments.

Time	Instrument	Objective
Pilot	Questionnaire	To check the clarity and comprehensibility of questions
Start of the study (Semester 1)	Questionnaire	To obtain data about: writing needs in respondents' professional and research work; attitudes and beliefs about scientific writing; preferences for language instruction; opinions about their writing strengths; problems encountered in writing for publication purposes; and knowledge about the English language and text organisation in scientific texts
Pre-intervention (Semester 1)	Pre-testing	To check the participants' writing ability before the intervention To evaluate the quality of the written text before the intervention (e.g. clarity, effectiveness, readability)
Post-intervention (Semester 1)	Interview	To elicit qualitative data on: the participants' perception of Plain English, its role in language instruction and scientific writing; writing needs; opinions about the MOOC and its contribution to writing improvement; and attitudes towards scientific writing in general
Post-intervention (Semester 2)	Delayed post-testing	To check the writing ability after the intervention To capture the use of Plain English guidelines To evaluate the quality of the written text after the intervention (e.g. clarity, effectiveness, readability)
Post-intervention (Semester 3)	Interview 2	To elicit qualitative data on: the participants' attitude towards writing samples in the study according to the guidelines of Plain English; English language knowledge; and attitudes towards scientific writing in general

The following measuring instruments were included in the study:

- the questionnaire that was pilot-tested and, after minor modifications, filled in by all the participants before the intervention (for the questionnaire, see Appendix E, p. 408);
- the writing samples (abstracts) that were submitted by the participants before the intervention (for the pre-tests written by the participants nominated for the within-case analyses, see Appendix G, p. 421);
- the one-to-one semi-structured online interview (Interview 1) that started two (2) weeks after the intervention (for its core questions, see Appendix F, p. 417);
- the writing samples (introductions to a journal paper) that were submitted by the participants five (5) months after the intervention (for the pre-tests written by the participants nominated for the within-case analyses, see Appendix G, p. 421); and
- the one-to-one semi-structured online interview (Interview 2) that took place 12 months after the intervention (for its core questions, see Appendix F, p. 417).

All the instruments are described in detail in the sections that follow.

4.9.1. The questionnaire

The purpose of the questionnaire designed by the Author was to elicit background information about the participants: years of learning English, the perceived level of language advancement, the use of English for academic and occupational purposes, the knowledge of English-based CNLs and Plain English. The subsequent items focused on students' preferences and expectations as regards language development in the PhD programme as well as such issues as the subjects' attitude towards writing in English. In addition, the students were supposed to respond to a variety of items about scientific discourse. Answers to close-ended items gave quantitative insights into preferences and expectations about language instruction in this particular group of PhD students. Answers to open-ended items of the questionnaire sought to elicit respondents' opinions about difficulties in science writing, and their own comments related to authentic sentences produced by novice scientific writers and their counterparts improved by the Author according to the guidelines of Plain English. The answers shed some light on the respondents' opinions about scientific written discourse and their writing competence in English. Finally, the questionnaire included the

items for assessing students' language knowledge so that their needs (individual and collective) were better identified.

As pointed out in Section 4.8, a preliminary draft questionnaire was piloted to confirm the comprehensibility of its overall format. The questionnaire was administered online to 53[57] first- and third-year PhD students at the Medical University of Bialystok in October 2020. The feedback was obtained from two (2) colleagues, both PhD holders, who were regular English teachers of the students, and from three (3) respondents. The comments and suggestions were incorporated into a final version of the questionnaire.

The participants were requested to fill out the reviewed questionnaire during the online class at the beginning of the regular 15-hour online English language course (Semester 1) and one (1) week prior to the instructional treatment. In order to ward off potential misunderstandings on the part of the students, the questionnaire was worded entirely in Polish. The students were given a choice as to whether to respond to open-ended items in Polish or in English, with almost all the participants selecting the former option (see Table 16 on p. 258 and Table 18 on p. 261). The 100% response rate was possible because the questionnaire was administered during a regular class. The respondents were given 40 minutes to complete the questionnaire.

The questionnaire consisted of 35 items of 8 types:

- 2 open-response items;
- 8 closed-response items;
- 20 Likert-type items that used a 5-point scale that required the students to rank the answers from *strongly disagree*, *disagree*, *undecided*, *agree* to *strongly agree*, where 1 stood for *strongly disagree* and 5 for *strongly agree*;
- 1 Likert-type item that used a 5-point scale (*very poor*, *poor*, *average*, *good*, *very good*), where 1 stood for *very poor* and 5 for *very good*;

[57] Although a pilot questionnaire is usually pretested with a smaller sample compared to a planned sample size, the Author did not want to exclude any student from the pilot for ethical reasons. In addition, the respondents were both first- and third-year students, which might have put a different perspective on the questionnaire's content. Also, the administrators of the pilot at the Medical University of Bialystok chose to send them out to all their students because the questionnaires were completed during a regular class (which was the first class in the semester).

- 1 Likert-type item that used a 4-point scale that required the subjects to rank the answers from *low priority*, *medium priority*, *high priority* to *essential*, where 1 stood for *low priority* and 4 for *essential*;
- 1 nominal scale item that used a 3-point scale that required the subjects to answer *yes*, *no*, *I don't know*;
- 1 nominal scale item that used a 2-point scale that required the subjects to answer *yes* or *no*; and
- 1 item that consisted of 10 pairs of sentences, and the subjects were asked to subjectively select a clearer and more understandable sentence.

To answer the research questions, the Author considered the data from the questionnaires alongside the information from other databases collected for research purposes (see the sections below). Since there were only 13 respondents, quantitative research methods were not applicable, hence the variety of item types in the questionnaire that did not have to be statistically measured. Because of the small group of respondents, analysing the responses in the questionnaires was not time-consuming, which goes in line with one of the research principles proposed by Hopkins (2008: 59f.) (see Section 4.4).

4.9.2. Semi-structured interviews

The reason why the Author used this data gathering tool was the fact that the interviews clarified information from the questionnaires, helped better understand and explore subjects' opinions, and examined in depth the issues their teacher investigated. Last but not least, the Author believed they helped the students reflect on their own learning needs too. To ensure the reliability of this data collection tool, make the comparison of the responses easier and give the Author control over the interviews, she chose a one-to-one semi-structured interview. The interviewees were all asked the same set of core questions, which were further extended to other issues related to the question asked or to relevant topics. The interviews explored responses given by the students in posts from the MOOC's discussion forum (if there were any from a particular student). The interviewees were also encouraged to share general opinions, doubts and expectations for the language instruction in the Doctoral School. It was permissible because a semi-structured interview consists of core prede-

termined questions to elicit comparable data across interviewees. It also allows expansion and elaboration in the questions and responses (Nunan and Bailey 2009: 316; Seliger and Shohamy 2015: 167), which makes the interview interesting and informative for both parties. Once again, the subjects were treated as beneficiaries, not only as contributors to the study.

The participants were contacted for online interviews two (2) weeks (Interview 1) and 12 months (Interview 2) following the intervention; both interview sessions were spread over two (2) weeks. The interviews, ranging in length from 60 minutes to 90 minutes (Interview 1) and from 15 minutes to 30 minutes (Interview 2), were conducted on MS Teams, which provided real-time interaction between the interviewer and the interviewees, and assumed a conversational and unbiased manner. The Author ensured that the participants did not feel any pressure: they had selected convenient time slots for online meetings (in an interview schedule prepared in advance by the Author and accessible on MS Teams) and decided about disabling (or not) webcams (seven [7] respondents kept the webcams off throughout the interview). The interviews were carried out in Polish, which minimalised the risk for the students of not being able to express their views clearly, or answering questions imprecisely or scantily. They were recorded for further reference. The transcripts have not been attached to the appendices, but relevant responses are quoted in Sections 5.1-5.2. The responses were subjected to qualitative analyses addressed in Sections 5.1-5.2.

4.9.3. Pre- and post-testing

The main purpose of using this instrument was to observe gains made by every PhD student in the written products before and after the intervention. While writing the samples (abstracts and introductions to research articles), the participants were asked to follow the organisation guidelines the Author had provided to ensure comparable length and format for the texts of all participants. Both writing tasks were set for homework because of time constraints in the classroom and in order to provide a friendlier environment for writing. They were written out of class also because, unlike general English compositions, scientific texts require specialist knowledge, which may not be spontaneously available. Last but not least, due to the online mode of the classes throughout the semester, whether the students wrote

the texts during an online class or after it was, in the Author's opinion, irrelevant. The subjects were not set any time limits for completing the tasks, but, in order to ensure the reliability of the collected data, they were asked to write the texts unassisted by peers, teachers of English, NESs, thesis supervisors or online writing-support technology. The Author assumed the students would take the tasks seriously, regarding their performance as a valuable opportunity for writing practice.

As pointed out in Section 4.8, the researcher collected two (2) texts from each subject, which were written at separate sessions. The pre-tests were produced and collected before the instructional treatment. The post-tests were produced and collected at the beginning of Semester 2 (i.e. five [5] months after the intervention), which enabled the researcher to determine the extent to which the improvement in writing was maintained over time. In the pre-testing, no information was provided as regards the language issues at the lexical, syntactic and textual levels. In delayed post-testing, the subjects were asked to refer to the editing checklist (Checklist 1) compiled on the basis of the guidelines of Plain English discussed and practised in the online classroom. The aim of post-testing was to determine whether the intervention brought any writing gains that were sustained over time. Both writing samples were assessed. To avoid possible researcher bias, each text was evaluated by the Author and by two (2) NES raters with more than 10-year experience in teaching EGP and ESP at BUT. The authors of the texts remained anonymous to the raters, as their names had been coded. To help the raters apply the same standards in evaluating the samples and ensure higher reliability of this data collection procedure, an analytic evaluation rubric (Checklist 2) based on the checklist the students had used for writing and/or editing their own texts was provided. Also, the referees used another analytic rating form (Checklist 3) to assess several style features in the subjects' writing, for example, general clarity, effectiveness and readability of the texts. Finally, the raters were asked to make use of a holistic scoring method and provide "an overall impressionistic assessment of the student's performance on the test" (Richards 2015: 507) as a whole with a 5-point scale (*very poor*, *poor*, *average*, *good*, *very good*), where *1* stood for *very poor* and *5* for *very good*. For the editing checklist and both evaluation rubrics, see Appendix H, p. 427.

CONCLUSION

The research idea discussed in this dissertation was inspired by the Author's observation that for many Polish researchers in engineering disciplines – beginners and seniors – insufficient competence and performance in *correct scientific English* are a barrier to clear, effective and readable writing in the sciences. Also, the language-related disadvantage they face as TL scholars may, at least initially, affect their publication success. Plain English offers practical solutions to overcome the challenges of scientific-writing. Discussing language-based concepts that PE favours in the writing classroom is intended to "give students the tools to eventually diagnose and solve their own writing problems" (Ferris 2002: 101). In other words, while discussing the language-focused guidelines of Plain English, student writers analyse the ways of conveying meanings in an adequate way. This analysis can help them learn to identify and reduce vague language, which moves them towards independence in writing and editing their own work, which is one of the goals of EAP instruction (Ferris and Hedgcock 2011: 271; de Chazal 2018: 10). All in all, integrating Plain English into the writing activities can bring benefits to students with different academic textual literacy, prior knowledge and TL proficiency. These benefits are described, analysed and interpreted in the next chapter.

The teacher research undertaken by the Author was intended to enable her to critically evaluate her teaching practices in order to make better-informed decisions as a teacher of writing. Adopting a reflective approach to her own didactics would become an invaluable tool in her professional development. Being a teacher of writing who also practises the craft of writing was to make the Author a more effective teacher. Whether the secondary aim of the study was achieved is discussed in the dissertation's final conclusion.

Chapter 5: Results and discussion

Introduction

This chapter addresses the findings of the multiple-case study on integrating Plain English into the language programme for PhD students at Bialystok University of Technology. The collected data are presented, analysed and interpreted to provide a report on the study, organised around four (4) research questions (RQs) that guided the study. The presentation of the findings in Sections 5.1-5.2 follows the order in which the RQs are listed in Section 4.5. The reporting format includes a cross-case analysis followed by within-case analyses of three (3) individual participants. The selected cases include:

- the participant who was the least likely to succeed in writing gains given the initial conditions (Participant 4);
- the participant who was the most likely to succeed in writing gains given the initial conditions (Participant 8); and
- the participant who made the biggest progress in writing gains, as evidenced in the study findings (Participant 10).

The chapter also includes a discussion of research findings and study limitations, followed by implications and directions for further research.

5.1. Qualitative results: a cross-case analysis

The aim of this section is to report on the results obtained in the course of the empirical study. The section presents the findings of the multiple-case study as a cross-case analysis of individual participants (cases). The Author uses this report format because she anticipated that individual cases would produce similar results, that is, the participants would build up their confidence as science writers, raise their scientific writing awareness and improve their writing performance. The section overviews the responses of the participants in the questionnaires and interviews as well as data on their writing performance collected in the writing samples. Occasionally, comments from the MOOC's discussion forum (DF) are included if they complement and strengthen the interviewees' opinions. The comments were all written in English, and they are always provided in the dissertation in original wording.

The reminder of this section examines a number of general and writing-related issues across the cohort of study participants collected from the questionnaires, during both semi-structured interviews and from the writing samples. Some of these issues are further explored in Sections 5.1.1-5.1.4 and Section 5.2.

In the **questionnaire** (see Appendix E, p. 408), most students replied they use English for occupational written communication, e.g. emails, reports, specifications of production processes, user guides, assembly instructions and project documentation (Item 5). As regards English-based controlled languages and Plain English, Participants 1 and 9 admitted being asked to use simpler English at work, as their employers are international companies (Item 6). Participant 7 remembered attending the presentation about technical writing given by the Author a few years earlier, so she knows some basics about Plain English. However, she did not explore the idea of simple English any further. All the respondents stated they need English to write texts for publishing purposes (Item 4e), and seven (7) respondents (P1, P2, P3, P7, P8, P9 and P12) also need it to prepare grant applications (Item 4f). Nevertheless, only four (4) respondents (P3, P4, P8 and P11) would choose *writing* as dominant in the English classroom of the Doctoral School (Item 9). A student who assessed his writing competence as *good* (P8) would like *writing* to dominate in the language instruction (Item 3). It seems that he is aware of his strengths and weaknesses as regards this production skill, and he realises how important it is in his research career. The other students who assessed their writing competence as *good* (P2, P5 and P9), selected other skills

as dominant for the instruction. The most popular skill the students wished to practise in the language programme was *speaking*. Five (5) students chose *speaking* as the most preferable skill in the doctoral language programme (P2, P6, P7, P9 and P10), which coincides with their needs. Twelve (12) respondents (apart from P10) expect to use English in oral presentations at international conferences (Items 4a-b) that they are obliged to attend at least once during the doctoral programme. Responses to Item 10 show that production skills are prioritised as preferable components of the PhD language education. Eleven (11) students *strongly agreed* they would wish to practise writing in the PhD language classroom (except P6 and P8). The same answer in reference to practising speaking was given by seven (7) students (P1, P4, P6, P7, P8, P9 and P13). Most students think their speaking and writing skills are *average* or *good* (Item 3). Participants 3 and 8 chose *very good* to describe their speaking competence, and only Participants 6 and 10 declared their speaking skills as *poor*. Participants 1 and 10 thought their writing competence was *poor*. As it comes to receptive skills, two (2) students (P1 and P4) assessed their listening competence as *poor* and three (3) students (P3, P8 and P9) as *very good*. Participant 11, who had written a Bachelor's thesis in English while taking part in the Erasmus+ programme at a Spanish university, assessed his writing skills as *average*, and he would choose writing as the dominant skill of the language classroom in the Doctoral School. Despite considerable experience in academic writing, he feels there is still room for improvement. Only Participant 1 admitted having some first-hand experience writing research articles in English. On the whole, it seems that the respondents understand that they need production skills from the very beginning of the research programme. At the same time, they realise that they have entered the world of research and scientific discourse, which is new to almost all of them. This, in turn, may increase uncertainty about their academic writing skills in English.

Table 15 below exemplifies the students' responses to a number of items related to their knowledge and writing routines (or behaviours) before the intervention. Clearly, many students declared to be acquainted with the organisation of scientific text types (or genres) (Items 21 and 27), and they use some strategies to compose more effective texts (Items 22-23). Nevertheless, they need some language-focused instruction to develop their language competence and performance in academic contexts (Items 24-26). The students' responses to other questionnaire items are further referred to in Sections 5.1.1-5.1.4.

Table 15. Participants' responses to selected questionnaire items.

Item		Number of instances for each answer				
		SD*	D	U	A	SA
I19:	I know specialist terms from my discipline.	0	2	6	5	0
I20:	When I write a scientific text, I first write it in Polish and then translate it into English.	1	2	3	3	4
I21:	When I write my own scientific text in English, I follow the organisation of the texts written in English by other authors.	0	2	2	4	3
I22	After writing a scientific text in English, I read it aloud to check if it is clear.	1	4	1	4	3
I23:	After writing a scientific text in English, I think about its readability.	0	1	3	4	5
I24:	When I edit my own scientific text, I know what language issues I should consider to improve its accuracy.	2	3	7	1	0
I25:	When I edit my own scientific text, I know what language issues I should consider to comply with writing conventions in English.	4	2	6	1	0
I26:	When I read scientific articles in English, I pay attention to language issues (e.g. lexical phrases, sentence structure).	1	3	4	4	1
I27:	When I read scientific texts in English, I pay attention to their organisation (e.g. the AIM-RaD model: Abstract, Introduction, Methodology, Results and Discussion).	0	3	3	4	3

*SD: strongly disagree, D: disagree, U: undecided, A: agree, SA: strongly agree

As revealed in **Interview 1**, when the intervention started, apart from two (2) students who attended private lessons regularly (P1 and P4), the remaining students relied only on formal instruction in the Doctoral School. However, all the students reported having regular contact with English outside the classroom. They all use certain language learning strategies to make learning English more enjoyable. For example, as prime sources of exposure to English, they pointed to watching films, videos and news channels; visiting English-medium websites; reading technical documentation for occupational purposes and discipline-specific journal articles for research purposes; or reading fiction for pleasure. Participant 8 said that he reads English-medium texts every day. Participant 3 teaches international students at his faculty, so he speaks English regularly. All the participants were positive about placing a priority on writing in the language classroom, which was openly expressed in Interview 1. Since adults are pragmatic learners, it came as no surprise to the

Author when one (1) of the interviewees (P1) said he had been very positively surprised by the task-oriented approach to equip the students with tools, not only to make the English class take place ("[j]estem bardzo pozytywnie zaskoczony podejściem zadaniowym, żeby wyposażyć nas w narzędzia, a nie po to, by ten angielski się odbył[58]"). Another interviewee (P2) was positively interested in the classes because of their different approach to the English language ("[p]ozytywnie zaciekawiły mnie pani zajęcia przez to, że miały inną formułę, na inne rzeczy zwracało się uwagę"). Her interest remained passionate throughout the semester. Participant 7 is yet another PhD student who said he had been positively surprised because everything that had been covered in the class would be useful ("[p]ozytywnie się zaskoczyłam, bo to wszystko, co zrobiliśmy będzie przydatne"). These opinions indicate that the needs and expectations of junior researchers were satisfied, and their motivation over the course remained strong. In **Interview 2**, three (3) students reflected on the articles that they had already written for English-medium journals (P2, P3 and P6). For example, Participant 2 proudly announced that her two (2) manuscripts had been accepted. Although one (1) of the texts received many critical comments from reviewers, none of the remarks considered English. Participant 6 authored and co-authored three (3) manuscripts that were under review at the time.

As regards the **writing samples** used as data elicitation tools in the present study, the participants were asked to meet the submission deadline, and there were no delays in submitting them. The pre-tests (abstracts) turned out to be composed specifically for the purpose of the present study; they came from diploma theses or were part of a manuscript the students were working on at that time. The post-tests (introductions to a journal paper) were either specifically composed for the purpose of the study or they came from published research articles. The end products were to be written in English, but the whole process of writing, and selecting strategies to enhance the writing process and the written product (e.g. the language of generating ideas, drafting, revising, etc.) were the author's choice and responsibility. As stated in Section 3.3.3.2, the use of L1 and translating generated ideas into a TL is one of the rhetorical strategies in writing (Mu 2005), so the Author did not interfere with the students' language choice while drafting the samples. Two (2) participants (P4 and P12) first wrote both texts in Polish and then translated them into English; six (6) participants (P1, P6, P7, P8, P10 and P11) wrote both texts in English; one (1) student (P5) wrote

[58] All the translations from Polish sources are mine, MŚ.

the pre-test in English and the post-test in Polish; and four (4) participants (P2, P3, P9 and P13) chose Polish for writing drafts of abstracts and English for introductions. Choosing English for post-tests indicates more confidence in science writing in English, which might have developed due to the intervention in Semester 1. It also indicates, quite possibly, a change in the attitude towards composing scientific texts in English. Two (2) authors (P3 and P12) admitted knowing too few specialist terms in English, so they switched the code (from English to Polish) several times while writing the introductions to maintain fluency in writing. This demonstrates that students took some actions to facilitate the writing process in a non-native language. Those authors who had chosen Polish to write drafts claimed they had specifically focused on the content when composing their texts, and they were convinced the Polish language had helped them transfer specialist and complex information more effectively.

The Author asked the students to refrain from any external help, for example, writing-support technology (apart from spell checkers or online dictionaries) while producing both texts, although she is aware that its deployment is common among numerous NNES writers. However, for her research purposes, she insisted that the study participants write their texts independently. Nevertheless, not all the students complied with this request. Some authors occasionally translated specialist terminology by means of AWCF tools; others processed only individual sentences to check if they had written them correctly. Five (5) authors who confessed to having been supported by technology to help them write the entire text were excluded from the analysis of writing gains based on text data. This was the case for P1, P5, P6, P9 and P12. For example, Participant 5 admitted she had been attending military training for students in October 2020. With no access to her own academic resources, her abstract (and the pre-test in the study) was based on the abstracts found on the Internet. For that reason, it could not be reliably compared to the delayed post-test that she later wrote herself. Despite the training, she filled out the questionnaire and submitted the writing sample before the intervention. She regularly completed the MOOC's modules and attended all the online classes in the semester. Also, she took part in the MOOC's discussion forum. This participant as well as other participants partially excluded from the study are often cited in Section 5.1 (if applicable) because their informed opinions about Plain English and the intervention expressed in the questionnaires and the interviews were of the Author's genuine interest. These five (5) participants were excluded from the within-case analyses, as they could not reliably contribute to answering Research Question 4.

The sections that follow focus specifically on the data collected to answer the research questions addressed in the study. The Author realises that if one data type is corroborated by evidence from another, the research result is more reliable. That is why the data collected by different gathering tools were analysed and interpreted to address the RQs.

5.1.1. The perception of Plain English

This section presents the responses to the first research question, which sought to determine how the participants perceived the role of Plain English in writing for research publication purposes following the intervention. The analyses and interpretations of the presented responses are provided. The following predictive hypotheses were formulated in relation to Research Question 1:

Hypothesis 1: Plain English is an effective tool for information transfer in writing for research publication purposes in engineering disciplines.
Hypothesis 2: Written texts in engineering disciplines are clearer and more comprehensible for expert and non-expert readers when Plain English is employed.
Hypothesis 3: The use of Plain English builds up the confidence of junior researchers as novices to scientific writing in English.

To explore the research question operationalised by these hypotheses, the Author used the responses from the questionnaires, both interviews and the discussion forum. The following opinions illustrate best what participants think about Plain English and its application in scientific texts:

> **P3**: Plain English is definitely the right tool for writing. My role is to transmit some information, not to become another Shakespeare [Plain English na pewno będzie odpowiednim narzędziem w pisaniu. Ja muszę przekazać pewne informacje, nie zostać kolejnym Szekspirem]. (H1; Interview 1)

> **P1**: Currently, to publish in some high-ranking journals, you need to add, apart from an abstract and introduction, a short introduction to the article that is written for an ordinary reader. And many people have a problem with simplifying not only their terminology but also the concept. It's not about paraphrasing; it's about simplifying your text so that a reader with a lower level of expertise can read it. And I've noticed that my colleagues find it difficult. And these colleagues are the scholars with a post-doctoral degree too [Bardzo często teraz w wysoko punktowanych czasopismach pojawia się taki obowiązek, kiedy my

musimy zrobić, oprócz abstraktu i wstępu, musimy zrobić taki wstęp, ale w wersji dla zwykłego czytelnika, nie dla czytelnika, który jest z tym tematem związany. (…) I wtedy też dużo osób natrafia na ten problem jak uprościć nie tylko swoje terminy, ale uprościć w ogóle zagadnienie. (…) To już nie jest parafraza, że my na tym samym poziomie to robimy, tylko trzeba to zrobić dla czytelnika niewgłębionego w nasze zagadnienia. (…) I z tym, jak zaobserwowałem i kolegów swoich, z tym po prostu jest problem. I to kolegów, którzy mają z przodu, jak to się mówi, doktor habilitowany również]. (H2; Interview 1)

P2: I think I am both: short and long-sentence writer. Sometimes it is hard to explain some things in only couple words. However, short sentences are easier to read for some people. (H2; original wording; DF)

P3: I don't write for the sake of writing, but to make it understandable [Ja nie tworzę, by tworzyć, ale po to, by ktoś to mógł zrozumieć]. (H2; Interview 1)

P5: When I wrote really long sentences, I got lost in them. But when I chose shorter ones, the text was easier to understand for a reader [Jak pisałam naprawdę długie zdania, to można było się w nich zagubić. Ale jak ten tekst był pisany prostszym językiem to był łatwiejszy do zrozumienia dla czytelnika]. (H2; Interview 2)

P12: This simplified English makes the text more understandable [Ten uproszczony język angielski powoduje większą zrozumiałość danego tekstu]. (H2; Interview 2)

P13: It's important not to inflate the text because you can finally get lost in it. It's much easier to read a more concise, clearer text than a wordy one [Ważne jest to, żeby nie napompowywać tekstu, bo można zgubić się w końcu w tym tekście. Dużo łatwiej czyta się taki bardziej zwięzły, przejrzysty tekst niż taki rozciągnięty]. (H2; Interview 1)

P2: I think Plain English is absolutely ok because it seemed to me earlier that since there is such advanced research (…), the words must be so sublime and the vocabulary so beautiful and pretty, but here it turns out that such words may be incomprehensible to the readers, so the use of such language will even be advisable. It will be advisable to use simple language, the use of such simpler words to explain various phenomena. And I think it will be easier to understand them [Ja myślę, że jak najbardziej Plain English jest ok, bo mi się wydawało wcześniej, że skoro już takie zaawansowane badania (…), to słowa muszą być takie wysublimowane i słownictwo takie piękne, ładne, ale tu się okazuje właśnie, że wcale to może być niezrozumiałe dla odbiorców, więc wykorzystanie takiego języka nawet będzie wskazane, użycie takiego prostszego języka, użycie takich prostszych słów do wytłumaczenia rożnych zjawisk. I że będzie łatwiej je zrozumieć. Tak myślę]. (H1, H2; Interview 1)

P7: I think this Plain English can be used to describe various phenomena. And this description is understandable for readers from all over the world [Uważam, że tym Plain English można opisać dużo zjawisk i dużo rzeczy. No i jest to bardziej zrozumiałe dla ludzi z różnych krajów]. (H1, H2; Interview 1)

P8: If one starts to mess in some way and not speak in a simple way, no one will understand it, and it's just hiding behind wise words, not conveying the content. In technical disciplines, which are very complicated anyway, you have to speak in a coherent, clear and precise way so that everyone understands you. In the humanities, they can mess up with words because there, you don't carry such strong technical, engineering or practical content. We don't talk about a specific thing, but here, in engineering and technology, everything must be specific because if something is conveyed wrongly, and if a machine is produced,

it will later cut a hand or something else [Jeżeli ktoś zaczyna w jakiś sposób mącić, a nie mówić w prosty sposób, to nikt tego nie zrozumie i to jest po prostu chowanie się za mądrymi wyrazami, a nie przekazywanie treści, więc tutaj w tych technicznych i tak to jest mocno zawiłe, więc trzeba mówić w sposób spójny, wyraźny, dokładny, żeby każdy to zrozumiał. W humanistycznych mogą sobie mącić wyrazami, bo tam takiej mocno treści technicznej, inżynieryjnej, praktycznej się nie niesie, o konkretnej rzeczy nie mówimy, ale tutaj, że to jest inżynieria, technika musi być konkretnie, bo jeżeli coś zostanie źle przekazane, zostanie zrobiona z tego maszyna, to później komuś urwie rękę albo coś innego]. (H1, H2; Interview 1)

P6: I think it's worth talking about Plain English even because many people haven't heard about it, just like me. And I think Plain English will make it a lot easier for me to navigate in the language [Myślę, że warto mówić o Plain English chociażby nawet z tego względu, że wiele osób o tym nie słyszało, tak jak ja. A myślę, że Plain English znacząco ułatwi mi poruszanie się w języku]. (H3; Interview 1)

It seems that the students understand that simpler English does not imply lowering the quality of the text and stripping it of scholarly dignity. At the same time, they realise that the language of knowledge transfer in the sciences does not need to be very elaborate. The idea of employing plainness in scientific written discourse seems to be convincing for Participant 3, who personally prefers a simpler style, but his content teachers choose a different form of expression in the sciences. They categorically state that scholars' task is not to write texts that are understandable to everybody, for they write scientific texts, not popular ones ("[m]y nie mamy pisać tekstów, które są zrozumiałe dla wszystkich, tylko to muszą być teksty naukowe. Kropka"). The participant strongly disagrees with this stance, but his discourse community seems to impose certain patterns of writing on its members. Participant 6 admitted in Interview 1 that at university, the passive voice is always welcome ("[j]akoś tak nie wiem, ale na studiach tak się coś takiego utarło, że strona bierna jest jednak zawsze mile widziana"). Participant 12 believes the authors of journal articles write in a sublime and ambiguous style to keep their research to themselves. In other words, they do not want to share with other scholars what they know, so the knowledge they transfer is camouflaged by a vague language. He claims that Asian authors write in a more ornate way as regards lexis and syntax, whereas Italian researchers favour a plain style. That is why he prefers to read a longer article that is well-written rather than a shorter one written by, for example, Chinese scholars, as he finds their texts a lot more difficult to follow.

The simpler style seems to be achievable for students at the B2 level. Before the intervention, they were able to select the sentences written according to the guidelines of Plain English (Item 34; see the questionnaire in Appendix E, p. 408), which means they are sensitive to different ways information can be transferred in specialist texts to serve their

readers best. The answers to Item 35 (in original wording) explain their choices (see Table 16).

Table 16. Open-response data in the questionnaire (Item 35)

While selecting the sentence in Item 34, I have considered:	
P1:	The ease of grasping the sentence's meaning [Jak łatwiej mi zrozumieć sens zdania].
P2:	The one I've understood faster [To, które zdanie zrozumiałam szybciej].
P3:	The voice in which it was written. It is definitely much easier for an average person to understand the sentence written in the active voice. However, I am aware that the scientific English language uses the passive voice; in Polish, it manifests itself in the form of an impersonal form, e.g. made, calculated. Also, the vocabulary used in some sentences belongs to the more advanced, which may result in a misunderstanding of the transmitted content. But it should be noted that the use of academic vocabulary increases the precision of the utterance; Sentence *i.* can be translated as double negative (unlikely and insignificant), which doesn't necessarily improve the readability of the text either [Stronę w jakiej zostało ono zapisane, zdecydowanie łatwiej jest zrozumieć przeciętnej osobie zdanie napisane w stronie czynnej, jednak mam świadomość, że język naukowy angielski wykorzystuje stronę bierną, w języku polskim objawia się to w postaci formy bezosobowej np. dokonano, obliczono; również zastosowane słownictwo w części zdań należy do bardziej zaawansowanych, co może skutkować niezrozumieniem przekazywanych treści, należy jednak zaznaczyć, że zastosowanie słownictwa naukowego zwiększa precyzję wypowiedzi; zdanie *i.* można przetłumaczyć jako podwójne zaprzeczenie (unlikely i insignificant) co również niekoniecznie poprawia czytelność tekstu].
P4:	The text that is easier for me to understand [Tekst, który jest dla mnie bardziej zrozumiały].
P5:	No answer
P6:	I chose more concise sentences [Wybrałem zdania bardziej zwięzłe].
P7:	The sentence structure [Konstrukcję zdania].
P8:	Intuition and the sentences whose structure I more frequently come across while reading technical texts [Intuicję oraz strukturę zdań z jakimi częściej się spotykam czytając artykuły techniczne].
P9:	Clarity of the sentence and the way it is written, and the sentence that is faster and easier to understand by the reader [Przejrzystość odbioru oraz sposób zapisu, które zdanie jest szybsze i łatwiejsze do odebrania przez czytelnika].
P10:	They are simpler [Są prostsze].
P11:	Clarity of the sentences and their overall soundness [Jasność i sensowność zdań].
P12:	While selecting the sentences, I took into account the length of the sentence and the concept of cause-effect information. I also tried to choose sentences with fewer more difficult words [Podczas odpowiedzi brałem pod uwagę długość zdania oraz koncepcję informacji na zasadzie przyczyna-skutek. Próbowałem też wybrać zdania z mniejszą ilością trudniejszych słów].
P13:	The conciseness of the sentence [Zwięzłość zdania].

Considering the students' opinions quoted in this section, it seems that scientific writing can become more approachable and easier if they feel empowered by being equipped with tools to communicate complex specialist issues (as assessed by Participant 1), and if they believe, on the basis of what they experienced in the English classroom dur-

ing the intervention, that these tools are effective. The participants' satisfaction with the intervention content was high because they found it important for their academic advancement. Thus, the hypotheses formulated to operationalise RQ1 were confirmed.

5.1.2. Language knowledge in writing for the sciences

This section presents responses, analyses and interpretations to the second research question: Do the participants find language knowledge essential in writing for the sciences? If so, why? Two (2) predictive hypotheses were formulated in relation to this question:

Hypothesis 4: Language knowledge is indispensable to novice writers in the sciences.
Hypothesis 5: Language knowledge enables research students to become more independent writers and editors of their own scientific texts.

To explore the question operationalised by these hypotheses, the Author used the replies from the questionnaires, both interviews and comments from the discussion forum.

In Item 11 of the questionnaire (see Appendix E, p. 408), the participants expressed their preferences for the language instruction in the Doctoral School at BUT (see Table 17 below). On the one hand, seven (7) students (out of 12) wished to revise grammatical tenses (P1, P2, P5, P6, P10, P11 and P13), but on the other hand, they did not complain at all that no revision of tenses was conducted in the classroom (Interview 1). Apart from Participant 11, the remaining students stated they need discipline-specific terminology to convey specialist issues precisely. They realise, however, that some terms are strictly limited to a very narrow scope of research issues and thus are not suitable for a multi-disciplinary group. As regular readers of scientific texts, they become acquainted with discipline-specific terminology anyway. Although some students wish to learn academic vocabulary, the Author is convinced that they will learn it soon by reviewing literature for their journal articles and dissertations. Paraphrasing was also favoured by all the students, as they needed to cite other authors and avoid plagiarism while reviewing literature and discussing other scholars' research findings. Precision is valued by 11 students, as they *agreed* and *strongly agreed* they would like to learn how to select precise words. They seem to understand that precision in wording guarantees adequate knowledge and information transfer. Structuring accu-

rate sentences is often impossible without explicit knowledge of grammar, and this is what 12 students recognise. Imitating other authors' chunks of language is useful but carries the potential danger of copying bad patterns. Because writing is crucial to their development as researchers, almost all participants *agreed* or *strongly agreed* that the ability to compose concise utterances in written texts is a necessary skill for researchers. This is what they may need to remember when writing in Polish and in English. If they pay attention to conciseness when writing in Polish (which they often choose for generating ideas and drafting – for fluency and exact content) and then translate the texts into English, conciseness can be maintained across the codes.

Table 17. Participants' discursive preferences in the PhD language instruction (Item 11).

In the English classroom of the Doctoral School,		**Number of instances for each answer**				
I would like to:		SD	D	U	A	SA
a.	revise basic grammatical tenses	0	5	0	6	1
b.	learn discipline-specific vocabulary	0	1	1	7	4
c.	learn academic vocabulary	1	1	5	5	1
d.	learn how to paraphrase	0	0	0	6	7
e.	learn how to select precise words	0	0	2	9	2
f.	learn how to accurately structure sentences	0	0	1	3	9
g.	learn how to compose concise utterances in writing	0	0	1	6	6

Answering the question about grammar in Interview 1 (What do you associate grammar with?), 10 participants said that, first and foremost, grammar means verb tenses. They also mentioned sentence structure (P1, P4, P9 and P10), collocations (P5), precise lexis (P10), punctuation (P3 and P7) and a writing style (P11). As for their attitude towards grammar, Participant 8 commented: "grammar is a pain for me" [gramatyka to dla mnie męczarnia]. He also thought the class would be devoted to speaking and building up self-confidence while speaking English, not to grammar. The quotation below illustrates his expectations:

> I thought we'd just sit down and talk through the class, that we wouldn't get involved in these grammatical structures at all. I thought it was over for us, after so many years of education. I thought we'd let it go, and that we're going to work only on our speech and our confidence in speaking [Ja myślałem, że my po prostu usiądziemy i będziemy przez całe zajęcia rozmawiać, że nie będziemy w ogóle się angażować w te struktury gramatyczne. Ja

myślałem, że to już jest za nami, przez tyle lat edukacji, że myślałem, że to już odpuścimy i że będziemy tutaj tylko pracować nad naszą mową i nad naszą pewnością siebie w trakcie rozmowy].

Nevertheless, the participant appreciated the course content, which encompassed grammar, and found it engaging and valuable (for details, see Section 5.2.2). His opinion is not sparse. The participants claimed some language-based issues discussed during the intervention were their *firsts*, for example, transitive/intransitive verbs (P2, P4 and P11), strong verbs (P4, P6 and P12), word saving (P11), compound nouns (P13), parallel forms (P1), collocations (P3), passive voice (P1 and P4), punctuation (P4 and P13), and using a monolingual and collocations dictionary (P3, P4 and P13). This may be surprising, as nine (9) students declared that they had been learning English for over 12 years.

Table 18. Open-response data in the questionnaire (Item 30)

When I write an academic text, I have problems with:	
P1:	No answer
P2:	Combining British and American English [Łączeniem British i American English].
P3:	I can't answer this question because I have too little experience on this subject [Nie potrafię udzielić odpowiedzi na to pytanie, ze względu na zbyt małe doświadczenie w tym temacie].
P4:	Apart from the abstracts for the engineering or Master's theses, I had no contact with writing typical scientific texts. There has been no emphasis on the written text in any English class so far. That's why writing articles in English is new to me [Oprócz streszczenia do pracy inżynierskiej lub magisterskiej nie miałam styczności z pisaniem tekstów typowo naukowych. Na żadnych zajęciach j. angielskiego do tej pory nie było nacisku na tekst pisany. Dlatego pisanie artykułów w j. angielskim jest dla mnie nowością].
P5:	No answer
P6:	Correct grammar (Prawidłowa gramatyka].
P7:	Creating a logical and understandable text with elaborate sentences on complex, scientific concepts [Stworzeniem logicznego i zrozumiałego tekstu, zawierającego rozbudowane zdania, dotyczącego skomplikowanych, naukowych aspektów].
P8:	I don't write enough ☹ [Za mało ich piszę ☹].
P9:	No answer
P10:	No answer
P11:	No answer
P12:	No answer
P13:	No answer

Grammar is a vital component of language knowledge, and using it accurately is essential in professional and scientific writing. This is what all the participants claimed. Participant 12 said that grammatical accuracy and an adequate writing style are more im-

portant than the content of the manuscript. This opinion was contrasted with what Participants 8 and 11 considered important in scientific texts. For them, what comes first is knowledge and data they want to convey; what comes second is grammar. Participant 7 said that in a research article, grammar is as important as the content. She further explained her stance by saying that her manuscripts would be rejected if she did not pay careful attention to grammatical correctness. When asked about the problems while writing scientific texts, the study participants' responses included ideas related to linguistic and extralinguistic issues (for all the responses in original wording, see Table 18 above). The answers do not allow the Author to determine (precisely and conclusively) what poses a problem to the novices in science writing because of the little experience that they had as authors at the time of the intervention and the very few answers provided in the questionnaire that might have been further explored during the interviews.

Clearly, teaching grammar, among other language-based issues, is always beneficial to TL students, but the way it is taught to doctoral students needs to be carefully approached. What the Author provided her students with seemed appropriate, as quoted after an anonymous PhD student in the university study-oriented system (USOS): "[i]f you don't understand grammar, and writing scientific articles is an ordeal, only Monika will save you" [jeżeli nie rozumiesz gramatyki a pisanie artykułów naukowych jest męką, to tylko Monika ciebie uratuje]. Participant 1 said in Interview 1: "[p]ersonally, I'm delighted that we have grammar in the class" [ja osobiście jestem zachwycony, że mamy na zajęciach gramatykę]. Interestingly, grammatical terminology was not discouraging, even if numerous terms, but not concepts, were new (e.g. strong verbs, parallel forms, compound nouns). Some participants said they needed grammatical terminology to organise the ideas better for further reference (e.g. self-study) (P1, P2, P3, P8 and P10). When asked whether they were in favour of the deductive instruction employed in the MOOC, most participants gave positive answers. Participant 2 said she remembered this approach from a former language classroom, and she did not find it boring or demotivating. Rather, it helped her systematise what she had learned so far. Participant 4 found it convenient that the Author had explained language issues very explicitly. She claimed she wouldn't have picked up or guessed what language concepts were discussed if she had been taught in a different way. Inductive teaching of grammatical structures, favoured in some classrooms, was not expected; the students did not feel it would have ensured more active engagement on their part, or learning grammar taught in this way would have been more motivating. When asked about po-

tential modifications in the instruction during the intervention, there were calls for none. Participant 3 said: "[I] just don't know how this should have been done even better" [osobiście nie wiem jak by to miało być jeszcze lepiej zrobione]. He added: "[a] language course is not going to be a stand-up with Bill Hicks" [kurs językowy to nie będzie materiał stand-upowy z Billem Hicksem]. He appreciated being a beneficiary of the study when he said: "[I]'m aware that it brings educational values to me and increases my language competence, so I don't judge it in the context of boring-interesting; I don't qualify it in this way" [mam świadomość, że to niesie wartości edukacyjne dla mnie i zwiększa moje kompetencje językowe, więc nie oceniam tego w kontekście nudne-ciekawe, nie kwalifikuję tego w ten sposób]. Participant 8 realised that he needs to make a greater effort to learn grammar, as, when it comes to writing academic texts, he is convinced that the intuition he always trusted is not enough to ensure the text's accuracy. After the intervention, Participant 11 admitted starting to write more consciously. Earlier, his writing was more intuitive: "[w]e just wrote as we thought" [po prostu pisaliśmy tak, jak uważaliśmy]. Other opinions are quoted below:

> **P1**: Grammar is a tool in English to correctly convey your content. What about the fact that we can somehow put words together when, grammatically, it is so bad that no reviewers will let it go? I think this is a very good course [Gramatyka to narzędzie w języku angielskim, żeby prawidłowo przekazywać swoje treści. Co z tego, że my potrafimy słowa jakoś sklecić, skoro gramatycznie to jest tak fatalne, że żaden recenzent tego nie przepuści dalej. (...) Ja uważam, że jest to bardzo dobry kurs]. (H4; Interview 1)

> **P1**: Finally, somebody found time and willingness to teach grammar because, whenever I was attending English courses, I ran away from it and I didn't like it because nobody would be able to devote me enough time to help me understand and use it. These topics were pursued at such a speed that you got lost at one moment, and these gaps were layered up. And at some point in class, you can't cope [W końcu ktoś znalazł czas i chęci, żeby gramatykę potłumaczyć, bo jak uczyłem się angielskiego na kursach to od gramatyki uciekałem i bardzo jej nie lubiłem ze względu na to, że nikt nie by w stanie poświęcić mi tyle czasu, żebym mógł ją zrozumieć i zaczął używać. Z tymi tematami goniono w takim tempie, że człowiek w którymś momencie się gubił i te luki się nawarstwiały. I w pewnym momencie już na zajęciach nie można sobie poradzić]. (H4; Interview 1)

> **P2**: Grammar correctness should be maintained so as not to be misunderstood [Poprawność gramatyczną należy zachowywać, żeby nie zostać źle zrozumianym]. (H4; Interview 2)

> **P2**: I have some difficulties with proper grammar, so I think I should focus on that next :) (H4; original wording, DF)

> **P7**: Now, after this course, I pay attention to making the language understandable, using simple sentences, not too complicated ones, varying the length of these sentences and using the active voice, sometimes also the passive voice. After this course, I'm already paying at-

tention to many things, including appropriate punctuation [Teraz po tym kursie zwracam uwagę, żeby język był zrozumiały, żeby używać prostych zdań, niezbyt skomplikowanych, żeby urozmaicać długość tych zdań, żeby stosować stronę czynną, czasami też stronę bierną. (…) Po tym kursie już na wiele rzeczy zwracam uwagę, też na interpunkcję odpowiednią]. (H4; Interview 2)

P11: First of all, it's about being able to simplify sentences because I have, for example, a tendency to be able to write a lot. I read what I wrote three or four times, and wonder what I actually wrote. It is also important to simplify this content in some way so as to convey it briefly and on the subject, and in my opinion, this is the most important thing that can be drawn from this course. (…) The whole course is useful [Przede wszystkim chodzi właśnie o to, żeby umieć upraszczać zdania, bo ja mam, na przykład, taką tendencję, że potrafię się rozpisać. Czytam to, co napisałem trzy, cztery razy i zastanawiam się, co ja tak naprawdę napisałem. I to jest też ważne, żeby właśnie tą treść przede wszystkim jakoś uprościć, tak, żeby przekazać to zwięźle i na temat, i to moim zdaniem najważniejsze, co można wyciągnąć z tego kursu. (…) Cały tok tego szkolenia jest przydatny]. (H4; Interview 1)

As regards becoming a more independent writer and editor of their own scientific texts (H5), only Participant 11 declared he knows (by selecting the *I agree* answer) what language issues should be considered in a scientific text to raise its quality (Item 24 in the questionnaire; see Appendix E, p. 408). This student experienced academic writing in English, as he holds a BA's degree conferred by a Spanish university. The other students either had no opinion, or they *disagreed* or *strongly disagreed* with Item 24. Nevertheless, their opinions changed following the intervention. For example, Participant 3 said he used to give a very cursory look at his compositions. After the intervention, his editing is more thoughtful, as he knows better what language issues should be addressed. Participant 10 said: "[I] don't have so much confidence in myself that I would write *I strongly agree*, but I think that now, after our classes, I would chose a different answer. I would choose *I agree*" [nie mam do siebie takiego zaufania, że napisałbym *na pewno wiedziałbym*, ale myślę, że teraz, po naszych zajęciach, zaznaczyłbym *raczej tak*. Wybrałbym inną odpowiedź. Wybrałbym *zgadzam się*]. The quotations below illustrate similar views of the other study participants:

P2: Do I pay attention to language now? Oh, definitely yes, absolutely yes. Starting from the punctuation itself, the syntax and then what the whole text should be; whether it should be composed of short sentences or long sentences. I'm definitely paying attention to this now [Czy zwracam teraz uwagę na język? O, zdecydowanie tak, jak najbardziej tak. Poczynając od samej interpunkcji, składnia zdania i potem, jaki ma być ten tekst, czy ma być złożony czy nie z krótkich zdań czy długich. Zdecydowanie zwracam teraz na to uwagę]. (H5; Interview 2)

P4: Now, whenever I write something myself, I know how to do it and to what to pay attention while writing sentences. It's such a clear set of instructions. For me, this is a huge step forward. My thinking has changed too, whenever I write in English. I don't know how to

> say it, but I think differently than in Polish [Teraz jak coś piszę sama to wiem jak to robić, czego używać, na co zwrócić uwagę, to taka instrukcja czysta. Dla mnie to jest olbrzymi postęp. Inaczej w ogóle myślę jak piszę po angielsku. Nie wiem jak to powiedzieć, ale inaczej niż po polsku]. (H5; Interview 2)

> **P8**: It seems to me that now, while reading my texts, I'm going to get rid of these unnecessary language constraints. I'm sure I will notice them [Wydaje mi się, że teraz, czytając swoje teksty, będę wyhaczał te zbędne utrudnianie języka, jestem pewny, że tą rzecz będę zauważał]. (H5; Interview 2)

As regards writing norms, all the students admitted they do not know how to compose texts compliant with the writing conventions typical of English. That is because they simply do not know what these conventions are, and they never considered them important (Item 25, see Table 15 on p. 252). However, as discussed in Sections 2.3.4.2 and 3.3.1.4, these discursive concepts do not seem to be vital in the submission process to international journals that publish manuscripts in the hard sciences. Other components of scientific articles – organisation of the text and specialist vocabulary – did not need to be specifically treated in the language classroom either. Participant 2 understood that it is not possible to teach discipline-specific terminology in a multi-disciplinary group.

When it comes to self-evaluation strategies, the participants were asked to use an editing checklist while writing and/or editing the post-tests (Checklist 1; see Appendix H, p. 427). The checklist encompassed a selection of language concepts that Plain English favours. As indicated in earlier chapters, the checklist, together with language-focused instruction, worked as a tool to "diagnose and solve their [students' – MŚ] own writing problems" (Ferris 2002: 101), which is a significant move towards autonomy in editing their own work and becoming a better writer (Ferris and Hedgcock 2011: 271). The students had a chance to apply it in a short editing workshop, that is, classroom time devoted to polishing their own texts that had already been revised for content and organisation. Compiling checklist points was a collaborative classroom task that was supposed to raise awareness of potential language problems that may be encountered while composing academic texts. In Interview 2, eight (8) interviewees confirmed remembering to follow the checklist, for example, to write shorter sentences and to use simpler lexis for non-specialist information (e.g. P2, P6, P13). Participant 6 commented on this self-correction device in the following way: "[I] really like such nutshells. And that's something I'm going to go back to in the future. Everything is arranged in one place. A quick look, and you know which parts are neuralgic" [ja bardzo lubię takie pigułki. I to jest coś, do czego będę wracał w przyszłości.

Wszystko jest w jednym miejscu uporządkowane, nic nie muszę wyszukiwać, wiadomo, które momenty są newralgiczne]. Participant 11 honestly said he had had no time to refer to the checklist while doing the post-test, as he had been very busy with his research activities at that time. Clearly, the students approached the editing stage in different ways, which related to their experience in academic writing and/or time they wished to devote to additional workload resulting from their participation in the study.

All above considered, assuming that language knowledge is an important component of writing (as suggested by Hypothesis 4), it was perfectly rational to include language-based instruction in the doctoral language programme. The didactic intervention carried out for the present study focused, first and foremost, on the language items embedded in the guidelines of Plain English. After the intervention, the study participants believe that knowing and using these guidelines in their writing will enable them to become more independent writers and editors of their own scientific texts. This confirmed Hypothesis 5. The intervention excluded other aspects of writing in ERPP because the instruction on academic text types and the publication process is usually provided by thesis advisors who are content specialists and discourse community members with substantial experience in English-medium publishable writing. This is what all the participants confirmed in Interview 1.

5.1.3. Plain English as a legitimate component of an English classroom in the doctoral programme

In this section, the responses to the third research question (Do the participants find Plain English a legitimate component of an English classroom in the doctoral programme? If so, why?) are analysed and interpreted. The following hypotheses were formulated:

Hypothesis 6: Language instruction based on the guidelines of Plain English meets the learning needs of PhD students at a technical university.
Hypothesis 7: The knowledge of Plain English raises research students awareness of what *correct scientific English* is.

To explore the question operationalised by these hypotheses, the Author used the responses from the questionnaires and both interviews. In addition, opinions from the

MOOC's discussion forum were included, as they naturally complement interview responses.

Before the intervention, all the students were convinced the language of science should be difficult, and using more advanced sentence structures and low-frequency words is expected from all the members of a particular discourse community. This opinion was commonly expressed in Interview 1. After the intervention, their perception of scientific writing changed. A few quotes below illustrate this change:

> **P1**: Let me say this: everything we talked about in the classroom and in the online course is useful. These are really useful things. Plain English works very well in the description of the methodology because it makes no sense to complicate the language when the subject itself is complex enough [Powiem tak: wszystko to, o czym rozmawialiśmy na tych spotkaniach i na kursie online jest przydatne. To są naprawdę przydatne rzeczy. W opisie metodologii właśnie Plain English bardzo dobrze się sprawdza, bo nie ma sensu komplikować języka, kiedy samo zagadnienie jest wystarczająco skomplikowane]. (H6; Interview 1)

> **P1:** Here is a very creative approach and very focused on what we actually use to write articles [Tu jest podejście bardzo twórcze i bardzo nastawione na to, co rzeczywiście nam się przydaję do pisania artykułów]. (H6; Interview 1)

> **P6**: I think Plain English makes it much easier to navigate in the language. (…) If I hadn't found out what Plain English is, I think I would continue to complicate sentences in English, in articles or in any other written texts [Myślę, że Plain English znacząco ułatwia poruszanie się w języku. (…) Gdybym się tego nie dowiedział, to myślę, że dalej bym utrudniał zdania w języku angielskim w artykułach czy w jakichkolwiek wypowiedziach pisemnych]. (H6; Interview 1)

> **P7**: I prefer writing short sentences, beacuse they are more clear. Furthermore, I make less mistakes when I write simple sentences. (H6; original wording, DF)

> **P9**: When you add previous lessons to the last, You get to see how the clear and understandable text should be looking, and how You should write your papers. (H7; original wording, DF)

> **P11**: I will honestly tell you that I could work on this kind of [Plain English – MŚ] throughout the course because, for me, this is the most important thing at the moment, and I want to gain as much knowledge as possible on this subject [Szczerze pani powiem, że ja mógłbym pracować na tego typu rzeczach [Plain English – MŚ] przez cały lektorat, bo dla mnie to jest najważniejsze w danym momencie i chcę w jak najwięcej wiedzy zdobyć na ten temat]. (H6; Interview 1)

> **P3**: I'm not going to be the new Shakespeare. I just have to convey what I did, so this simplified language will be enough [Ja nie mam być nowym Szekspirem. Ja muszę tylko przekazać to, co zrobiłem, więc ten język uproszczony będzie na pewno wystarczający]. (H7; Interview 1)

P6: I had such a feeling before that one should write in a more advanced language rather than in a simple one. It seemed more professional. At least, in Polish [Miałem takie poczucie wcześniej, żeby pisać językiem bardziej zaawansowanym niż prostym, to wydawało się bardziej profesjonalne, przynajmniej tak jest w języku polskim]. (H7; Interview 1)

P6: I thought long sentences sounded better than short sentences and sound more professional before I started the course. (H7; original wording, DF)

P11: I realised that these classes really make sense. They have a purpose [Zobaczyłem, że naprawdę te zajęcia mają sens. Mają jakiś cel]. (H7; Interview 2)

Clearly, after the intervention, all the study participants expressed an opinion that they felt they had gained a lot by participating in the intervention, but they needed more time to "digest" (Participant 4) what they had learned in the MOOC and in the classroom. It is worth pointing out that for some students, the intervention contributed to developing their knowledge of what good writing involves and what correct scientific English is. This, in turn, raised their self-awareness of their own weaknesses as learners of English. For example, Participant 13 noticed problems with understanding the MOOC's videos and completing video-related tasks. He found it difficult to understand speech, so he decided to work on this skill harder. For that reason, the course was not only a source of knowledge and inspirational ideas but also a source of motivation to invest more effort into developing their language proficiency. The following quotations represent these views:

P1: These classes, among other things, made me realise how far I'm behind in grammar, syntax and other things. When reading texts earlier, I emphasised understanding the text, what the author wanted to tell me, but I didn't pay any attention at all to the form (…), that we should do so, that this is a cool sentence, and that this is a cool sentence [Te zajęcia, między innymi, uzmysłowiły mi jak bardzo daleko jestem w tyle z gramatyką, składnią i innymi rzeczami. Ja wcześniej czytając kładłem nacisk na zrozumienie tekstu, na to, co autor chciał mi powiedzieć, ale nie zwracałem w ogóle uwagi na formę (…), że tak powinniśmy robić, że to jest fajne zdanie, że to jest fajne stwierdzenie]. (H6; Interview 1)

P2: These classes have helped me a lot with writing [Te zajęcia dużo mi pomogły w pisaniu]. (H6; Interview 1)

P4: The classes showed my shortcomings and a level that was very low. Well, practically, I didn't write anything before. But they showed me how to do it and what to pay attention to [Zajęcia pokazały moje braki i poziom, który był bardzo niski. No praktycznie ja nie pisałam nic wcześniej. No i ukierunkowały mnie przede wszystkim jak to robić, na co zwracać uwagę]. (H6; Interview 1)

P12: The classes showed my shortcomings, but thanks to this, (…) I decided to improve my English. After our classes, I just see what I should improve when it comes to my English [Zajęcia pokazały moje braki, ale dzięki temu (…) stwierdziłem, że trzeba podnieść ten

język. Po naszych zajęciach ja po prostu widzę, co powinienem poprawić, jeśli chodzi o swój angielski]. (H6; Interview 2)

P8: While writing in the sciences from now on, I'll be trying to write these articles on this higher, scientific level. I can't just rely on my language intuition and write something that I think is right [Jak teraz będę pisał, będę próbował pisać artykuły na tym poziomie wyższym, naukowym, to nie mogę się opierać tylko na swojej intuicji językowej i pisać coś, co mi się wydaje, że jest słuszne]. (H7; Interview 1)

In Interview 1, all the participants expressed very favourable opinions about integrating Plain English into the English classroom in the Doctoral School. Participant 1 claimed that both more and less advanced learners can take advantage of the course, and everybody will find something interesting, regardless of their level of language proficiency. He stated that Plain English is not enough to communicate specialist content, but it may be very useful for teachers of Erasmus students. Another advantage of knowing and using simpler English is the greater care that it imposes on writers when they produce their texts; they need to think more carefully about how to write. Participant 3 would wish to write plainly, but there is some framework set by the discourse community that he has to comply with. Sometimes he is not able to understand the scientific text he reads if the language becomes too convoluted. He said: "I think I prefer Shakespeare in the original; maybe I'd understand something more [to ja już chyba wolę Szekspira w oryginale; może coś więcej bym zrozumiał]. Three (3) students said that the subject matter of the class strongly interested them (P2, P11 and P12). Participant 11 added that it was interesting to know there are some language tricks to make writing simpler and easier to understand. Participant 8 said that the more guidelines they learn, the more options they have at their disposal. He can choose the ones that resonate with him. If the selection is limited, some students may not find the guideline they like to follow and keep using a traditional language, i.e. the ornate one. Participant 7 admitted that currently, supervisors and reviewers are not favouring texts written in plain language: "[n]ow, generally, supervisors and some reviewers don't like plain English in texts; it somehow bothers them" [teraz ogólnie promotorzy i niektóry recenzenci nie lubią jak się pisze w tym plain English; to im jakoś przeszkadza]. But at the same time, she thinks plain language in the sciences is very likely to be used more often in the future, so she wants to learn it. Undeniably, writing styles differ across discourse communities, so the preferences of academia as regards *correct scientific English* cannot be completely ignored. However, the junior researchers appear to be convinced that deploying

plainness in English contributes to the higher quality of scientific texts. Their views are exemplified in the quotations below:

> **P2**: Now I know that very well. Everyone is able to understand a scientific text (...) if we have simple words, not sophisticated ones. Then it's simpler, easier and clearer. I'm all for it [Teraz to wiem bardzo dobrze. Każdy jest w stanie zrozumieć tekst naukowy, (…) jeżeli mamy proste słowa, nie wykorzystujemy takich wyszukanych. Wtedy jest prościej, łatwiej i czytelniej. Jestem jak najbardziej na tak]. (H6; Interview 1)

> **P7**: I believe that if it [Plain English – MŚ] is used in the world and, after all, articles are written in English, I mean, people from all over the world write them, so they must be understandable. So I think that is a very good direction. We have to adjust to what is happening [in scientific writing – MŚ], to what direction it is going [Uważam, że jeżeli jest on [Plain English – MŚ] stosowany na świecie i no przecież w języku angielskim artykułu pisze się, no ludzie piszą z całego świata, więc muszą być zrozumiałe. To uważam, że tak, że to jest bardzo dobry kierunek. Musimy się przystosować jednak do tego, co się dzieje, w jakim to idzie kierunku]. (H6, H7; Interview 1)

> **P11**: In my opinion, Plain English should already be implemented earlier, and, of course, in the doctoral school because it is needed here first and foremost. If someone has too much information in the head, too many ideas on a given topic and would like to write, let's say, 20 sentences, they will write them, but in some articles, there is simply a word limit, and you just need to write about these ideas, what you just want to convey in simpler a way [Moim zdaniem Plain English powinno już być wdrażane wcześniej, a w szkole doktorskiej na pewno tak, bo to jest tu potrzebne przede wszystkim właśnie. Jak ktoś ma za dużo w głowie informacji, za dużo pomysłów na dany temat i chciałby napisać na przykład 20 zdań, to się rozpisze, a w niektórych artykułach po prostu jest limit słów i trzeba ustawić po prostu sobie te pomysły, to, co się chce przekazać w sposób po prostu prostszy]. (H6, H7; Interview 1)

Interestingly, Participant 11 stated that Plain English should be taught to secondary school students. "I think Polish teenagers would be happy to learn this language" [myślę, że polscy nastolatkowie chętnie uczyliby się tego języka], he said. This opinion validates the Author's conviction that Plain English should be promoted among a wide range of Polish learners of English. Since it favours clear communication with readers, it goes in line with present-day recommendations for information accessibility.

When it comes to the conventional structure of a research article (Item 28), the participants' responses varied (see Table 19 below). Most students *strongly agreed* or *agreed* that they can divide it into sections, give headings to the sections and sub-sections, and show data in tables and graphs that are adequately captioned. Some students marked the option *undecided*. Only Participant 2 *disagreed* with Items 28b-d. This demonstrates that the students, in general, can attend to genre-focused components of a research article independently (and/or with the help of their supervisors), and very limited classroom time

(which is very limited) does not need to be specifically devoted to this issue. Interestingly, only Participant 2 followed the guidelines on how to organise the pre- and post-tests that the Author had provided in order to ensure similar length and indispensable components of these scientific text types. Participants 3, 7, 8 and 13 did not use the guidelines at all, whereas Participants 4, 10 and 11 applied them only in the post-tests. This lack of attention to the texts' organisation might have resulted from the students' certainty about how to structure both writing samples or their unshakeable belief that the guidelines had been dutifully followed.

Table 19. Participants' competences in organising research articles in English (Item 28).

When I write a scientific text in English, I am able to:		**Number of instances for each answer**				
		SD	D	U	A	SA
a.	divide it into sections (e.g. Introduction, Methodology)	0	0	2	8	3
b.	give headings to sections and sub-sections	0	1	2	7	3
c.	demonstrate data in tables and graphs	0	1	2	6	4
d.	caption table and graphs	0	1	1	8	3

In closing, it can be stated that not only does language instruction based on the guidelines of Plain English meet the learning needs of doctoral students at BUT (as proposed by H6), but it also raises their awareness of what constitutes *correct scientific English* (as suggested in H7). As a result, discussing and practising the concept of plainness in English appears to be a legitimate component of an English classroom in the doctoral language programme.

5.1.4. Improvement in writing performance

The last section of the within-case analysis concerns Research Question 4. It sought to determine how the participants' writing performance would improve following the intervention. The Author formulated the following hypotheses, operationalising this research question:

Hypothesis 8: The use of Plain English brings long-term gains to the writing of doctoral students in a Polish tertiary-level technical institution that can be sustained over time.
Hypothesis 9: The use of language-focused guidelines of Plain English results in more effective, clearer and more readable written texts produced by doctoral students.

To explore the question, the Author used the pre- and post-tests and responses from Interview 2. As indicated in Section 5.1, five (5) participants were excluded from this stage of the study, so the writing samples of eight (8), not 13 students, were analysed (P2, P3, P4, P7, P8, P10, P11 and P13). However, the excluded students are cited in this section if relatable.

The Author decided to include text data to examine writing gains, even if the classroom intervention was short, so the expectations of these gains, given the number of hours of the instruction, were realistic and reasonable. On the one hand, the Author anticipated that the language issues focused on in the classroom would be within the participants' developmental ability and, consequently, more easily applied in the written texts. On the other hand, she expected that the writing gains would take longer to reveal themselves than five (5) months after the intervention. This assumption was once confirmed by Seliger and Shohamy (1990: 101), who claimed that "[i]t should be obvious that there is no hard and fast rule for deciding when enough time has elapsed for (…) a treatment to have an effect". Thus, the Author assumed before the intervention that any improvement in the participants' written production would satisfy her and become a firm starting point for more informed writing-oriented classroom time. Writing is and will be a vital component of the English classroom throughout the doctoral programme, so her students will stand a good chance of upgrading their writing skills in Semesters 2-7. Given the number of hours in the remaining semesters of language development in the Doctoral School at BUT (80 h spread over six [6] semesters) as well as students' motivation (both intrinsic and extrinsic) to develop as scientific writers, subsequent teacher research conducted by the Author might reveal more remarkable changes in the written production. Additionally, access to the MOOC (the second [extended] edition) is unrestricted until 30th September 2024, which enables the participants to come back to the language issues to which they need to devote more time. Its extended second edition contains external links to various resources that provide more insights into the discussed concepts.

In order to determine how the quality of the written texts improved following the intervention, the pre- and post-tests were assessed by three (3) raters (Rs). The raters followed an evaluation rubric (Checklist 2) based on the editing checklist that the participants had used to compose and/or edit their post-tests. They were also supposed to follow another evaluation rubric prepared for them specifically for ranking the writing samples (Checklist 3). The rubric contains language aspects related to Hypothesis 9. Both rubrics can be found in Appendix H, p. 427. In addition, the raters were asked to provide assessments of the students' texts based on their general impressions of these texts. The results of the text data evaluation are compiled in Table 21 (p. 275). It has to be brought to attention at this point that measuring precisely to what extent the guidelines of Plain English were used was not of primary importance in this study, for its purpose was essentially exploratory. Nevertheless, at some points, a high degree of agreement was achieved between the Rs, which is further referred to in this section. The remaining paragraphs focus on the results of text evaluation based on both rubrics.

When it comes to examples of language issues that are congruent with the guidelines of Plain English and which authors can apply in the scientific discourse, attention must be called to short, everyday words (rather than polysyllable Latinates) used to discuss non-specialist issues (Checklist 2, Item A; see Appendix H, p. 427). At least two (2) raters observed the use of simple vocabulary in the post-tests of seven (7) authors. This was not only the case for Participant 2. All three (3) raters noticed plain lexis in the texts written by Participants 3, 4, 10 and 13. Also, strong verbs rather than phrases recommended in plain language (Checklist 2, Item B) were observed by three (3) raters in the post-tests of Participants 3 and 11, whereas by at least two (2) raters in the texts of the remaining authors. Interestingly, the Author disagreed with the other raters, who claimed that the texts written after the intervention contained fewer strong verbs than possible. It was the case of Participants 4, 7, 8, 10 and 13. Participants 4 and 7, however, used the strong verbs in their pre-tests as assessed by the Author, whereas Participants 8 and 10 used the strong verbs in neither text. Conciseness is another highly valued plain-language concept. Table 20 below indicates the students' opinion about their ability to write concisely in English before the intervention. The actual performance, assessed by the raters, indicates that word saving (which conciseness encompasses) was observed in the post-tests of Participants 3 and 7 (Checklist 2, Item E and Checklist 3, Item C). In these two (2) cases, all the raters assessed the texts congruently. The opinions of the raters about other participants varied. For exam-

ple, Rater 1 noticed the improvement in the text's conciseness in the post-tests written by the following authors: P3, P11 and P10. Raters 2 and 3 noticed no change in the texts of Participant 3; Rater 2 observed the deterioration in conciseness in the post-test of Participant 11.

Table 20. Participants' opinions about their writing competence before the intervention.

Item		**Number of instances for each answer**				
		SD	D	U	A	SA
I16:	I can put my ideas across concisely in written English.	0	2	4	2	0
I29e:	When I write a scientific text in English, I can compose concise sentences.	1	0	3	3	1

Another concept that Plain English favours is the active voice. Only three (3) authors made the active voice a *prevalent or frequent* structure in their post-tests, according to at least two (2) raters. This was the case for Participants 4, 10 and 11. The remaining students used the passive voice multiple times in the introductions, as assessed by at least two (2) raters. This may be due to the common preconception that scientific writing is characterised by passive constructions and recommended by numerous established scholars. As regards clarity (Checklist 3, Item D), the raters agreed that both texts of five (5) participants (P2, P3, P4, P8, P11 and P13) were clear (i.e. easily and quickly understood). Rater 2 assessed the post-tests written by Participants 7 and 8 as less clear than their pre-tests. What makes the text easy to read is its fluidity, i.e. smooth transition from sentence to sentence (Checklist 3, Item F). According to Raters 1 and 3, Participants 3 and 13 improved their fluidity in the post-tests. At least two (2) raters perceived the introductions composed by Participants 2, 4, 7, 8, 10 and 11 as fluid.

As regards the overall evaluation of the writing samples, the quality of the texts was assessed according to a 5-point scale (*very poor*, *poor*, *average*, *good*, *very good*), where 1 stood for *very poor* and 5 for *very good* (see Table 21 below). According to Rater 1, seven (7) students improved their writing performance, and one student wrote both texts that were assessed the same (P2). The most considerable change has been observed in the writing performance of Participants 3 and 10. According to Rater 2, three (3) students improved the general quality of their texts (P4, P10 and P11). Two (2) students wrote the texts that were assessed the same (P3 and P13), and three (3) students' post-tests were written worse in comparison to the pre-tests (P2, P7 and P8). For Rater 3, six (6) students improved their

writing performance. The only student whose post-test was rated lower than the pre-test was Participant 8. The reasons for such an assessment are explained in Section 5.2.2. All in all, six (6) students improved the quality of their writing after the intervention, according to at least two (2) raters. Nonetheless, the ratings vary, so Hypothesis 9 is partially supported.

Table 21. A summary of the overall evaluation of the writing samples.

Rater	**Writing sample**	**Participant**							
		P2	P3	P4	P7	P8	P10	P11	P13
R1:	Pre-test	3*	2	3	4	2	1	2	4
	Post-test	3	5	4	5	3	4	4	5
R2:	Pre-test	4	5	4	4	4	1	4	3
	Post-test	3	5	5	3	2	2	5	3
R3:	Pre-test	4	3	4	4	4	2	3	3
	Post-test	5	4	4	4	3	4	4	4

*1: very poor, 2: poor, 3: average, 4: good, 5: very good

The reasons for the discrepancies in the ratings are the subjective opinion of each rater based on his or her own teaching experience over several years and a qualitative rather than quantitative approach to the assessment. Although the evaluation rubrics were analytic rather than holistic and aimed at assessing a list of specific aspects of student writing, they appeared to be too general for a more precise judgement of the texts. The assessment of many features varied significantly between the raters, even if some aspects were seemingly easy to notice and rate. For example, consistency in terminology, sentence length and accurate punctuation (Checklist 2) did not receive unanimous ratings. The evaluation rubric that was to assess the clarity, effectiveness and readability of the students' texts (Checklist 3) contained some points of disagreement too. However, some aspects of writing were easily observed and assessed congruently (e.g. precision in conveying meanings, the texts' conciseness and grammatical accuracy).

The question of whether the samples would be judged more precisely if they belonged to the same genre was asked by one (1) of the raters. To the Author's view, the guidelines of Plain English can be observed (or not) in any text, regardless of the genre. Their use is writer-specific, not language-specific, and can be found across genres. It is not the genre that might have affected the evaluation but, rather, the length of the text. For a discussion about the study's limitations related to the writing samples, see Section 5.3.1.

Considering the above, it can be concluded that the writing gains are not substantial (but still observable in most cases) as opposed to what might have been assumed, given the language proficiency level of the doctoral students and the content matter that had been initially anticipated to be within their developmental ability. Thus, the conclusion does not fully confirm Hypothesis 8. It was the Author's intention to tune the language input to the students' level of development, for carefully selected content might have greatly affected the effectiveness of learning. However, the opinions about the difficulty of the content matter varied. For example, according to Participant 1, the difficulty of the course was chosen well ("[t]rudność kursu była dobrze dobrana. Ja bym to określił 4/5"). The length and intensity of the intervention played their roles too. Even though all the participants admitted that their knowledge had broadened, and their awareness and confidence as novice writers in the sciences had increased (which confirms H3), extensive practice on the concepts discussed is still needed. This need is illustrated in the following quotations from Interview 2 and the discussion forum:

> **P1**: Because we have very few hours, we suffer from a chronic thing: underpractice. I need a lot, a lot more practice in writing and, frankly, monitored practice, that is, that someone checks my work and sees what I'm doing wrong (...) because certain mistakes will be repeated. (…) And in general, it would be necessary to hone grammar, choose those areas in which we are weaker and hone and hone and hone until we perfect it. It's the only way for us to represent a certain level at conferences and so on [Ze względu na to, że mamy bardzo mało godzin, my cierpimy na chroniczną rzecz: niedotrenowanie. Potrzebuję dużo, dużo więcej treningu w pisaniu i powiedziawszy szczerze takiego treningu monitorowanego, czyli, żeby ktoś mi sprawdził pracę, zobaczył, co robię źle (…), bo pewne błędy będą się powtarzać. (…) A tak ogólnie, to trzeba byłoby tę gramatykę piłować po prostu, wybierać te obszary, w których jesteśmy słabsi i je piłować, piłować, piłować do skutku. To jedyna metoda, żebyśmy reprezentowali sobą jakiś poziom na konferencjach i tak dalej].

> **P2**: I noticed that things are getting better and better when I write more articles, more texts. It's a little easier for me to look for my mistakes (...), to correct them according to the tips I learned in your classes. Well, additionally, now, when I read other articles, I also pay attention to certain elements that are good and which aren't good, and also, on the basis of this somewhat more critically, I look at what another author writes. And then, if it's cool and if I like it, I try to use it later in my own texts [Zauważyłam, że coraz lepiej, jakby coraz lepiej to wszystko idzie przy pisaniu kolejnych artykułów, kolejnych tekstów. Już troszkę mi jest łatwiej szukać swoich błędów (…), poprawiać według tych wskazówek, które na pani zajęciach poznałam. No dodatkowo teraz też jak czytam innych artykuły, to zwracam też uwagę na pewne elementy, które są dobre, a które są niedobre, i także na podstawie tego jakoś bardziej krytycznie patrzę na to, co inny autor pisze i później to, co jest fajne i jak mi się podoba, to staram się później u siebie jakoś tam wykorzystywać].

> **P4**: I think everything I learned was so fresh to me. This whole course was a great dose of new ideas, and I think it defeated me, just so. Now, I think I just needed time to digest all this information [Ja myślę, że wtedy to było dla mnie jeszcze zbyt takie za świeże, tak dokładnie, że jakby w ogóle cały ten kurs dla mnie był dużą dawką nowych wiadomości i

chyba mnie to przerosło, tak po prostu. Myślę, że po prostu potrzebowałam czasu, żeby przetrawić te informacje].

P7: I've never written an article in English, so I don't have a lot of experience. Practice and knowledge are required to write better. This course was very useful and gave me a lot of helpful tips. Now, I just have to work on the practice. (original wording)

P9: It's still so fresh. I need to work on what we talked about then [To jeszcze jest świeże. Muszę popracować nad tym, o czym wtedy rozmawialiśmy].

Students learn English not only in the classroom; they can choose various types of formal and less formal instruction (e.g. online and offline private lessons and courses, videos, websites), so assuming that all the participants of the present study learned and demonstrated in the delayed post-test should be credited to the intervention would be far-fetched. The writing gains, however, were lower than the Author had initially (and idealistically) anticipated. However, it is worth remembering that "although the impact of intervention may at times be insignificant when measured in terms of numbers, it may translate into greater involvement and motivation on the part of the students" (Pawlak 2006: 365). Undeniably, the students' positive perception of their ability to produce scientific writing in English as well as motivation to learn to write clearly, effectively and readably, not to mention the actual application of the selected guidelines of Plain English in the post-tests, might have contributed to the overall success of the intervention. Also, to the Author's view, the intervention may also translate, in due time, into greater control the PhD students may assume over scientific English as regards its accuracy and appropriacy. This will eventually lead to increased clarity, effectiveness and readability in their written production.

To sum up, this section describes the research results based on the qualitative data collected before and after the didactic intervention conducted for the purpose of this empirical study. The four (4) research questions operationalised by nine (9) hypotheses were answered on the basis of the participants' opinions about writing expressed in the questionnaires, both interviews and the discussion forum as well as their actual writing performance. The section that follows presents a detailed qualitative analysis of three (3) individual cases.

5.2. Qualitative results: within-case analyses

This section exemplifies the concept of particularity, a characteristic feature of case studies. It involves "the close examination of the particular phenomenon that allows case study researchers to go into great detail in terms of data collection and analysis" (Nunan and Bailey 2009: 164). In this section, the Author analysed the data collected from three (3) participants (cases) because there were no significant differences in the delayed writing performance (post-tests) among the remaining participants. Also, they expressed essentially similar opinions about the intervention and the deployment of Plain English in science writing. The cases selected for in-depth analyses include:

- the student who seemed to be the least likely to succeed as a scientific writer in the Author's opinion (Participant 4);
- the student who seemed to be the most likely to succeed but whose actual writing performance was much below the Author's expectations (Participant 8); and
- the student who made the biggest progress in writing performance according to Raters 1 and 3 (Participant 10).

The analyses of the participants' opinions about the content of the intervention and their actual writing performance before and after the intervention are structured around the research questions. Each profile begins with brief background information. For the writing samples of the participants, see Appendix G, p. 421.

5.2.1. Participant 4 (the least likely to succeed)

This section describes the participant whose awareness and confidence in science writing considerably grew, as evidenced in the study findings, and whose writing performance improved after the intervention, as assessed by all the raters. In the Author's opinion, the participant's chances of success seemed slimmer than those of other students because of a very short exposure to English and no experience in academic writing before entering the doctoral programme.

Participant 4 is a PhD student whose discipline is Biomedical Engineering. Before starting the Doctoral School at BUT, she had been learning English for no more than three (3) years. She did not have English in primary and secondary schools; her formal language learning started at BUT. Her self-declared level of language proficiency was not marked in the questionnaire. She decided to choose the B2 group in the Doctoral School to strengthen her motivation to work harder on her language skills. She assessed her listening skills as *poor*, whereas her reading, speaking and writing skills were *average* (Item 3 in the questionnaire; see Appendix E, p. 408). She felt more confident as a speaker due to her weekly private lessons, which focus predominantly on speaking English. She was happy to hear that writing was to dominate the language classroom in the doctoral programme. She had never written any scientific articles, so her answers in the questionnaire relating to this experience were hypothetical. She *strongly agreed* that she would like to develop all the skills in the English classroom (Item 10).

Table 22 below exemplifies the student's responses to a number of items related to her knowledge and writing routines (or strategies) before the intervention. The responses indicate that the participant is not much interested in typical components of a research article (Items 21 and 27). This is what she can learn from other authors (through reading numerous journal articles representing this genre that she needs for her research or content classes) and/or from her thesis supervisor. She also knows how to use specialist terms appropriately (Item 19), as she reads a lot of journal articles in her discipline, which helps her expand her vocabulary range. However, her overall language competence is not very high, which affects her answers in Items 24-26. The participant *strongly disagrees* with one of the writing strategies (Item 22), which may result from a lack of experience in scientific writing or from a lack of awareness that reading aloud helps notice numerous language-related issues (e.g. unnecessary words, word repetitions, rhyming words, syntactic monotony, problems with cohesion).

As for practising writing in English, Participant 4 did not miss the opportunity to reflect on the learning materials from the MOOC's modules in the discussion forum and, at the same time, to practise writing, which is a recommended writing strategy. Her engagement in this language practice remained strong throughout the intervention. It bears repeating at this point that generating one's own interest in writing is one of the features of a good writer (Gordon 2009: 250). The participant also used a rhetorical strategy (translating the pre-test written in Polish into English) and a compensation strategy (using a monolin-

gual dictionary to check word categories in the post-test). She commented on the latter in the following way: "[f]or the first time in my life, I looked up words in a monolingual dictionary and checked if they were transitive or intransitive. It gave me an awful lot" (pierwszy raz w życiu sprawdzałam słowa w słowniku i to czy one są przechodnie czy są nieprzechodnie. Strasznie mi to dużo dało).

Table 22. Responses of Participant 4 to selected questionnaire items.

Item		**Answer**				
		SD	D	U	A	SA
I19:	I know specialist terms from my discipline.				✓	
I20:	When I write a scientific text, I first write it in Polish and then translate it into English.					✓
I21:	When I write my own scientific text in English, I follow the organisation of the texts written in English by other authors.				✓	
I22:	After writing a scientific text in English, I read it aloud to check if it is clear.	✓				
I23:	After writing a scientific text in English, I think about its readability.					✓
I24:	When I edit my own scientific text, I know what language issues I should consider to improve its accuracy.	✓				
I25:	When I edit my own scientific text, I know what language issues I should consider to comply with writing conventions in English.	✓				
I26:	When I read scientific articles in English, I pay attention to language issues (e.g. lexical phrases, sentence structure).	✓				
I27:	When I read scientific texts in English, I pay attention to their organisation (e.g. the AIMRaD model: Abstract, Introduction, Methodology, Results and Discussion).					✓

The remaining paragraphs in this section are grouped around the research questions addressed in the study.

To answer the **first research question**, the Author analysed interview responses. When asked about her perception of scientific written discourse, the participant admitted it had changed after the intervention. She expressed her enthusiasm about the possibility of using simple language in scientific texts. At the beginning of her research work, she thought that she would never be able to write a scientific paper in English. She was con-

vinced it was supposed to include very sophisticated lexis and complex syntax. During the intervention, she realised that good (or effective) writing can be simpler. She felt relieved to learn that simple phrases and sentences are not perceived as inferior. That is why she started employing them in her written texts. She came to the conclusion that one can write simply and well, which raised her confidence as a novice science writer. Also, paying attention to language in scientific texts (e.g. the active and passive voice, compound nouns) helped her understand the texts – used in both research and professional contexts – much better. As a result, her reading competence increased substantially. She found the course very informative and was glad to learn practical writing tips. In Interview 2, she confirmed that Plain English helped her start writing papers in English, which she had never done before. She became more mindful of her readers too, which echoes Miller's (2006:295) view that good writers care about their audience. The opinions that follow refer to what has been summarised above:

> Ulżyło mi to właśnie, że możemy używać prostych słów w artykułach, że one są nawet lepiej brane pod uwagę i ja to faktycznie praktykuję. (Interview 1)

> Zaczęłam czytać tekst i patrzę, kurczę, tu jest tak dużo strony biernej, a tu compound nouns, a tu strona czynna. I szczerze? Pomogło mi to w zrozumieniu tekstu. Jak zaczęłam zwracać uwagę jak to jest napisane, to pomogło mi w rozumieniu tego, co czytam. (Interview 1)

> Dużo informacji, dużo się w kursie dowiedziałam. (…) Tutaj jest wiedza, którą będę mogła wykorzystać praktycznie. To jest dla mnie naprawdę ważne, cieszę się z tego. (Interview 1)

> Ja jeszcze mam tu na uwadze, że jak pisze tekst po angielsku to żeby każdy zrozumiał i się nie zastanawiał, do czego nawiązuję. (Interview 2)

On the basis of these opinions, it can be assumed that the participant with little experience in writing in ERPP feels much more confident in what scientific discourse involves. She was uplifted after realising that scientific writing was within her reach. Her subjective and honest opinions demonstrate how integrating Plain English into scientific texts helped reduce the burden of *scientificness* of the scholarly texts written by novices to scientific writing.

Next, the responses found in the questionnaire and the interviews were analysed in order to answer **Research Question 2**. The participant's expectations for the language pro-

gramme in the Doctoral School at BUT, marked in the questionnaire, are presented in Table 23.

Table 23. Preferences of Participant 4 for the PhD language instruction (Item 11).

In the English classroom of the Doctoral School, I would like to:		**Answer**				
		SD	D	U	A	SA
a.	revise basic grammatical tenses		✓			
b.	learn discipline-specific vocabulary					✓
c.	learn academic vocabulary	✓				
d.	learn how to paraphrase				✓	
e.	learn how to select precise words				✓	
f.	learn how to accurately structure sentences					✓
g.	learn how to compose concise utterances in writing					✓

The answers demonstrate that learning to write with precisely selected vocabulary and accurately structured sentences is highly expected by a novice in writing in the sciences. It comes as no surprise, as PhD students have to publish their research findings in high-ranking journals to be conferred a doctoral degree. Despite the availability of commercial translation services and AWCF tools, and a rapid rise of generative AI, junior researchers realise they need to know how to express their thoughts in English well enough to pursue their careers in a satisfying way. That is why she *strongly agreed* that she wished to learn how to use accurate grammar and how to produce a concise scientific text (see Table 22 on p. 280). She pointed out the need for analysing and practising the language aspects that contributed to the clarity, conciseness and accuracy of scientific writing (Item 31 in the questionnaire). She would like to discuss them in the classroom as well as examine typical mistakes that can be found in scientific texts. The participant admitted that she should write more to write better. Also, analysing other authors' texts for language was important to improve her own writing competence. She said in Interview 1: "[t]he language in the article must be understandable; it must be correct because if not, it speaks badly of its author" [język w artykule musi być zrozumiały, musi być poprawny, bo jeśli nie, to nie świadczy o autorze dobrze]. During both interviews, she admitted that if she had been asked to complete the questionnaire after the intervention, she would have chosen different answers. She had learned that in academic texts, sentences can be shorter and vocabulary simpler. After

the intervention, whenever she writes in English (and in Polish), she cares about making every sentence clear. She respects grammatical accuracy, as she believes that an inaccurate text is difficult to follow. Because "good writers attend to grammar" (Gordon 2009: 250) and her goal is to write independently publishable texts in English, her increased focus on language accuracy is reasoned.

As regards the checklist (based on the language-oriented guidelines of Plain English), it was used very selectively. The reasons were not given, but she might have felt a bit overwhelmed with numerous *firsts* (see Section 5.1.2). Hence, she paid attention to the most approachable aspects of the written discourse, namely, sentence length and simpler lexis. However, she was convinced that the checklist would be a guide for writing her first academic manuscript ("[c]hecklist to będzie instrukcja obsługi pierwszego artykułu"), as stated in Interview 2.

When it comes to **Research Question 3**, it was analysed in relation to the responses in the questionnaire and Interview 1. The following quotations illustrate the importance of using plain language in scientific discourse:

> For my part, I can say that for me, it's a good subject, and it's good to continue to practise it and to learn Plain English. It's worth it to stick to it, just that [Ja z mojej strony mogę powiedzieć, że dla mnie to jest dobry temat i dobrze jest to też dalej praktykować, uczyć się tego Plain English. Warto się tego trzymać, po prostu]. (Interview 1)

> So far, I have had little contact with English. When I was supposed to write something, I had a blank sheet of paper in front of me, and I didn't know what word to use or how to start [Do tej pory miałam za mało styczności z językiem angielskim. Jak miałam coś napisać to miałam białą kartkę, nie wiedziałam, jakiego słowa użyć, od czego zacząć]. (Interview 1)

> I'd like to write myself. Even though I'm starting from scratch. But I do have time, don't I? That's why I'm taking as much as I can from this course [Ja bym chciała sama pisać. Mimo, że zaczynam od zera. Ale mam czas przecież, prawda? Dlatego czerpię z tego kursu, ile mogę]. (Interview 1)

Clearly, the participant understands that the use of Plain English can translate into more writeable and readable texts. If the written production meets the standards expected from publishable manuscripts and demonstrates what *correct scientific English* is, the classroom instruction that focuses on discussing these standards is by all means appreciated.

As regards the conventional structure of a research article, the participant *strongly agreed* that she can divide it into sections (Item 28a) and *agreed* that she can give headings

to the sections and sub-sections, and show data in tables and graphs that are adequately captioned (Items 28b-d). This demonstrates that the student can attend to genre-focused components of a research article independently and/or with the help of her thesis advisor, and classroom time does not need to be specifically devoted to this issue. However, her abstract violated the organisation guidelines provided by the Author; the post-test, on the other hand, was properly organised.

The **last research question** asked in the study was answered after analysing the interview responses (Interviews 1 and 2), the MOOC's discussion forum and the writing samples. The participant admitted in Interview 1 to being a novice in scientific writing. Her only academic text before entering the Doctoral School at BUT was her Master's thesis. In fact, she did not even know that *academic* writing existed. She said that nobody had ever explained to her how to write in academic contexts, so she always followed her intuition (Interview 1). While composing in Polish, she tried to make her written texts accurate and understandable. After the intervention, she needed time to reflect on the course content, and put writing-related theory from the MOOC and classroom sessions into practice. Her insignificant writing gains in the delayed post-test were not surprising, bearing in mind her little experience in academic writing and a low level of language proficiency when compared to that of other students. The following opinions confirm her little experience in scientific writing:

> I had no first-hand experience with writing. I really wrote what I thought, and I thought it was good [Ja nie miałam wcześniej styczności z pisaniem. (…) Ja tak naprawdę pisałam tak, jak myślałam, I myślałam, że tak jest dobrze]. (Interview1)

> These rules of writing … I have to digest them to make them happen [Te zasady pisania …. Muszę to sobie przetrawić, żeby to doszło]. (Interview 1)

> My the biggest problem is trying to tanslate my polish thinking into english sentences, theregore my sentensec are long and complicated. Sometimes, after time I don't understand, what I write. Maybe, it sounds funny, but unfortunatelli it is what it is. In this week I learn that short sentences are pretty good, moreover they are more understandable. But, as you see, my sentences are still long. Practising new skills will be a long way to make it better. Please, keep your fingers crossed :) (original wording, DF)

From these quotations, it seems likely that the raters would not highly value her writing performance. The participant's subjective opinions about her writing competence (see Tables 22 on p. 280 and 23 on p. 282) are not reflected in her actual performance, though. While writing the post-test, she remembered to use simpler words and less complicated

syntax. The raters assessed her post-test as *good* (R1 and R3) or *very good* (R2). The difference between the writing samples is not big, but some writing gain was noticed (see Table 21 on p. 275). When the participant writes in English now (a year after the intervention), she uses linking words and the end focus principle to make her writing more cohesive. She knows how to understand compound nouns, which are abundant in technical documentation she reads at work, and she didn't know how to understand them before the intervention, as stated in Interview 2. She is pleased to notice the change in her writing skills: "[m]y supervisor read the introduction and understood everything. It was my success" (mój promotor czytał introduction po angielsku i rozumiał, więc dla mnie to już był sukces) (Interview 2). However, she commented on the length of the course in the following way: "[f]or me, these four (4) weeks of the course are not enough. If I ended it now, it would be hard to put it into practice because it is theoretical information" [dla mnie te cztery tygodnie kursu to jest za mało. Gdybym to zakończyła teraz, to ciężko byłoby to wprowadzić w życie, bo są to informacje teoretyczne]. (Interview 1). The Author is aware of the brevity of the intervention, but it was related to the number of teaching hours assigned in the curriculum for Semester 1. The aim of the course was to introduce the students to Plain English and inspire them to use this form of expression in their scholarly texts, and the Author kept in mind that the remaining six (6) semesters of the language programme in the Doctoral School would be used for further writing practice.

When it comes to examples of language issues that are congruent with the guidelines of Plain English, the use of short and everyday words (Checklist 2, Item A; see Appendix H, p. 427), strong verbs (Checklist 2, Item B), conciseness (Checklist 2, Item E and Checklist 3, Item C) and the active voice (Checklist 2, Item G), among other concepts, were assessed by the raters in the participant's texts. Participant 4 used short, everyday vocabulary to discuss non-specialist issues in both texts according to all the raters and strong verbs according to Raters 1 and 2. As regards conciseness, Table 24 below demonstrates the student's opinion about her ability to write concisely in English before the intervention. The intervention, however, did not lead to any gains, as the post-test was not found concise by any of the raters. Another language concept associated with plain language is the active voice. According to Raters 1 and 3, the author made the active voice a *prevalent or frequent* structure in her post-test. As regards clarity (Checklist 3, Item D) and fluidity (Checklist 3, Item F), all the raters agreed that both texts of the participant are clear and fluid. All in all, Participant 4 improved her writing performance as regards lexical precision

and effectiveness of information transfer (Rater 1), and parallism and text organisation (Rater 3). Her post-test was rated lower in terms of word saving and sentence length (Rater 1); the use of strong verbs (Rater 2 and Rater 3); and conciseness (Rater 3).

Table 24. Opinions of Participant 4 about her writing competence before the intervention.

Item		Answer				
		SD	D	U	A	SA
I16:	I can put my ideas across concisely in written English.		✓			
I29e:	When I write a scientific text in English, I can compose concise sentences.	✓				

In closing, as regards the actual writing performance of the participant after the intervention, the quality of the delayed post-test increased according to two (2) raters. The increase was not substantial, which may be due to her low (in general) language proficiency level and the lack of abundant practice in Semester 1. Nevertheless, the participant's considerable growth in confidence as a junior researcher and a rise in awareness of what scientific writing in English involves appear to empower her in her academic career.

5.2.2. Participant 8 (the most likely to succeed)

This section focuses on the participant who was expected to be the most likely to succeed, given the initial conditions, but whose actual writing performance was much below the Author's expectations. However, his awareness as a science writer rose, and his attention to language issues became much more scrupulous following the intervention.

Participant 8 is a PhD student whose scientific discipline is Mechanical Engineering. His self-declared language level proficiency was B2/C1, the highest in the group. He assessed his receptive skills as *very good* and his production skills as *good*; no other student in the cohort thought so highly of his or her competences (Item 3 in the questionnaire; see Appendix E, p. 408). Despite *good* writing skills, *writing* was marked as an essential skill in the doctoral language programme (Item 9), and he *agreed* to raise his competence as a writer (Item 10).

Table 25. Responses of Participant 8 to selected questionnaire items.

Item		Answer				
		SD	D	U	A	SA
I19:	I know specialist terms from my discipline.				✓	
I20:	When I write a scientific text, I first write it in Polish and then translate it into English.	✓				
I21:	When I write my own scientific text in English, I follow the organisation of the texts written in English by other authors.		✓			
I22:	After writing a scientific text in English, I read it aloud to check if it is clear.		✓			
I23:	After writing a scientific text in English, I think about its readability.			✓		
I24:	When I edit my own scientific text, I know what language issues I should consider to improve its accuracy.			✓		
I25:	When I edit my own scientific text, I know what language issues I should consider to comply with writing conventions in English.		✓			
I26:	When I read scientific articles in English, I pay attention to language issues (e.g. lexical phrases, collocations, sentence structure).			✓		
I27:	When I read scientific texts in English, I pay attention to their organisation (e.g. the AIMRaD model: Abstract, Introduction, Methodology, Results and Discussion).		✓			

Table 25 above shows the participant's responses to a number of items related to his knowledge and writing routines (or strategies) before the intervention. Evidently, the participant pays no attention to the discursive and non-discursive aspects of a scientific text, nor does he necessarily draw on the language and organisation of reviewed literature. He does not seem to consider certain writing strategies essential, even if they can help create a more effective text. For example, disagreeing with Item 22 may result from the lack of cognizance that reading aloud helps notice numerous language-related issues, such as repetitions, rhyming words, syntactic monotony or the lack of cohesion. The participant's writing behaviours changed substantially – in relation to the language-based issues – following the intervention, which is further explored in later parts of this section. As stated in Interview 1, the participant never heard about any rhetorical conventions in the English scientific discourse, nor was he expected to use them in any context. Even if he never imitates the organisation of the text other authors apply when composing his own texts, he knows how to

organise the text according to the writing norms of his discourse community. He *agrees* he can divide it into sections, give headings to the sections and sub-sections, and show data in tables and graphs that are adequately captioned (Item 28). This is why he may have *disagreed* with Items 21 and 27. This demonstrates that the student can attend to genre-oriented components of a research article independently (and/or with the support of his supervisor), and classroom time does not need to be specifically devoted to this issue.

The paragraphs that follow respond to the four research questions addressed in the study.

To start with, the Author analysed interview responses in order to answer **Research Question 1**. The participant was surprised to hear in the classroom that the language of science can be simple. He had always thought scientific texts should be written in a sophisticated way with long and complicated sentences. During the intervention, he realised one can write about complex issues using a simple language because the subject matter is difficult, and there is no need to make the language that transfers this content hard to understand. He was free from doubt that he would be using Plain English while writing in the sciences. A few weeks after the intervention, he became fully convinced that a text can be written in a clearer and more comprehensible way when the guidelines of Plain English are applied. Had it not been for the classroom instruction, he would have never noticed it himself, for he used to imitate the convoluted style of the articles that he had read for his research, believing it was the only possible style. This approach is not sparse: because training in writing for early-career scientists is rarely formal and explicit in Polish institutions of higher education, novices to academic writing often write by approximating the research literature they read. Following the intervention, the student noticed the superiority of simple writing over elaborate writing. He concluded that the texts are purposefully written in a wordy style so that they look and sound smarter. He appreciated the course content, especially Plain English and the end focus principle. He finds these issues useful to make the text more cohesive and understandable. Lastly, his language awareness has risen, which enables him to see the difference between a sophisticated and simple language. The opinions that follow refer to what has been summarised above:

> Trochę się zdziwiłem, bo myślałem, że artykuły naukowe muszą być pisane w ten sposób, w taki bardzo wyrafinowany sposób i ten wyrafinowany język, czyli długie, zawiłe zdania. A tutaj właśnie pani nam przedstawiła na zajęciach, że dobrą metodologią, że dobrym zwyczajem jest skracanie tych zdań do najprostszych zdań, i żeby jeszcze bardziej nie utrudniać

> tego artykułu samymi strukturami językowymi, bo te zdania ogólnie, same z idei, z racji tego, że piszemy o czymś skomplikowanym, one i tak są trudne. (Interview 1)

> Jestem pewny, że będę z Plain English korzystać, jestem pewien, że będę. (…) Bo nawet po tych kilku tygodniach zajęć, można było zauważyć, że da się napisać abstrakt prościej i bardziej zrozumiale. (Interview 1)

> Ostatnimi czasy ja miałem bardzo dużo styczności z tym angielskim naukowym, bo czytałem wszystko po angielsku i później zaczynałem zauważać, że trochę piszę w taki sposób za bardzo skomplikowany, bo tak się nauczyłem po tych wszystkich publikacjach, co czytałem. Bo one były w bardzo trudny sposób napisane. (Interview 2)

> Rzeczy, które były potrzebne, które mi się bardzo przydały to był Plain English i end focus, bo przez to ja pewne rzeczy zaczynam widzieć świadomie. Świadomość językowa tak jakby wzrasta i za każdym razem, jeżeli ja coś czytam po angielsku, to wtedy zauważam te różnice pomiędzy skomplikowanym językiem a tym prostym językiem. (Interview 2)

> Właśnie po kursie zauważam wyższość tego trybu pisania w sposób prosty, żeby więcej osób to mogło zrozumieć, a nie specjalnie komplikować tekst, żeby on mądrzej brzmiał, a treści nie niósł w sobie więcej, tylko mieszał w głowach ludziom, którzy to czytają. (Interview 2)

Without a doubt, the student grasps the importance of conveying complex issues in simpler wording. He is convinced Plain English is an adequate tool for information transfer on an academic level. He believes his perception of what good writing involves is greatly influenced by understanding what plain language involves. Earlier, he imitated an elaborate language found in his reading materials. Since about 90% of the texts he reads are written in a highly sophisticated style (his own estimation and opinion), imitating this style in his own texts became habitual. Following the intervention, he understood that the language of science can be simpler. His language awareness and metaknowledge rose. This knowledge, in turn, may help him monitor and enhance his learning and empower him as a writer. For example, he feels like learning language-based terminology (e.g. grammatical terms) so that he can approach language issues more consciously. This will, as he believes, facilitate the transfer of implicit knowledge to explicit knowledge. He did not find the language of the instruction difficult to follow. He explains it in the following way:

> This use of grammatical terminology didn't cause me any difficulties because I was used to learning even more difficult things, and in my field, there are many mathematical things. And if I have, let's say, integrals, differential equations or something more complicated. For me, it is not difficult to focus on the theory first and then on the practice. I've had an awful lot of this, so I can concentrate on such things without any detachment or loss of concentration [Mnie to użycie terminologii gramatycznej żadnych trudności nie sprawiło, bo ja byłem przyzwyczajony do uczenia się jeszcze o wiele bardziej trudniejszych rzeczy i w mojej dziedzinie jest dużo rzeczy matematycznych i jak ja mam, załóżmy, wykładane

całki, równania różniczkowe to to jest jeszcze bardziej zawiłe, dla mnie nie jest to trudne, żeby się na tym skupić, że mamy najpierw teorię, potem praktykę. Strasznie dużo tego miałem, więc potrafię się na takich rzeczach skupić bez żadnego oderwania i utraty jakiejś koncentracji]. (Interview 1)

Next, **Research Question 2** was answered after analysing responses from the questionnaire and both interviews. The participant's expectations for the language programme in the Doctoral School at BUT are presented in Table 26.

Table 26. Preferences of Participant 8 for the PhD language instruction (Item 11).

In the English classroom of the Doctoral School, I would like to:		**Answer**				
		SD	D	U	A	SA
a.	revise basic grammatical tenses		✓			
b.	learn discipline-specific vocabulary		✓			
c.	learn academic vocabulary		✓			
d.	learn how to paraphrase				✓	
e.	learn how to select precise words				✓	
f.	learn how to accurately structure sentences					✓
g.	learn how to compose concise utterances in writing					✓

The responses indicate he was interested in broadening his explicit knowledge on syntactic and textual levels (except grammatical tenses), but the lexical level seemed to be within his reach. This approach to lexis is not baseless: he reads a lot in English, and for the last few years he has been referring to English-medium sources only while looking for any information. He uses only English while producing his own texts: "[I] just think in English, and I write in English" [ja po prostu myślę po angielsku i piszę po angielsku]. In Interview 1, the participant said: "[i]f it comes to English, I can't call myself an experienced author" [jeśli chodzi o język angielski to nie mogę się nazwać doświadczonym autorem]. He admitted using compensation strategies to overcome knowledge gaps, which undeniably helps maintain fluency in writing. He said in Interview 1: "[I]'m able to go around that word that I don't know, and I'll come up with it, and I'll convey the meaning" [ja jestem w stanie obejść dookoła te słówko, którego nie znam i je wymyślę, i tekst przekażę]. The participant believes he needs to write more if he wants to become more skilled in writing (Item 31). Surprisingly, he did not contribute to the discussion in the MOOC forum because of, as explained, a lack of time. Although generating one's own interest to write characterises a

good writer (Gordon 2009: 250), the opportunity to practise writing for authentic purposes and to reflect on the learning materials in the MOOC's modules was, in many cases, missed.

The participant's attitude towards grammar expressed in Interview 1 seemed uncompromising: "[r]eally, I've never liked it [grammar – MŚ]. And I'll never like it" [ja naprawdę nigdy tego [grammar – MŚ] nie lubiłem i raczej nigdy tego nie polubię]. While speaking and writing in English, he uses his implicit knowledge: "I'm an intuitive user" [ja to robię wszystko na wyczucie], he said. In Item 32 of the questionnaire, where he was supposed to use his conscious knowledge to discuss language-based issues, his answers were mostly, *I don't know*. He explained it in the following way: "I'm a mechanical engineer ☺!! I don't know punctuation, but I know how to build new machines ☺" [jestem mechanikiem ☺!! Nie znam się na interpunkcji, ale za to potrafię tworzyć nowe maszyny ☺]. He never regarded grammar as a high priority while composing a text. He expressed this attitude in the following way:

> When I write a manuscript, my research findings always take priority. I want to convey knowledge and research results rather than correct grammar [W moim przypadku, jeżeli ja piszę artykuł w swojej dziedzinie to poprawność, ta językowa, gramatyczna, ona schodzi poniżej mojej zawartości merytorycznej. Ja stawiam na pierwszym stopniu, że chcę przekazać tę wiedzę i te dane, które ja uzyskałem ze swoich badań niż poprawność gramatyczną]. (Interview 1)

In making this claim, Participant 8 is saying that in the process of writing a manuscript, he favours its scientific value over its language value, which is understandable from the perspective of a scholar who wishes to share his research results. He seemed to trust his competence. The participant's negative attitude towards grammar was also noticed in selecting the responses to Item 31. He was the only student in the cohort to select one (1) answer in a multi-select multiple-choice item with quite a few language-related options. When asked what he needs to do in order to write better in the sciences, he selected only *writing more in English*. Following the intervention, he understood that paying more attention to formal aspects of the language would translate, in his case, into reaching a higher level of academic language proficiency. He does not want to focus solely on his strengths; he wishes to work on his weaknesses too. Hence, he is planning to pay closer attention to grammar despite his initial antipathy. For example, after the intervention, he is more cognizant of the

active and passive voice, which makes him a more conscious user of the preferred structure. He reflects on it in the following way:

> If I read the text, I can see the passages where the active and passive voices are used. And then, while analysing it and reading it, I can see that the text written in the active voice is clearer, and I can understand it better. I can understand it, let's say, after reading it once, not after several times [Jeżeli czytam tekst, jestem w stanie zauważyć te fragmenty, gdzie jest napisane w stronie czynnej i w stronie biernej. I wtedy, analizując to i czytając je, wtedy widzę, że ten w stronie czynnej tekst napisany jest w sposób bardziej przejrzysty i z tego szybciej i więcej jestem w stanie zrozumieć, załóżmy, po jednym przeczytaniu, a nie po kilkukrotnym przeczytaniu]. (Interview 2)

As for the checklist aimed at numerous language-focused issues favoured by Plain English and recommended for an editing stage of the writing process, it was not used by the participant. The reasons were not explained, but the participant's opinions about being an intuitive writer and disliking grammar might be a convincing reason for not applying this self-correction strategic device while doing the post-test. Nevertheless, in Interview 2, he agreed that the checklist may be a useful self-correcting tool.

Another research question (**RQ3**) addressed in the study was analysed in relation to the responses in the questionnaire and both interviews. The following quotations present examples of the participant's views concerning the importance of using plain language in scientific discourse:

> Plain English is very much needed, and it is needed for us to convey knowledge and not to try to hide the content behind wise words so that no one understands it or to write long texts that don't contain any information at all, while it can be explained in a very simple way [Plain English jest bardzo potrzebny i on jest potrzebny z tego względu, żebyśmy przekazywali konkretnie wiedzę, nie próbowali ukrywać treści za mądrymi słowami i żeby tego nikt nie zrozumiał, pisać długie teksty, które nie niosły w ogóle żadnej informacji, gdzie to można wytłumaczyć w bardzo prosty sposób]. (Interview 1)

> There is only one way for this language [in scientific texts – MŚ] to be coherent and simple. In these engineering and technical sciences, it is simply impossible to do otherwise. I already have some experience [Jest tylko jedyna możliwość, żeby ten język [w tekstach naukowych – MŚ] był spójny i prosty. W naukach inżynieryjno-technicznych inaczej się po prostu nie da. Ja już trochę doświadczenia mam]. (Interview 2)

> The thing that was needed and that was very useful to me was Plain English. (…) We focus on these necessary things to make our text more understandable to people who read it. (…) The content that is transmitted is difficult, which is why writing in a simple way makes life easier for the reader [Rzecz, która była potrzebna, która mi się bardzo przydała to był Plain English. (…) Skupiamy się na tych potrzebnych rzeczach, żeby nasz tekst był bardziej zrozumiały dla osób, które to czytają. (…) Treść, która jest przekazywana jest trudna, dlatego to pisanie w prosty sposób ułatwia życie czytelnikowi]. (Interview 2)

These opinions about Plain English demonstrate the participant's belief that a simple language can be an effective means of transferring and understanding information in the scientific discourse, both for writers and readers. Its value seems irrefutable, and this strong conviction grew during the intervention. What he finds insufficient is the number of hours in the language programme at BUT. He said in Interview 2: "[w]hat's missing? I'm sure there's a shortage of hours because if we have an hour or an hour and a half a week, it's nothing" [czego brakuje? Na pewno brakuje godzin, bo jeżeli my mamy tę godzinę czy półtorej godziny w tygodniu, to jest całe nic]. Currently, the language programme in the Doctoral School covers 160 teaching hours, not 95, which makes a substantial difference.

As regards the conventional structure of a research text, Participant 8 *agreed* that he could divide it into sections, give headings to the sections and sub-sections, and show data in tables and graphs that are adequately captioned (Item 28). This shows that the student can attend to genre-focused components of a research article independently and/or with the help of his supervisor. Consequently, little classroom time needs to be devoted to this concept. Nevertheless, the participant did not follow any guidelines provided by the Author to organise the texts.

Lastly, the participant's interview responses (Interviews 1 and 2) and his writing samples were analysed to answer the **final research question**. When it comes to examples of language issues that Plain English favours and that were prioritised during the intervention, the concepts of short and everyday words (Checklist 2, Item A; see Appendix H, p. 427), strong verbs (Checklist 2, Item B), conciseness (Checklist 2, Item E and Checklist 3, Item C) and the active voice (Checklist 2, Item G) were analysed by three (3) raters in the participant's texts. Participant 8 used short, everyday vocabulary to discuss non-specialist issues in the post-test, according to Raters 2 and 3. Rater 1 observed that the amount of *ordinary language* decreased in the delayed test, whereas Rater 2 expressed an opposite view. As regards strong verbs, according to Raters 1 and 2, their use remained the same, whereas for Rater 3, both texts had too many weak verbs. Another essential concept is conciseness. In contrast to the student's own opinion about his ability to write concisely in English (see Table 27 below), the actual performance was positively assessed only by Rater 2. For Rater 1, both texts were not concise, whereas for Rater 3, the post-test was less concise than the pre-test. For the overall evaluation of the writing samples, see Table 21 on p. 275.

The use of the active voice is yet another language issue analysed in the writing samples. All the raters noticed a large number of instances of passive constructions in the introduction, which was not the case in the abstract. As regards clarity (Checklist 3, Item D) and fluidity (Checklist 3, Item F), two (2) raters agreed that both texts of the participant were clear and fluid. One (1) rater found a decrease in clarity and fluidity of the post-test. All in all, Participant 8 improved his writing performance in terms of lexical precision (Rater 1); the use of *ordinary language* (Rater 2), but worsened as regards the use of ordinary lexis and active constructions (Rater 1); parallelism, active constructions, clarity and text's organisation (Rater 2); and punctuation and conciseness (Rater 3).

Table 27. Opinions of Participant 8 about his writing competence before the intervention.

Item		**Answer**				
		SD	D	U	A	SA
I16:	I can put my ideas across concisely in written English.				✓	
I29e:	When I write a scientific text in English, I can compose concise sentences.				✓	

On the basis of the responses in the questionnaire and interviews, the Author assumed the participant was the most likely to benefit from the intervention and enhance his scientific writing skills. However, the study findings confirm that despite high language competence in various skills, the participant did not improve his writing performance, in the opinion of two (2) raters. Rater 2 assessed his post-test as *poor*, and for Raters 1 and 3, it was *average*, which is below the Author's expectations. She expected a higher rating than that of the pre-test, which was assessed as *good*. The lack of improvement may be due to the low number of classes in Semester 1, which the participant complained about in Interview 2. Also, he would like to practise newly acquired skills to a greater extent. Despite unimpressive writing gains, the participant's attitude towards writing in the sciences changed. Apart from writing intuitively, he seems convinced to employ explicit knowledge of grammar to make more informed choices about the language system when composing scientific texts. In Interview 2, he declared investing more time and effort into language-focused concepts of the written discourse, as he is now convinced that the intuition that he always prioritised is not enough to write effective academic texts. Also, the guidelines of Plain English discussed in Semester 1 strengthened his firm conviction that scientific writing should be simpler and less confusing.

5.2.3. Participant 10 (the high achiever)

In this section, the Author describes the participant who made the biggest progress in writing performance, as evidenced by the study findings according to Rater 1 and Rater 3. His cognizance of what scientific discourse should demonstrate, as well as his confidence as a novice in writing in the sciences, increased too.

Participant 10 is a PhD student whose discipline is Information and Computer Technology. His self-declared language proficiency level is B2 after over 12 years of learning English. However, in Interview 1, he doubted whether his language proficiency level was actually B2, as he had never felt good enough at English ("[j]a nie czułem się nigdy zbyt dobry z angielskiego"). Outside the classroom, he speaks English very little. As for written English for occupational purposes, the student is responsible for preparing project documentation for products. In order to develop his language skills, he regularly watches films and YouTube videos in English. In December 2020, he was not attending any other English classes, but his supervisor highly recommended upgrading his English language competence. As a research student, the participant was supposed to share his research results in English-medium journals and at international conferences, hence the recommendation put forward by the thesis advisor.

The participant had no expectations about English classes in the Doctoral School, as he did not even know that the doctoral programme at BUT includes 95-hour language instruction. Asked in the questionnaire about the preferred content of the English class, he said he wants to practise production skills. He assessed them both as *poor* (Item 3 in the questionnaire; see Appendix E, p. 408).

Table 28 below exemplifies the participant's responses to a number of items related to his knowledge and writing behaviours before the intervention. Clearly, the participant declares to know discipline-specific terminology (Item 19) and to be aware that scholarly articles should conform to the preferences of his discourse community (Item 21). Such knowledge is not typical of all the subjects in this study (see Table 15 on p. 252). His responses to Items 22-25 may indicate a lack of writing strategies and language knowledge, for he chose the *undecided* option. However, his confidence as a scientific writer was low prior to the intervention (as stated in Interview 1), which may also have impacted the answers. The participant admitted that he would have selected different answers if he had filled out the questionnaire after the intervention.

Table 28. Responses of Participant 10 to selected questionnaire items.

Item		Answer				
		SD	D	U	A	SA
I19:	I know specialist terms from my discipline.					✓
I20:	When I write a scientific text, I first write it in Polish and then translate it into English.				✓	
I21:	When I write my own scientific text in English, I follow the organisation of the texts written in English by other authors.				✓	
I22:	After writing a scientific text in English, I read it aloud to check if it is clear.			✓		
I23:	After writing a scientific text in English, I think about its readability.			✓		
I24:	When I edit my own scientific text, I know what language issues I should consider to improve its accuracy.			✓		
I25:	When I edit my own scientific text, I know what language issues I should consider to comply with writing conventions in English.			✓		
I26:	When I read scientific articles in English, I pay attention to language issues (e.g. lexical phrases, sentence structure).				✓	
I27:	When I read scientific texts in English, I pay attention to their organisation (e.g. the AIMRaD model: Abstract, Introduction, Methodology, Results and Discussion).				✓	

The remainder of this section is focuses on the research questions addressed in this empirical study.

To answer **Research Question 1**, the Author analysed only interview responses. The opinions that follow were collected during both interviews:

> I have never had such an approach to writing in any class, that we look at it here, that it can be like this; it has never been done like that before [W taki sposób nigdy nie miałem na żadnych zajęciach takiego podejście do pisania, że tutaj na to patrzymy, że tutaj to może być tak, że w ten sposób nie było jeszcze robione nigdy]. (Interview 1)

> Maybe theoretically, I could write this text better. It didn't seem very possible to me before, or possible, but only a little, that you could write such a really nice text that reads well. I can determine what kind of text is good so that it reads well and sounds nice. But composing it is a different thing. It's just like music: I can assess if it's good or bad, but I can't compose it [Wcześniej nie wydawało mi się to zbyt możliwe albo możliwe, ale trochę, że teraz można napisać taki naprawdę fajny tekst, żeby się dobrze czytało. Potrafię określić, jaki tekst jest dobry, czytając go, że ładnie brzmi, ale stworzyć go to zupełnie inaczej. Potrafię ocenić, że to jest ładna muzyka, ale nie potrafię jej skomponować]. (Interview 1)

> I think when the sentence sounds bad, I reflect on it. Ok, why does it sound bad? What's wrong with it? I've never done it before [Wydaje mi się, że gdy zdanie brzmi źle, wtedy zastanawiam się, co tam jest źle. Wcześniej tak nie robiłem]. (Interview 2)

Clearly, the participant enjoyed the instruction on how to write in English, which was his *first* in some respects. Analysing components of the English language in writing contexts was new and different, but at the same time interesting and challenging, which made the intervention a valuable and inspiring language experience. When asked about an opinion on applying plain language in specialist written discourse, the student responded positively and added that the content of the whole course was convincing.

While addressing the **second research question**, the Author referred to the questionnaire and the interviews. The student wished to attend to all the language-based concepts listed in Item 11 of the questionnaire (see Table 29).

Table 29. Preferences of Participant 10 for the PhD language instruction (Item 11).

In the English classroom of the Doctoral School, I would like to:		**Answer**				
		SD	D	U	A	SA
a.	revise basic grammatical tenses				✓	
b.	learn discipline-specific vocabulary				✓	
c.	learn academic vocabulary				✓	
d.	learn how to paraphrase				✓	
e.	learn how to select precise words				✓	
f.	learn how to accurately structure sentences				✓	
g.	learn how to compose concise utterances in writing				✓	

The answers illustrate that learning to write clearly with precisely selected lexis and accurate syntax is what this junior researcher expects to cover in the English classroom. Without a doubt, before the intervention, the student did not feel competent in many aspects of language knowledge, despite a considerable level of proficiency. Feeling not good enough in terms of language competence might have imposed certain writing behaviours. For example, the student did not write any posts in the discussion forum because, as a perfectionist, he wanted to write them faultlessly. Due to his little experience in writing, he was not sure his posts were grammatically correct, and he was afraid of making mistakes. He also felt he had nothing to share with others. He rarely volunteered in the classroom, even if he was

engaged and ready to answer any question. He said he did not want to dominate the class and take the floor from others. He stated that he found the online mode of the classes psychologically difficult.

As stated in Interview 1, the student never analysed in depth his own language skills as well as his needs and expectations in relation to the language instruction in the Doctoral School. Discussing such issues in the classroom seemed to be his *first*. The participant pays attention to the grammatical accuracy of the texts he writes, but his competence in English is not good enough, in his opinion, to choose the correct options; he does not trust his language knowledge. As regards the language issues discussed in the classroom that are essential to upgrade writing skills, he did not select anything. For him, all the information was important ("[w]łaściwie wszystkie informacje są ważne"). The quote provided below illustrates his opinion about language-related issues after the intervention:

> Before taking classes with you, I considered grammar to be unimportant. I wasn't very good at English, and it was ok. Now, I kind of changed my mind. Maybe I took it more seriously [Myślę, przed zajęciami z panią uznawałem gramatykę za nieważną oraz uznawałem, że za bardzo nie potrafię języka angielskiego. Teraz w pewien sposób zmieniłem zdanie, może bardziej serio podszedłem do tego]. (Interview 2)

When it comes to the checklist based on the language-oriented guidelines of Plain English and recommended for editing the post-test, he used it neither in the process of writing the post-test nor editing it. The reason for not applying this self-correcting strategic tool was not given.

As regards **RQ3**, it was answered after analysing the questionnaire and both interviews. The participant initially admitted he had no strong opinion about including Plain English in the language classroom in the Doctoral School, but then he said: "[I] don't know my way around English. I must trust experts" [mało znam się na angielskim. Muszę zaufać ekspertom] (Interview 1). It means he was positive about the concept of simplifying English for academic purposes. It also means he thinks highly of his language teacher. This trust, in turn, may become an important motivating tool to attract the student's interest in the classroom content. This relationship was already pointed out in Section 3.2.1. Nevertheless, he seems to find the concept of plainness in the English language attractive and believes it can be beneficial to his growth as a scientific writer.

When requested to comment on the organisation of a research article, Participant 10 *agreed* that he could divide it into sections, give headings to the sections and sub-sections,

and show data in tables and graphs that are adequately captioned (Item 28). This demonstrates that, despite being a junior researcher, he can attend to genre-focused components of a scientific article independently and/or with the help of his thesis advisor. Therefore, little classroom time needs to be devoted – if at all – to this concept. However, similarly to Participant 4, his abstract did not follow the organisation guidelines provided by the Author; the introduction, on the other hand, was adequately organised.

Finally, **Research Question 4** was analysed on the basis of the interview responses (Interviews 1 and 2) and the writing samples. Following the intervention, the participant reflected on his writing competence in the following way:

> After our previous conversation, I thought: ok, English is an important thing in life, and I started private classes. I think I've learned a lot of things too. I definitely spent much more time writing the second text than writing the first one. I put more time and effort into it [Po poprzedniej rozmowie z panią pomyślałem sobie: ok, angielski jest ważnym czymś w życiu i zacząłem chodzić na korepetycje. (...) Sporo rzeczy chyba się nauczyłem też. (…) Na pewno dużo więcej czasu poświęciłem na pisanie tego drugiego tekstu niż pierwszego. Bardziej się do niego przyłożyłem]. (Interview 2)

This quotation indicates that he seems to be empowered by the intervention that introduced him to Plain English. The participant's language competence enhanced, and so did the overall written performance, as indicated by two (2) raters (see Table 21 on p. 275).

As for text data, the examples of language issues that Plain English recommends were expected in the participant's post-test, namely, short and everyday words (Checklist 2, Item A; see Appendix H, p. 427), strong verbs (Checklist 2, Item B), conciseness (Checklist 2, Item E and Checklist 3, Item C) and active voice (Checklist 2, Item G) The participant used short, everyday vocabulary to discuss non-specialist issues in the post-test, according to all the raters. The use of strong verbs, according to Rater 2, increased. For Rater 3, both texts had too many weak verbs. As regards conciseness (see Table 30 below), before the intervention, the participant was rather positive about his ability to produce concise sentences. Actually, his performance in both texts was positively assessed by three (3) raters. Similarly, frequent use of the active voice and good fluidity (Checklist 2, Item G and Checklist 3, Item F) were observed in the analysed samples. As for clarity (Checklist 3, Item D), the raters' opinions varied. Rater 1 found an increase in the clarity of the post-test, whereas Rater 2 found both texts unclear. All in all, Participant 10 improved his writing performance as regards clarity, effectiveness, text organisation, parallelism and punctuation

(Rater 1); strong verbs, word saving and parallelism (Rater 2); and punctuation and grammatical accuracy (Rater 3).

Table 30. Opinions of Participant 10 about his writing competence before the intervention.

Item		Answer				
		SD	D	U	A	SA
I16:	I can put my ideas across concisely in written English.			✓		
I29e:	When I write a scientific text in English, I can compose concise sentences.				✓	

Since the participant felt competent in writing in English concisely before the intervention, he did not find conciseness, as well as clarity and grammatical accuracy, worth focusing on and practising in the English classroom (Item 31). He was not interested in learning how to structure the scientific text either (Item 28). The responses to both items suggest he was positive about his writing skills in academic contexts, for he also knows how to organise a research text and apply specialist terminology. As regards his actual writing performance, the quality of the delayed post-test increased according to all three (3) raters. Rater 1 noticed the biggest difference in the language-oriented quality of the delayed post-test: the abstract was assessed as *very poor*, whereas the introduction was perceived as *good*. For Rater 2, the improvement was negligible: from *very poor* to *poor*. According to Rater 3, the pre-test was *poor*, whereas the post-test was *good*.

In closing, the study findings indicate that following the intervention, the overall attitude towards Plain English was positive, although the participant, who seemed to be an introvert, was not very generous with explicit comments. The noticeable improvement in the post-test may have resulted from his active engagement in language practice outside the classroom, inspired by the intervention in Semester 1.

The remaining sections of this chapter provide a general discussion of the main findings and reflections resulting from this discussion, limitations of the study and suggestions for further research.

5.3. Discussion

There is a body of literature on instructional initiatives undertaken by language teachers working with TL students or academics who wish to publish their research results in English-medium international journals. For example, attending specific EAP training sessions was suggested as productive for Spanish research writers, for such training would allow them to develop their proficiency in English for research writing purposes (Moreno et al. 2012). Similarly, in Iceland, almost two-thirds of 238 academics indicated that they needed assistance in writing manuscripts in English (Ingvarsdóttir and Arnbjörnsdóttir 2013, as cited in Cargill et al. 2017). Also, the results from the study of Cargill et al. (2017) pointed to the need for assistance with English for Indonesian writing scientists who wish to compose publishable texts. The focus of these teaching initiatives was on the genre of the research article, the publication process and academic grammar. In the classroom, an English language instructor was accompanied by the content instructor.

Unlike Corcoran's (2017: 241) study subjects, who largely perceived their grammar instruction in the ERPP course as ineffective, the participants in the present study were positive about the focus on language-based concepts, as evidenced by the findings cited earlier in this chapter. They were satisfied with the course because it introduced them to language issues useful in scientific writing. Their favourable opinion about the concepts covered during the intervention cannot be ignored. PhD students are mature and independent learners who are aware of their strengths and weaknesses as well as their needs in language instruction and the expectations of the teacher. Also, they understand the importance of self-study and personal commitment, and are able to make autonomous decisions about their language learning. Their positive views about language instruction may also have been influenced by the pleasant atmosphere in the classroom (for students' opinions, see Appendix D, p. 403) and by their teacher's efforts to professionalise her teaching practice.

Having presented and commented on relevant extracts from the data elicited, the Author drew the following conclusions:

- Although the actual writing gains of the study participants may not be impressive, other positive behaviours and attitudes towards writing in the sciences were observed.
- Even though the findings of a qualitative study rely to a large extent on highly subjective and unmeasurable evidence, and cannot be generalised, the results of the present

qualitative study offer some useful insights into language instruction aimed at PhD students.

The Author is aware that there is a difference between what the learner knows (i.e. competence) and what the learner is able to do (i.e. performance). Certainly, TL performance is not always indicative of underlying language knowledge. Also, the students do not always learn and apply what they are taught, even if it is within their developmental ability. The participants of the present study appeared to benefit, more or less explicitly, from the didactic intervention, which satisfied their teacher.

The Author is convinced that the overall gains of the instruction included non-discursive factors in the writing process, such as developing writing confidence, and heightening awareness of what *good writing* involves and what *correct scientific English* is. Undeniably, the students seem to have developed the following writing behaviours:

- They began to give greater care to the planned written production by making more informed decisions about selecting language devices that are accurate in the scientific discourse and expected by the gatekeepers of English-medium scientific journals (as admitted in Interview 2).
- They acquired transferable values and skills (e.g. looking at their writing from different perspectives, gaining increased writing experience, learning through handling errors consciously, and becoming more analytical and self-critical) by deploying metacognitive strategies during the intervention.
- They demonstrated (in some cases) the writing gains that were sustained over time.

It goes without saying that, in addition to the classroom instruction, the writing gains drew on the learners' individual language proficiency level and engagement in the classroom activities as well as their reading and writing practice they did outside the classroom. Nevertheless, it can be concluded that the treatment, in essentials, was successful. It would be naïve to expect remarkable improvement in writing skills after the 6-week intervention or to believe that it was the intervention itself that positively affected language choices in the post-test. On the other hand, doctoral students are ambitious young people with well-defined goals. Therefore, when inspired or motivated, they might have started to engage

more actively in language learning and enhance their writing skills outside the classroom, for example, through self-study.

All in all, in the Author's opinion, the most significant advantage of the intervention is not only the writing gain – not substantial but still observable in most cases – but also the awareness of what scientific writing in English involves that was raised and the writing confidence that was built up as a result of using simple English in scientific writing.

The sections that follow describe the limitations of the study (Section 5.3.1), its implications and suggestions for further research (Section 5.3.2).

5.3.1. Limitations of the study

While the present study sheds light on writing instruction aimed at PhD students, the Author is fully aware that it is not free from imperfections given the small sample and the qualitative nature of the study. As a result, its limitations – discussed below – are manifold.

In the first place, an important shortcoming of the present study may be the way the writing samples were evaluated. An essential aspect of text data assessment is inter-rater reliability, that is, the degree of agreement among raters if there is more than one rater who evaluates the same phenomenon. Hamp-Lyons (2011: 164) points out that raters' opinions on the language quality of the text may depend on the subject and their preferences for certain kinds of sentence structures or word choices. It may be the case in the present study, as Rater 1 is British, Rater 2, American and Rater 3 is Polish. As a result, their knowledge and sensitivity to various language issues, as well as their perception of the clarity, effectiveness and readability of the written text, may differ. If the raters in the present study had been instructed on how to assess the written texts, their inter-rater reliability might have been higher and their ratings more reliable. The Author, however, did not provide detailed instructions on how to achieve inter-rater reliability, which resulted in inconclusive ratings of the writing samples concerning selected language aspects.

Another potential limitation of the study relates to the learning environment. "Talking directly to people and seeing them behave and act within their context" (Creswell 2014: 234) recommended for qualitative researchers was not possible in the 2020-2021 academic year. Due to the COVID-19 pandemic and university closure, the entire didactic intervention was carried out in a virtual environment, and the data were collected through online

questionnaires and interviews. It was difficult to personalise the relationship with the respondents, for the Author met them only in the online mode. Due to technical and/or psychological concerns (e.g. unstable Internet connection and/or online fatigue, respectively), the online classes were conducted with the teacher's and most students' webcams turned off for most of the classroom time, so the transmission relied largely on audio signals only. As a result, the Author never saw most of her students. The lack of face-to-face interaction might have influenced the students' motivation, involvement and active participation in classroom activities, and affected efficient knowledge processing (Żylińska 2013). Participants 4 and 10 confirmed in Interview 1 that volunteering during classroom activities had been psychologically difficult; they had been afraid to make a mistake in front of classmates whom they had never met. The other possible reason, not voiced by the interviewees, was to avoid fatigue caused by fixating too much on their own appearance on camera (i.e. how they might have been perceived by their peers and the teacher). The student who chose to turn on his camera during online classes (P1) may have been more engaged in the class activities, which consequently may have led to more benefits, both discursive and non-discursive, resulting from the intervention. However, this student was partially excluded from the study.

Last but not least, since language skills can be fostered through language-learning or language-use strategy training, the intervention might have had the desired effects if the study participants had received direct strategic training. It seems that discussing how to approach writing tasks and practising the writing strategies in the classroom and outside cannot be taken for granted, even if students at the B2 level are independent adult learners who should know how to achieve their language goals. In fact, the strategy training carried out at the beginning of the language programme in the doctoral school can remind PhD students how to learn English more efficiently throughout their studies, help them develop their writing ability in scientific contexts and promote their autonomy as learners and writers. It should be noted, however, that discussing the strategies does not imply an automatic transfer from declarative to procedural knowledge that leads to higher-quality writing (Drożdział-Szelest and Domińska 2016: 74). In other words, knowledge about writing alone does not automatically translate into the ability to write better. Practice is fundamental.

In sum, the limitations described above may inevitably affect the validity and reliability of the quantitative study, in which data are processed by mathematical calculations

and are prone to statistical analysis. Despite these limitations, the qualitative nature of this multi-case study means that the findings may be of practical relevance to a number of stakeholders (see the section below).

5.3.2. Implications and future research

In the light of the data analysis presented to answer the research questions, the Author recommends incorporating Plain English into academic-development courses at BUT, both in the Foreign Language Centre and, more broadly, in other faculties. This can be done by organising a series of writing workshops for teachers of English so that they become more informed instructors about this form of expression in English. A series of workshops can also be offered to faculty members, with post-workshop support for research writing and/or individual manuscript revision during one-to-one conferences. As Plain English can be used for technical communication, undergraduates in engineering disciplines will definitely benefit from instruction on how to write clearly and effectively in technical contexts. Such training can be offered to regular students in elective language courses or to attendees of skill-based courses taught by English teachers at BUT.

. Apart from the local context, the study can serve as a point of reference for practitioners wanting to explore the rationale for teaching Plain English to improve the writing skills of doctoral students in any discipline. The study has important implications for developing writing competence in Polish academic settings because Plain English is generally not discussed in Poland. According to Łucja M. Biel (p.c.), awareness of this idea is low ("[p]lain English w Polsce generalnie nie istnieje; jest niska świadomość tego tematu"). In order to heighten general awareness of this form of expression in English, Plain English should be recommended to a variety of stakeholders in educational contexts, including:

- policy and decision makers who verify language programmes for tertiary-level institutions and doctoral schools;
- ERPP course designers;
- designers of teacher training programmes;
- mentors and tutors who specifically give writing tutorials;
- faculty members who teach content courses in English;

- supervisors of diploma theses and PhD dissertations written in English;
- authors of manuscripts intended for international publication in English-medium scientific journals;
- editors and peer reviewers of English-medium scientific journals;
- scholars with a low level of language proficiency who use AWCF tools to translate texts from Polish into English;
- Polish and international students who write their diploma theses and PhD dissertations in English;
- students with low literacy skills (e.g. learners with specific learning differences and students with visual or hearing disabilities as well as cognitive impairments);
- (novice) translators and proofreaders of scholarly texts; and
- (novice) technical writers.

The guidelines of Plain English can also usefully inform classroom practice and be valuable to the following professionals:

- teachers of English who run courses for PhD sudents and faculty members;
- teachers of English who proofread their students' written texts (e.g. diploma/conference abstracts, full journal articles, grant or fellowship proposals, presentation slides);
- ERPP practitioners or teachers who are interested in practices related to ERPP, including ERPP pedagogy, ERPP curriculum design and materials development, or anyone involved in ERPP teacher training, research communication support services and international ERPP initiatives and programmes; and
- experts from writing centres or language support centres in higher education institutions.

Outside the educational context, other indviduals or organisations can benefit from integrating plain language into the documents they develop or help to develop, for instance, technical writers, content or information developers, legislative drafters and professional writers.

Echoing Elbow (1998: 138), the Author believes Plain English can be straightforwardly taught, so any English teacher can transform its guidelines into teachable materials. Teaching students about plain language does not require any specialist training, although

some workload is necessary to learn about it and provide students with authentic discipline-specific examples (e.g. by collecting a body of scientific texts or their extracts written by Polish researchers, etc.). Nevertheless, moving from teaching English for General Purposes to teaching English for Research Publication Purposes would require more (specialist) training, which may be of less interest to some English teachers.

The results of this study will build up the existing empirical evidence on writing in a target language. For the the Author, they can be a convenient starting point for further research, which can be carried out, for example, in the form of action research. Because the intake to the Doctoral School at BUT is regular, and the MOOC is available at navoica.pl until 30th September 2024 (not 31st March 2022 as originally planned), the Author can continue her teacher research with other students, thus making it a "cyclical process rather than a one-time event" (Nunan and Bailey 2009: 229). With an additional 65 teaching hours at her disposal spread over eight (8) semesters (resulting from the 2021 changes to the doctoral programme) and the offline mode of regular classes, the Author can devote more time to the actual practice of writing in the classroom in various forms (e.g. collaborative or individual). At the end of the PhD language programme, she can determine whether much longer instructional treatment brings more significant gains and whether these gains retain over time. Additionally, the Author can place more weight on strategic training in her own classroom by instructing her students explicitly how to apply a variety of rhetorical, metacognitive, cognitive, communicative and social/affective strategies that writers can use when composing their scientific texts. Moreover, as the teacher of the study participants for all the semesters, she is able to assess their writing performance in the last semester of the language programme in the Doctoral School, which allows her to make a more informed judgement about the overall instruction and teaching materials that draw heavily on Plain English.

Apart from doctoral students, the Author can investigate the writing competence and performance of faculty members who take part in the courses she teaches to beneficiaries of numerous BUT projects. Comparing the integration of language-based guidelines of Plain English into writing activities and the benefits it brings for junior researchers (with little experience of writing for publication purposes) and senior researchers (who are experienced authors of English-medium journals) might be an interesting research endeavour.

The Author would also be interested in conducting research in a variety of other educational contexts. The effects of integrating Plain English into the classroom on writing

development can be explored by replicating this study with different student groups (e.g. Polish students with lower or higher levels of language proficiency, students with low literacy skills or international students). Further research can also look at incorporating the guidelines of Plain English into an academic writing course offered to students of English philology. It would be interesting to investigate the performance of students in the humanities and compare the findings with those of doctoral students in engineering disciplines. Last but not least, the present study can also serve as a point of reference for researchers who would like to explore in depth the area of writing in English for publication purposes and the use of Plain English.

It is worth noting at this point that the increasing use of generative AI tools in the research and writing process is very likely to have an impact on the teaching of writing in modern classrooms and the attitudes of research students towards scientific writing for publication purposes. This is the hope of the Author that the tools can be used for the benefit of both students and teachers. The former will develop skills for the future and the latter will develop innovative methods of teaching. However, novice writers in the sciences should remember that while AI-assisted technologies, such as ChatGPT, Jasper, NovelAI, Rytr and Writersonic, can improve "readability and language", they can also generate "authoritative-sounding output that may be incorrect, incomplete or biased" (https://www.elsevier.com/journals/engineering-failure-analysis/1350-6307?geneatepdf =true). In addition, they can misinterpret unclear commands and thus produce irrelevant or out-of-date information (https://russellgroup.ac.uk/media/6137/ rg_ai_principles-final.pdf). Therefore, the texts students compose in and out of the classroom may require careful revision and editing. Whether these final stages of the writing process can be monitored and controlled by humans with the support of Plain English may be another area of scientific study.

CONCLUSION

This small-scale empirical study conducted in the Author's own classroom attempted to answer four (4) research questions operationalised by nine (9) hypotheses. The research project focused on:

- the participants' perception of the role of Plain English in writing for research publication purposes following the intervention (RQ1);
- the participants' opinions about language knowledge as essential in writing for the sciences (RQ2);
- the participants' opinions about Plain English as a legitimate component of an English classroom in the doctoral programme (RQ3); and
- improvement of the participants' writing performance following the intervention (RQ4).

The analysis of the qualitative results of the multiple-case study, including the cross-case and within-case analyses, showed that the research questions addressed in the study were answered. The results of the study justify the reasons specified in Section 4.2 for teaching Plain English to doctoral students at BUT. On this basis, as well as on the basis of the value of Plain English described in Sections 2.2 and 2.4, the Author argues that Plain English should be a legitimate component of the PhD language programme because it:

- is perceived as an effective tool for information transfer in writing for research publication purposes in engineering disciplines (H1);
- provides expert and non-expert readers with clearer and more comprehensible scientific texts (H2);
- builds up the confidence of junior researchers as novices to scientific writing in English (H3);
- favours attention to language knowledge that is essential to novice writers in the sciences (H4);
- encourages the more independent behaviour of junior researchers as writers and editors of their own texts (H5);
- meets the learning needs of PhD students at a technical university (H6);
- raises research students' awareness of what constitutes *correct scientific English* (H7);
- brings (in some cases) long-term gains to the writing of doctoral students of a Polish tertiary-level technical institution that can be sustained over time (H8); and
- results (to some extent) in more effective, clearer and more readable written texts produced by doctoral students (H9).

The study findings also contributed to achieving the secondary goal of the study. Reflecting on the Author's methodology and teaching content was of enormous importance to enhance her teaching efficacy and professionalise her teaching practice. Considering the above, it can be claimed that the Author reached her research goals.

The results obtained from the purposeful didactic intervention in the present study contribute to the body of knowledge on writing. Specifically, they can form the basis for future modifications of the language programme for the Doctoral School at BUT so that it more adequately addresses the (changing) needs of research students and novices to writing science. In addition to this, the Author succeeded in making her students more reflective about their own writing and more autonomous as science writers.

Since there is no research that addresses Plain English as a content of EAP/ERPP in Polish educational settings, the Author believes that the study would attract a genuine interest from other researchers who might explore this area in greater detail or from fellow teachers who might invite Plain English into their classrooms.

Conclusion

Exact, concise and clear transfer of concepts is vital for research writers if they are to share knowledge competently with their audiences in English-prevalent environments. In Poland, writing instruction for early-career scientists is not always formal and explicit. At Bialystok University of Technology, academic writing (in Polish and in English) has never been a part of the curriculum in the Doctoral School. That is why most junior researchers learn to write in the sciences by imitating the research literature they read. However, by imitating the existing style in their disciplines, they are likely to perpetuate the language that disseminates information and knowledge in an ambiguous way, especially if this language is foreign. Therefore, it is highly recommended to raise the students' awareness of what lexical items can be selected and how sentences can be structured in a cohesive text in order to support effective English-medium communication with international readers.

Although there have been numerous research projects with a focus on the teaching of writing, none of the previous studies investigated integrating Plain English into the language programme of PhD students who write for publication purposes. The primary objective of the dissertation was to justify the legitimacy of incorporating Plain English into PhD language education. This objective was to be reached on the basis of the literature review. The Author also conducted the empirical study in an attempt to complement the literature review and to answer the question of whether scientists-in-training would benefit in various ways as academic writers from the integration of PE's guidelines into writing-focused language instruction. The secondary aim of the study was to address the issues that the Author considers essential in her own classroom. Firstly, she wanted to validate her assumptions and beliefs about the writing gains that result from teaching selected guidelines of Plain English to PhD students. Secondly, she wished to reflect on the effectiveness of her teaching methods, and find out whether they were conducive to the development of doctoral stu-

dents' writing skills and what could be polished. Thirdly, the empirical study, which employed two (2) instructional tools in the didactic intervention, was intended to provide insights into the usefulness of the teaching materials produced by the Author for her doctoral students. As a result, through the present teacher research, she got an ideal opportunity to ponder what kind of training in writing novice scientists need in order to become independent writers and proofreaders of their own scientific texts.

In accordance with these objectives, the first three (3) chapters of the dissertation analysed a number of writing-related issues, with a focus on scientific discourse and simple English. They also provided a theoretical foundation for the empirical study presented in Chapters 4 and 5. On the basis of the analysed literature and obtained research results, it can be stated that the objectives of this research project – both primary and secondary – have been accomplished.

Firstly, addressing language-based properties of English in writing instruction, and empowering the students with selected guidelines of Plain English proved to be reasonable and useful in a multidisciplinary teaching-learning environment. Although the long-term gains in writing were not as significant as the Author had idealistically anticipated before the intervention, five (5) participants improved the language quality of their texts according to at least two (2) raters, and all the participants benefited from the intervention in terms of building up confidence as writers in the sciences, raising awareness of the prerequisites for effective writing and deploying more writing strategies in the process of writing. All these non-discursive aspects of the writing process are essential to effective communication with readers. The participants of the study found Plain English, which favours clarity and simplicity in the written discourse, regardless of the genre and scientific field, a vital component of language instruction in the doctoral programme; they saw it as relevant to their academic and professional needs, which enormously pleased their teacher.

Secondly, when it comes to the Author, her aim was to reflect on her own teaching practices and experience the craft of academic writing from the inside in order to develop her expertise as a teacher of writing.

To begin with, her gains from conducting teacher research are invaluable. She reflected on the effectiveness of her methodology to select the practices that best served her writing students. She energised her teaching and got new ideas for teaching by sharing her research results with colleagues. She definitely expanded her repertoire of strategic options as a teacher, and increased the number and quality of learning opportunities her students

were provided with. For example, she is now convinced that integrating explicit strategy training into the fabric of the language classroom would be beneficial to novice scientists. She would not be discouraged by curricular time constraints, nor would she assume that learners with wide language learning experience no longer need training in LLSs. Also, she would focus more on practising lexical phrases typical of scientific text types, as genre-oriented modules are an essential component of a good writing-focused lesson. Last but not least, the Author reviewed the teaching materials she had developed for her students. Some of them underwent some refreshing changes. The Author welcomed all the modifications in her teaching practice and materials, as she is aware that "it is the constant restructuring of our teaching selves that leads to professional development" (Bailey et al. 2001: 152).

Next, as Casanave (2004: 17) notes, "[t]he more experience L2 writing teachers have as writers themselves, the more likely it is that they will be able to articulate issues such as these and help their students identify them as well". With this in mind, the Author believed that her students would benefit from her increased competence as a teacher who practices the craft she teaches. By writing her dissertation in English – in the spirit of Plain English – she has certainly become a more informed user of plain language in academic discourse. She tested how vocabulary choice as well as sentence construction can impede or facilitate communication with readers. This experience will definitely contribute to the promotion of Plain English among novice writers in the sciences. Nevertheless, she is aware of the risk of negating her message by using her own prose. According to Crystal (2004: 391), "[f]or, when we find such stylistic condemnation itself using the very style which it is condemning, there is no other word for it but linguistic hypocrisy". The Author sincerely hopes that she did not turn out to be a linguistic hypocrite.

In sum, it is widely acknowledged that publishing in English-medium journals is currently a requirement for early-career researchers if they want to successfully pursue their scientific careers. The ability to write in a clear, effective and readable way is what makes a scientific writer produce publishable texts. By helping doctoral students develop their writing competence, writing teachers contribute to their development as writers and scholars. It must be noted, though, that the development of writing skills should not be limited to formal education. Upon graduation, junior researchers need to engage in intentional and thoughtful practice in order to become more competent scientific writers, for the tools they are equipped with in the writing classroom to become expert writers are not enough to make them expert writers.

Abstract

Scholars, from juniors to seniors, need to disseminate research results in English-medium journals because their academic careers are closely tied to publishing in English. They are expected (by journal gatekeepers) to use *correct scientific English* in their manuscripts. However, numerous junior researchers and novices to scientific writing do not know how to meet this expectation. The primary aim of the dissertation and the empirical study was to determine whether the teaching of Plain English (which favours simplicity in the written discourse) is relevant to the academic needs of research students, empowers them as publishable writers in the sciences and contributes to an improvement in the quality of their written texts that can be sustained over time. Last but not least, the Author was interested in whether integrating Plain English into writing activities constitutes an adequate component of an English course in the doctoral language programme at a technical university. The secondary aim of this research project was the Author's need to become a better-informed teacher of writing and a better writer in English. Her decision to carry out the teacher research was geared towards finding out whether her teaching facilitated the polishing of students' writing competences and what could be polished. The research findings were expected to help the Author review her philosophy of teaching writing and effect changes (if expedient) in her didactic work.

The dissertation consists of five (5) chapters. Chapter 1 provides an overview of writing theory and describes, among other concepts, the components of an effective text, and the reasons for clarity and readability in the written discourse. Chapter 2 explores language simplification with a focus on Plain English in scientific writing for publication purposes. Chapter 3 presents general issues related to the teaching of writing. Most importantly, it discusses the components of a target language classroom with writing development. Chapter 4 is divided into two (2) parts. Part 1 describes teachers' development as profes-

sionals. Part 2 contextualises the research by providing the background to the study and the rationale for selecting Plain English as an important component of PhD target language education. Chapter 5 provides analyses of the data collected on group and individual levels. It includes the key findings, limitations of the study and implications for future research into integrating Plain English into doctoral education.

The results of the study support the claim that teaching Plain English to doctoral students should be a legitimate component of the PhD language programme, as it enhances the writing confidence of research students and brings some long-term writing gains. Given the scarcity of research on the teaching of Plain English in English for Research Publication Purposes instruction in Polish educational settings, the Author believes the study would attract a genuine interest from scholars who research into the concept of writing science for publication or from teachers of English who conduct language classes in doctoral schools.

Streszczenie

Zarówno młodzi, jak i doświadczeni naukowcy mają obowiązek rozpowszechniać wyniki swoich badań w czasopismach anglojęzycznych, ponieważ ich kariera naukowa jest obecnie ściśle związana z publikowaniem w języku angielskim. Wydawcy czasopism oczekują od autorów *poprawnego naukowego języka angielskiego*. Jednak wielu młodych badaczy nie wie, jak sprostać tym oczekiwaniom. Głównym celem niniejszej rozprawy i badania empirycznego było ustalenie, czy nauczanie uproszczonego języka angielskiego (*Plain English*) jest adekwatne do potrzeb doktorantów, ułatwia pisanie tekstów naukowych przeznaczonych do publikacji w naukach ścisłych i przyczynia się do lepszej jakości językowej tych tekstów. Autorkę interesowało również to, czy włączenie prostego języka angielskiego do ćwiczeń podnoszących kompetencje związane z pisaniem stanowi odpowiedni komponent kursu języka angielskiego w kształceniu doktorantów na uczelni technicznej. Drugim celem tego projektu badawczego była potrzeba Autorki, aby stać się bardziej kompetentną nauczycielką języka pisanego i nauczyć się lepiej pisać w języku angielskim. Decyzja o przeprowadzeniu badania empirycznego miała na celu ustalenie, czy jej działania dydaktyczne sprzyjają podnoszeniu kompetencji doktorantów w kontekście pisania i co można poprawić. Wyniki badań miały również pomóc Autorce zweryfikować jej filozofię nauczania i zmodyfikować (jeśli będzie to konieczne) jej działania dydaktyczne.

Rozprawa składa się z pięciu (5) rozdziałów. Rozdział pierwszy dotyczy teorii pisania i przedstawia, między innymi, elementy efektywnego tekstu i powody, dla których tekst powinien być jasny i czytelny. Rozdział drugi opisuje różne rodzaje kontrolowanego i prostego języka angielskiego ze szczególnym uwzględnieniem *Plain English* i jego zastosowanie w dyskursie naukowym. Rozdział trzeci przedstawia ogólne zasady nauczania pisania. Rozdział czwarty składa się z dwóch części. Część pierwsza dotyczy profesjonalizmu

nauczycieli. Część druga wprowadza kontekst do badania empirycznego poprzez przedstawienie tła badań i przesłanek wyboru uproszczonego języka angielskiego jako istotnego elementu kształcenia językowego doktorantów. W rozdziale piątym przedstawiono analizę jakościową zebranych danych na poziomie grupowym i indywidualnym. W tej części pracy zawarto też wnioski, ograniczenia i implikacje przeprowadzonego badania oraz sugestie, co do kierunku dalszych badań poświęconych nauczaniu języka pisanego i włączeniu prostego języka angielskiego do nauczania pisania w kształceniu doktorantów.

Wyniki analizy badań jakościowych dotyczących wszystkich uczestników oraz trzech wybranych przypadków zdają się potwierdzać tezę, że *Plain Engish* powinien być elementem programu językowego szkół doktorskich, ponieważ zwiększa pewność siebie doktorantów w kontekście pisania tekstów naukowych i podnosi ich umiejętności językowe w zakresie pisania akademickiego. Ponieważ w Polsce nie ma badań dotyczących prostego języka angielskiego w kontekście publikowania artykułów naukowych w czasopismach anglojęzycznych, niniejsza praca i zaprezentowane w niej wyniki mogą zainteresować badaczy zajmujących się kwestią pisania tekstów naukowych w języku angielskim lub nauczycieli prowadzących lektorat języka angielskiego w szkołach doktorskich.

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Appendix A. The history of plainness in English: highlights

In this appendix, the history of plainness in the English language is briefly reviewed. Plainess in language has its roots in the Roman rhetorical tradition (borrowed from Hellenism) which distinguished between three (3) rhetorical styles. The grand (or high and vehement) style contained ornate figures of speech (e.g. similes and metaphors); its tone was emotional, passionate and persuasive. It ran the risk of being pompous if used in the wrong settings, as it was suited to royal courts and aristocrats. The middle style was used to instruct, educate and please the audience but risked becoming technical and pedantic. The plain style was simple, concise and unrefined but far from vulgar. It resembled the language of ordinary speech, so it was popular with storytellers and balladeers (McArthur 1992: 705, 1998: 112; Olmstead 2006: 26, 41, 86; McArthur et al. 2018: 477, 608).

In English, the term *plain* can be found, for example, in Geoffrey Chaucer's *Cantenbury Tales* (1957)[59]. It was also used by John Wycliffe, the first translator of the New Testament from Latin into English, who wrote that "this gospel tellith a playen storie" (as quoted in McArthur 1998: 110). Robert Cawdrey used the term in the title of the first English dictionary, *A table alphabeticall* [60] ([1604] 1966). The lexicon was aimed at English people who had problems understanding the heavily Latinised (and usually polysyllabic)

[59] "[t]his is the poynt, to speken short and pleyn [emphasis mine, MŚ],"; "[h]eigh style, as whan that men to kynges write. / Speketh so pleyn [emphasis mine, MŚ] at this tyme, we yow preye, / That we may understonde what ye seye."(Chaucer 1957: 24, 101).

[60] The full title of the dictionary is: *A Table Alphabeticall, conteyning and teaching the true writing, and vnderſtanding of hard uſuall Engliſh words, borrowed from the Hebrew, Greeke, Latine, or French, &c. With the interpretation thereof by plaine* [emphasis mine, MŚ] *Engliſh words, gathered for the benefit and helpe of ladies, gentlewomen, or any other vnskilfull persons. Whereby they may the more eaſily and better vnderſtand many hard Engliſh words, vvhich they ſhall heare or read in Scriptures, Sermons, or elſe vvhere, and alſo be made able to vſe the same aptly themſelues.*

English of that time. The Latinates like *aberration* or *acquisition* were explained in "plaine English words" (as quoted in Cutts 2013: xxviii, 2020: 308).

During the Renaissance and Reformation (15th-16th centuries), the styles evolved to become either classical and ornate on the one hand, or popular, plain and vernacular on the other. Both styles influenced the development of prose writing in English (McArthur 1998: 112). The distinction gave rise to the idiom *in plain English*, meaning "in clear, straightforward language" (*Wielki słownik angielsko-polski PWN-Oxford* 2019: 889), that has been used since then. Many forms of diction, however, were called plain, even if they were far from brevity and simplicity (Gowers 1973: 2). The term *plain* was also the closest synonym for *true* (Graham 1994: 1). According to Graham (1994: 2f.), modern critics claim the Renaissance gave birth to numerous plain styles, for example, native, classical, Puritan, Anglican and Restoration. The native plain style – less elaborate and ornate – sharply differed from the Ciceronian subdued style in its ethical and epistemological goals. The plain style of rhetoric became the only appropriate style to transmit truth (Bennett 2013: 172). Famous plain writers of those times were George Herbert, Ben Jonson and Francis Bacon.

Plainness of English was a key term in the so-called inkhorn controversy of the 16th-17th centuries, when the question arose whether to enrich English by borrowing words from Latin or by coining vernacular alternatives. The opinions differed: at first, Latin eloquence won with thousands of obscure classical (or *ink-horn*) words that entered English, to be later (in the Age of Enlightenment) displaced by plainness and a strong distrust of rhetoric (Cameron 2006: 64; Crystal 2012: 69f.). One of the main proponents of purism in English was John Cheke. Some loan words (especially scientific and technical ones) filled in the semantic gap in English; others coexisted with Anglo-Saxon lexical items or displaced them (Cameron 2006: 64).

In the 17th-18th centuries, a highly Latinate style was generally favoured and prevalent in literary works, although there were moves to and from plain English (e.g. the rejection of euphuism, a highly ornate and sophisticated style that gained popularity in the 16th century) (Cameron 2006: 64). For example, Johnathan Swift was a passionate supporter of improving the English language. For him, an ornate language was equated with deceit. Similarly, Daniel Defoe was distrustful of the language used by clergy, doctors and lawyers. He preferred words of Anglo-Saxon origin, for ordinary speech provided "the basis of honest social intercourse" (Defoe 1975: 4). Jeremy Bentham also demanded shorter sen-

tences and more careful wording, especially from lawyers (Mellinkoff 2003: 265; Cutts 2013: xxviii, 2020: 309).

In the 19th century, William Barnes called for the purification of English by removing lexis of French, Greek and Latin origin, as it hindered the understanding of written texts by readers without a classical education. He proposed Germanic English instead, even if some terms were not easier to learn and use than their Latin replacements (e.g. *hearsomeness* for *obedience*) (Savory 1953: 73; McArthur 1992: 706; McArthur et al. 2018: 478). Barnes used surviving Saxonisms, resuscitated long-dead ones and devised completely new lexical items with Anglo-Saxon roots. Some of his proposals are still in use (e.g. *handbook*, *foreword*) (McArthur 1998: 113; Crystal 2001: 125). The term *Anglo-Saxon* started to be associated with "direct plain English" (*Merriam-Webster.com)*, even though Old English, containing a lot of monosyllables, is not devoid of longer words (e.g. *righthandedness*, *bloodthirstily*) (McArthur 1992: 71; McArthur et al. 2018: 42). Other proponents of clear writing and plain style were Abraham Lincoln and Mark Twain. They both urged people to use short words and sentences (Cutts 2013: xxix, 2020: 309).

In the 20th century, supporters of a clear style favoured language that did not confuse or mislead readers and listeners. In *The king's English*, a seminal book on English usage and grammar, its authors, Henry W. Fowler and Francis G. Fowler, commended their readers to favour familiar, concrete, short and Saxon words ([1906] 1962: 14-16). Ernest Gowers encouraged clear writing in administrative documents and elsewhere. *The complete plain words* (1954), based on his *Plain words* published in 1948, became a guidebook for any writer. Winston Churchill and George Orwell were ardent supporters of the plain language too (Cutts 2013: xxixf., 2020: 309f.). In the United States, one of the first proponents of plain language was Stuart Chase who complained about *gobbledygook* in *The power of words* (Chase 1954: 257; McArthur 1992: 225; Cameron 2006: 64; Cutts 2013: xxx; McArthur et al. 2018: 156). In the early 1970s, a preference to produce simple and straightforward writing gave rise to campaigns (both grassroots and government-initiated) for promoting plain English in administrative, legal and commercial writing in the United States, Great Britain, Canada and Australia (McArthur 1992: 706; McArthur et al. 2018: 478). For example, in 1998, the Clinton memorandum ("Plain language in government writing") imposed using plain language in all new government documents so that they would be more accessible and understandable to the general public. In 2010, President Barack Obama signed the Plain Writing Act which required most kinds of federal-government information

to be clear, concise and well organised (Crystal 2009: 382; Cutts 2013: xvf., 2020: 311f.). The day of signing the act – 13th October – became the International Plain Language Day. Another initiative, the Plain English Forum, promotes clear usage and inspects businesses and organisations for clarity in their documentation (McArthur 1992: 707; McArthur et al. 2018: 478). The *George Orwell Award* was first given in 1975 for honesty and clarity in public language, whereas its opposite, the *Doublespeak Award*, has been earned since 1974 by public figures whose language is evasive, confusing and unfactual (McArthur 1992: 707; Crystal 2009: 383; Cutts 2013: xv, 2020: 312; McArthur et al. 2018: 478). The Center for Plain Language has sponsored the *ClearMark Award* since 2010. In Great Britain, the 1974 Consumer Credit Act might have first used the term *plain English* in British law. According to this act, consumers were ensured, on request, to be presented with documents written in an intelligible language. A grassroots Plain English movement started in 1979 with shredding hundreds of unclear government forms in Parliament Square, London. In 1982, the British government began reviewing and redesigning its forms, and withdrawing inadequate ones both at the central and local levels (Eagleson 1992: 6; Crystal 2001: 377, 2009: 382; Cutts 2013: xvii, xix). Since 1982, the annual *Plain English Award* has been given to institutions that produce clear documents and the *Golden Bull Award* to those that produce the least intelligible materials. Another initiative, the *Crystal Mark*, a logo created by the Plain English Campaign[61], has been printed since 1990 on documents, leaflets and products that meet plain language criteria. The Plain Language Commission has been vetting websites for clarity and ease of use since 1994. It accredits those that are easy to read and use by permitting them to display the Clear English Standard logo (Cutts 2013: xviif.). *Clarity* is an international association of lawyers, academics, translators and others interested in studying and promoting plain legal language (Stephens [n.d.]). It has representatives all over the world, and Poland is no exception. Other professionals are grouped around the Plain Language Association International (PLAIN) founded in 2008. They organise conferences and promote plain English worldwide (Cutts 2020: 318).

In the 21st century, the need to communicate effectively and clearly in English, as well as in any other language, regardless of content, target audience and purpose, will con-

[61] The Plain English Campaign, an independent pressure group and one of the prominent advocates of plain language, was launched in 1979 by Chrissie Maher (a British educator who was illiterate until the age of 17) and Martin Cutts (a British journalist, writing consultant and research director of the Plain Language Commission) (McArthur 1992: 707; McArthur et al. 2018: 477f.).

tinue. This is because most literate communities expect easy and unrestricted access to information, knowledge and services. Therefore, in June 2023, the International Organization for Standardization (ISO) launched a long-awaited standard (ISO 24495) – "Plain language – Part 1: Governing principles and guidelines". The standard provides "authors in most languages with an approach that helps them communicate effectively with their audiences" (https://www.iso.org/news/ref2566.html), although it does not cover all types of communication. This standard may greatly affect the way written communication (in various contexts) is produced and delivered because plain English is not popularly known to NNESs and taught in every language classroom, nor is it a standard communication tool among native speakers. One of the reasons may be a conviction that language learning is associated with complexification or elaboration rather than simplification. "You cannot simplify what you do not possess", as Corder (1981: 149) once claimed. Consequently, it is the mother tongue that is commonly believed to be simplified (as it is already known), not the target language (as it is learned). Although this conviction may seem reasonable, the Author attempts to prove, through her teaching practice, that NNESs can work on the simplification of English while developing their competences. Being aware that *less is more* is not only an influential design principle but also works in the language, the students may like to choose a style that favours less verbosity and promotes clarity and conciseness.

In closing, plainness of wording, as well as structure and design, is becoming increasingly popular with English users (especially in professional contexts), confirming the need to convey information and knowledge in a more comprehensible way.

Appendix B. What Plain English favours: an insight into the selected guidelines

This appendix discusses briefly the guidelines of Plain English listed in Table 6 (in Section 2.2.2), thus rationalising their selection for the language training aimed at first-year PhD students. Table 31 at the end of this appendix exemplifies these guidelines by juxtaposing authentic sentences (written by the Author's students) and their revised versions. Some of the guidelines discussed below are described in greater detail in Śleszyńska (2021: 119-131).

Starting with a lexical level, the plain style favours short and single words unless long ones and phrases convey the meaning better, and clarity benefits from using them. If two (2) words carry a particular meaning equally well, choosing a more common word (e.g. *about* instead of *concerning*, *say* instead of *state*) is recommended. Similarly, Anglo-Saxon words like *end, begin*, and *show* can replace Latinates, i.e. *terminate*, *initiate* and *indicate* respectively (Gowers 1973: 17, 89f.; Kirkman 2001: 214). For Orwell (1963: 328f., 331), the Latinized style is a sign of bad writing, even though French- and Greco-Latin-based words are commonly thought to be grander and more scientific than Anglo-Saxon ones. It does not mean, however, that Latin-based words should be banned from speaking and writing. Garrison (1997: 53) and Wydick (2005: 58) say that if such words fit a user's needs better than any other words, they can definitely be used. In fact, Plain English neither rigidly prescribes Saxonisms nor bans Latinates. It endorses avoiding any terminology, regardless of origin, that can mislead readers (McArthur 1992: 706; McArthur et al. 2018: 477f.). In specialist contexts, writers may not find more adequate terms to present their complex ideas in a compact way. In addition, they are better known by the international audience than their Anglo-Saxon replacements, especially by speakers of languages that heavily bor-

row from Latin (Thrush 2001: 292). They are also convenient to use in expert-to-expert communication, for often one (1) or two (2) words can express effectively the whole technical concept. It is worth remembering that a great number of languages (e.g. Mandarin Chinese) did not borrow vocabulary from Latin, Greek or French. In Mandarin Chinese, many words are monosyllables, and its speakers prefer short lexical items of Anglo-Saxon origin to Greco-Latin pollysylables. If the language currently has a number of Latinates, they are likely to be loanwords from English. Moreover, some terms of art may not have plain language equivalents and, consequently, are untranslatable into ordinary words. The Author encourages her students to use plain alternatives to diversify writing and make it less dense. She has no intention, however, to insist on avoiding Latinate derivatives, such as *component*, *procedure*, *transform*, are commonly used by scientists all over the world. Similarly, *implement* or *indicate* are very frequent in scientific discourse (or technical jargon), even if in other contexts they may be called *officialise*[62] (Chase 1954: 256). The Author believes writers should decide on the most effective way of presenting the information to their audience by themselves. If the intended readers understand specialist terms, there is no point in replacing them with circumlocutions (e.g. definitions or paraphrases).

The comparison of an original text with its plain version proves that writing often suffers if nouns derived from verbs are used excessively. The nouns are responsible for dull and static propositions because they are accompanied by empty, meaningless, or as Stępień (2020: 36) calls them, boring verbs (e.g. *carry out a test* instead of *test*, *do an analysis* instead of *analyse*, *be a volunteer* instead of *volunteer*) (Eagleson 1992: 63; Kimble 1992: 1192; Garrison 1997: 52; Wydick 2005: 23; Wydick and Sloan 2019: 35-37). Nominalisation makes a lively and crisp verb become an object or a thing, not the source of an action. Plain English favours verbs, not abstract nouns derived from them. In a verb-centred style, the action taking place is easier to visualise, and the sentence is less likely to contain the passive voice. Moreover, a sentence without nominalisations contains fewer words, which, in some contexts (e.g. abstracts, highlights of a research article), is imposed by external demands.

The subject should preferably be a tangible, concrete noun that acts like a character that performs an action stated by a strong, meaningful predicate. Concrete nouns and verbs

[62] *Officialise* is a style common in statements and texts issued by officials of government institutions and the like. It is a style full of polysyllables, pomposity and obscurity; the term is often pejorative (McArthur 1992: 647; McArthur et al. 2018: 439). *Officialise* and other kinds of obscure prose styles have already been referred to in Section 2.2.3.

could give directness and life to the sentence (Kirkman 2001: 46; Wydick 2005: 15, 56f.). Abstract nouns come from verbs or adjectives, and they name, for example, ideas and qualities (e.g. *measurement*, *operation*, *capability*). They do not work well as agents in sentences because they need other words to help them form utterances (Kirkman 2001: 49; Greene 2013: 13). That is why "short, common, concrete, specific words are better than long, rare, abstract, general words", as Flesch (1962: 188) once put it, for the concrete and specific ones have a more precise meaning (Gowers 1973: 51). This opinion is still expressed by proponents of effective writing.

Composing in simple English means eliminating redundant words so that only essential lexical items remain (Eagleson 1992: 59f.). Many redundant words are prepositions and conjunctions. Flesch (1946: 81), decades ago, called them "grammatical gadgets", and Wydick (2005: 8), and Wydwick and Sloan (2019: 18), more recently, call them "glue words" that put other sentence parts together. Whatever role they play in an utterance, their high number contributes to more wordy writing, which Plain English disapproves of. The style becomes circumlocutory if compound constructions that take three (3) or four (4) words are used instead of one (1) or two (2). Wydick and Sloan (2019: 24) recommend avoiding these "word-wasting expressions" and finding shorter replacements (*although* instead of *despite the fact that*). Blamires (2020: 3) states: "Plain English is never wasteful of words. If a thing can be said briefly, then so it should be". According to Gowers (1973: 65), wordy writing may be rooted in the feeling that verbosity, especially in administrative documentation, is polite and full of dignity, for officials believe "the dignity of position demands the dignity of diction" (Gowers 1973: 227). But plain words, as Kimble (1994-1995: 53) puts it, are "capable of great power and dignity". In addition, verbosity is caused by derivative nouns (e.g. *objection* instead of *object*), coupled synonyms (e.g. *true and correct* instead of either *true* or *correct*), the passive voice and superfluous adjectives and adverbs (Wydick 2005: 11-28). Adjectives and adverbs of intensification (e.g. *considerable/considerably*, *substantial/substantially*) contribute nothing to the meaning; Gowers (1973: 56) called them, decades ago, "a noise without meaning". Similarly, the use of adjectives fills non-fiction prose with unnecessary function words (e.g. *be contributive to* instead of *contribute to*, *be determinative of* instead of *determine*). Since many writers use several words where one would do, the wordiness grows, and the clarity of the text drops. Kirkman (2007: 17) points out that brevity is desirable in scientific and technical writing, but accuracy should be prioritised. Also, even though lexical density is valued in highly

specialised texts, if the text is full of highly condensed words, it becomes less easy to read. Therefore, an author should consider including simpler *ordinary language* in order to combine complex issues into an understandable whole. It is worth indicating that for some experts in scientific writing (Montgomery 2005: 9), certain wordy phrases, such as *it is important to note* or *under these or similar circumstances*, act as transitions and add pacing and flow to the text. That is why they are required in good writing.

Compound nouns can pose a problem of interpretation, especially if they consist of more than two (2) components. Not only may they be ambiguous but also incomprehensible, especially to a non-specialist audience that has little knowledge of the subject matter (Eagleson 1992: 65). The Author's teaching practice and editing experience show that less advanced learners use the noun combinations scarcely or often use them erroneously because they are unable to decide on the order of the nouns. Clearly, a *company car* differs in meaning from a *car company*, an *access road* from *road access* or a *flue gas* from *gas flue*, but sometimes the students erroneously string nouns. For example, P *łożysko ślizgowe* becomes both a 'friction bearing' and 'bearing friction'. Similarly, experts see the difference between P *prąd udarowy* 'surge current' and P *udar prądowy* 'current surge', so the phrases cannot be used interchangeably. While PE's guidelines recommend untying noun clusters (Cutts 2013: 73, 2020: 159f.; Crabbe 2017: 29, 33, 35, 38), the Author values highly their ability to express complex ideas economically. This property puts the noun compounds, if well-combined and verified, in a favourable position in scientific writing. Last but not least, putting nouns into a string is a way of reducing wordiness in a scientific text.

Being consistent and using the same term for the same notion throughout an administrative document, a user guide, a research paper or a leaflet is a prerequisite to more understandable writing. If the terminology varies because of seemingly necessary stylistic requirements, the reader may get lost in a wide selection of options describing the same idea (Kimble 2002: 45). By using, for example, *appliance*, *piece of equipment*, *device* and *object* for the same thing to avoid monotony, the writer misleads the reader; s/he can think the terms describe different things (Greene 2013: 33). In informative or functional writing, words – even in close proximity – do not need to be changed for the sake of variety, especially if it is done at the expense of clarity (Eagleson 1992: 61). The so-called elegant variation should not be applied because a shift in terms may be understood as a shift in meaning (Wydick 2005: 70; Wydick and Sloan 2019: 77). This is what Glasman-Deal (2021: xxi) admits when she says: "[s]cience writing does not need to be stylish or elegant; its primary

aim is to communicate clearly and accurately". The Author emphasises this view while teaching research students to compose cohesive manuscripts. She strongly discourages novice writers from using varying nomenclature for the same notion within the same text (e.g. *delta structure*, *Δ-structure*, *delta configuration*, *Δ configuration* instead of *delta structure* only), for non-expert readers may mistakenly understand that different terms refer to different ideas. In fact, lexical consistency should be attended to in Polish too. By providing the students with authentic examples from their native language (e.g. P *przystawka do okien/nakładka do okna* 'a window cleaning accessory', P *Toaleta damska/WC dla kobiet* 'a ladies' toilet'), she sensitises them to keep consistent terminology in scholarly and technical writing (both English and Polish).

When it comes to a sentential level, Plain English prefers short and medium-length, simple sentences, which may be understood as a subject-predicate-object (if there is an object) construction with Anglo-Saxon words. But what about a short sentence with Anglo-Saxon or Latinate polysyllables? Is it still simple and easy to understand? Whether a polysyllable is simple and easy to understand varies from language to language. In Polish, for example, a word like P *odpowiedziałabym* 'I would answer' is of no difficulty to a preschooler, and a sentence that abounds in long words does not have to be considered hard to follow. Also, a single independent sentence in Polish can consist of many words, whereas a compound-complex sentence can be short (Maćkiewicz 2020: 83f.). Similarly, in English, the number of words is definitely not the only measure for judging the sentences for their plainness or complexity. The sentence with compounds can be dense (and less readable), even if it is short (Kirkman 2001: 215). Nevertheless, breaking up long sentences can effectively improve reading ease, regardless of the language, especially if the subject matter the sentence contains is conceptually complicated (Schiess 2003: 55f.; Maćkiewicz 2020: 87).

A well-polished sentence avoids a wide separation of the predicate from the subject; at best, the subject comes immediately next to the verb it governs (Gowers 1973: 14; Kimble 1992: 1192, 2002: 44). If separated by non-essential components (i.e. components that are not necessary to make a complete sentence), the subject and the predicate are interrupted, which makes a sentence more difficult to read and control in terms of grammatical correctness (e.g. word agreement) (Eagleson 1992: 46). Greene (2013: 19) points out: "[t]he closer the verb is to the subject, the clearer the sentence". Non-native writers need to know that keeping these components together is preferred in English. Because of the lack of inflection, the relationship between words is less clear than in synthetic languages. If a writ-

er's native language is synthetic, s/he is likely to use such interrupting (or intrusive) phrases without considering the potential problems their position in an TL sentence may cause. The gap between the subject and the predicate can be closed if the intrusive phrase is moved to the beginning or the end of the sentence. The other remedy is to change the interrupting phrase into a separate sentence (Wydick 2005: 42; Wydick and Sloan 2019: 50f.).

Another prerequisite of plain writing is using the active voice. It is more personal and lively because participants (or agents) and actions interact in a sentence. In the passive voice, the agent is left out, so the utterance is less explicit; it makes the event static and anonymous (Eagleson 1992: 48, 63). Bailey (1996: 8, 94) states the passive voice is "a killer of plain English", whereas the active voice is its key characteristic. According to Chase (1954: 257), using the passive rather than the active voice leads to *gobbledygook*, a wordy style with pollysylables, already referred to in Section 2.2.1.1 and Appendix A, p. 364. However, there are instances where the passive voice is justifiable and should not be avoided at all costs (Kimble 1994-1995: 66). Science writing abounds in passivisation, for it is traditionally regarded as more objective in scholarly texts. The active voice, however, can also be used without losing the objectivity of the transferred information. Interestingly, some doctoral students in the Author's institution claim their supervisors insist on the use of passive constructions in manuscripts written both in Polish and in English. This preference differs from discipline to discipline or from discourse community to discourse community.

Even if in creative writing – prose or poetry – multiple negatives (e.g. *It is not unavoidable*) may be used for emphasis, in non-fiction (e.g. expository writing), it is recommended to be direct and positive (Eagleson 1992: 50; Kimble 1992: 1192). If the sentence *It is unlikely that carbon dioxide will have an insignificant impact on people's mood* is replaced by *It is likely that carbon dioxide will have a significant impact on people's mood*, the reader will not have to take time to process the statement, and the writer will not get confused by what s/he wants to say either. Negative expressions are not only the adverb *not* and negative prefixes (e.g. *no-*, *un-*, *dis-*), but also words that carry a negative meaning (e.g. *fail*, *except*, *denial*). If a sentence contains a few such words, reading can be slowed down (Wydick 2005: 71). Sometimes negatives are useful: commands, instructions or procedures become more powerful in the negative form, so, for instance, operating manuals or user guides may benefit from them (Cutts 2013: 93, 2020: 93). However, one of the guidelines that has to be strictly followed by US governmental agencies, according to the Plain Writ-

ing Act of 2010, states: "Avoid double negatives and exceptions to exceptions" (Kuhn 2012: 161).

On a textual level, parallelism (or grammatical consistency) is an important stylistic rule in English writing. It refers to using the same grammatical pattern when authors join, compare or contrast comparable ideas within the same sentence or in consecutive sentences. Parallelism highlights them and makes such a sentence or a group of sentences more effective (Eagleson 1992: 41; Kimble 2002: 45). Because the parallel structure creates a recognisable pattern and reads more smoothly, the reader can fully concentrate on the meaning and remember the information better. Non-parallel structure creates no such pattern, so it may distract and confuse addressees (Greene 2013: 60; Wallwork 2016: 144). It should be emphasised, however, that failures of parallelism are not grammatical errors (Garner 1995: 637; Maclin 2001: 229).

In order to structure the text and guide readers through it, authors need to use linking words. They connect sentences and paragraphs to form a smooth transition from one idea to the next and, if used at the beginnings of the sentences, prepare the reader for what is to come. The linkers help, for example, compare and contrast ideas (e.g. *similarly*, *on the other hand*), keep a chronological order of events (e.g. *initially*, *subsequently*), move from general to specific (e.g. *for instance*, *namely*) or explain ideas (e.g. *that is*, *in other words*) (Greene 2013: 44, 83).

Since the end of the 17th century, English has been using the so-called syntactic punctuation as a guide to the grammatical construction of the sentence and, consequently, its meaning. The punctuation still reflects the patterns and rhythm of speech (just like in ancient Greek and Roman systems), which was its primary aim till the beginning of the 17th century (Wydick 2005: 81f.). Cutts (2013: 98) instructs: "[p]ut accurate punctuation at the heart of your writing". If this suggestion is not adopted, sentences can be interpreted in different ways, and readers may have to stop and backtrack to make sure they understand the information correctly. Writers can use a variety of punctuation marks: commas, colons, semi-colons, dashes, parentheses and hyphens; they all show how words and sentences are related. For example, hyphenation helps differentiate between compound nouns that carry different meanings (e.g. *digital-data sampling* vs *digital data-sampling*, *small-bird flock* vs *small bird-flock*). Interestingly, some study participants admitted punctuation had never been discussed in their former language classrooms, and they were very satisfied the issue was addressed in the Doctoral School.

In closing, Plain English seems to be an adequate tool to facilitate information and knowledge transfer on an academic level.

Table 31. Original and revised versions of sentences: examples.

Original version:	**Revised version:**
• The test was to fill two exactly the same pools, one with water and one with syrup and measured the time the swimmers needed to finish a 25 m distance.	• The test was to fill two exactly the same pools, one with water and one with syrup and to measure the time the swimmers needed to finish a 25-metre distance.
• The field study was carried out for two years of study.	• The field study was carried out for two years.
• It consists of two squares which have the same shape and size.	• It consists of two same-size squares.
• There are a few difficulties which the non-uniform sampling needs to face.	• The non-uniform sampling needs to face a few difficulties.
• At the end, a summation of the work which was done as a part of this thesis is placed and basing on this, the appropriate conclusions were formulated.	• The thesis ends with a summation of the completed tasks and conclusions.
• Johnson's theory provides an explanation for the fluctuations in the figures.	• Johnson's theory explains the fluctuations in the figures.
• The calculations of the content of individual components of the tested recycling additive were made.	• The content of individual components of the tested recycling additive was calculated.
• The chairmanship of the plenary session was chaired by prof. Kaczorek.	• Prof. Kaczorek chaired the plenary session.
• In the paper, the lightning threat to an intrusion detection system based on cable sensors composed of buried coaxial cables of several hundred metres in length has been described.	• The paper describes the lightning threat to an intrusion system based on cable sensors composed of buried coaxial cables of several hundred metres in length.
• The substrates exhibit different characteristics in terms of magnetism.	• The substrates exhibit different magnetic features.
• It may be assumed that there is another additional the source of pollution.	• There may be another source of pollution.
• The hypothesis of the reason of the collapse of the roof was snow load.	• The roof might have collapsed due to snow load.
• It is likely that many researchers raise questions about this methodological approach.	• Many researchers might question this methodological approach.
• The auger is used to drill holes for tree seedlings, shrubs, etc., and also for fence posts or road signs.	• The auger drills holes for tree seedlings, shrubs, etc., and also for fence posts or road signs.
• The structure of the aggregate in contact with the cement paste is sometimes developed by a layer of adhering paste, which becomes yellowish in colour.	• The structure of the aggregate in contact with the cement paste is sometimes developed by a layer of adhering paste, which becomes yellow.
• Sexual behaviour during infertile periods (…) is not uncommon among apes.	• Sexual behaviour during infertile periods (…) is common among apes.

Appendix C. The MOOC: How to write (science) better

1. Introduction to the MOOC

This course helps non-native users of English make their writing clear, concise and readable. The course was created as part of the project *MOOC@PB – Nowoczesne technologie w procesie kształcenia*; Agreement ID: POWR.03.01.00-00-W040/18-00.

About this course

The course teaches students and academics from a variety of engineering disciplines how to choose words and phrases to construct well-polished sentences and how to combine sentences to produce readable scientific texts. Every lesson is accompanied by numerous examples from abstracts and full journal papers written in English by Polish research students and established scientists.

The aim of this course is to share with scientific writers that composing a specialist text can rely on simple English that provides tools for writing in a concise and well-organised manner. These tools, common to Plain English, can be applied on lexical, sentential and textual levels. As a result, a piece of specialist writing is easier to produce, and it can reach a wider readership because the economy of expression and a clear structure are always valued by expert and non-expert readers.

Learning outcomes

After completing this course, you will know:

- what contributes to correct scientific English on lexical, syntactic and textual levels;
- what should be avoided if you want your writing to be understandable and easy to follow; and
- how to make specialist writing simpler, clearer and more concise.

Syllabus: What you will learn from this course

Week 1 reviews the key functions of verbs and nouns. It discusses the roles their grammatical categories play in sentence production. It also shows how to expand your vocabulary to enrich your writing style.

- Lesson 1: Word classes (10 min)
- Lesson 2: Words & phrases (8 min)

Week 2 focuses on writing with fewer words. Lessons include how to cut lengthy phrases; avoid self-evident expressions; and choose strong verbs rather than nouns to make a specialist text clearer and more concise.

- Lesson 1: Word saving (10 min)
- Lesson 2: Strong verbs (7 min)

Week 3 shows how to name things using noun combinations. You will also see how applying parallelism enhances the clarity and readability of sentences, paragraphs and presentation slides.

- Lesson 1: Compound nouns (9 min)
- Lesson 2: Parallel forms (10 min)

Week 4 shows how to control sentence structure and produce cohesive texts. Lessons include, for example, favouring the active voice, keeping the word agreement, employing the end-focus and varying the sentence length in a paragraph.

- Lesson 1: Sentences (12 min)
- Lesson 2: Text cohesion (12 min)

Course logistics and grading

This section contains some useful information about how the course is organised.

Content organisation: The course material consists of training materials (videos), quizzes and progress tests.

Time commitment: This course takes you four weeks to complete. You are expected to spend 3-4 hours a week working through the course material.

Prerequisites: Recommended level of English: B2 and above.

Discussion forum: Feel free to post any questions and suggestions you might have about the course. Why don't you actively participate in the forum discussion to practise writing by sharing your ideas and expertise?

Grading policy: The course includes activities designed to help you interact with the course material (the quizzes) and activities designed to assess your understanding of the material covered in the course (the progress tests). The course finishes with additional practice (ungraded) and the final test (graded). In order to pass the course and qualify for a certificate, you must score at least 70% as an average of the quizzes, progress tests and final test.

References: This course mainly draws on examples taken from original student writing (abstracts and full journal papers). In some instances, the names of the authors have been withheld. The references to other sources are provided in the videos and activities.

2. More about the course

I hope this course will help you understand that writing effectively in English for various purposes in scientific, medical, business and legal contexts is within your reach. If you want to compose a polished and readable text, you need to know how to make your language clear, concise and accurate. This is what your readers (e.g. thesis supervisors, reviewers, patients, customers and clients) expect from you. Step by step, you will develop as a writer. You will learn how to choose the right words, combine them into phrases and sentences, and put them together into longer pieces of writing. Writing has to be learned; no one becomes a good writer overnight and effortlessly. You need to practise a lot. But do not forget to read. Although this course focuses on writing, it is important to remember that reading plays an essential role in the development of writing skills. According to Murray (1985: 243), "[y]ou can read without writing, but you cannot write (…) without reading".

This course will guide you on how to improve your English. It draws on mistakes that my PhD students and academics often make in their abstracts or full research articles. Being aware of potential pitfalls in English can help you avoid them. To describe areas of difficulty, I use basic terms such as *verbs*, *nouns, subjects* or *objects*. They are to help you understand the relationships between words. In the training materials, I always explain what they mean and what roles they play in forming a sentence. If you have problems understanding the terminology, you can pause the video and think about what you have heard. If you are a Polish learner of English, you can have a look at the *Glossary of grammatical terms*. It gives you translated and illustrated examples of all the grammatical terms used in the course. Although knowing grammatical terminology will not make you a better writer, it will make it much easier to explain and discuss many aspects of the language. It can also help you find relevant information in grammar books and writing guides, or on websites if you want to get a deeper insight into the concepts discussed.

Each week ends with the *Additional reading and watching* sections. The links you can find there will take you to informative reading resources and YouTube videos. You can

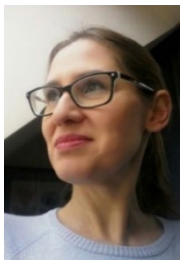
read and watch them all, or choose an area that interests u most or needs clarification. If you know some other valuable online resources, feel free to share them with other students in the forum. I hope that the readings and videos will broaden your knowledge and understanding of the course material.

Why don't you join the discussion forum and practise your writing? Feel free to post any questions you might have about the course content. I will be happy to answer them all. You may also want to share a few writing tips with other course participants to help them write more effectively in English.

The course consists of eight (8) lessons with videos, quizzes and progress tests. The quizzes and progress tests are designed to help you check what you have learned while watching the videos. If you want to earn a certificate, you have to take the final test too. Do not skip the ungraded *Additional practice* section. It provides you with practical exercises related to the language topics covered in all the lessons.

Enjoy the course!

3. Instructor



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Course design and implementation: Tomasz Nosal

Animations and video production: Jarosław Kuptel, Daniel Dochód

4. General references:

1. Cutts, Martin. 2013. *Oxford Guide to Plain English*. Oxford: Oxford University Press.
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Politechnika Białostocka

5. Sample materials of the course

WEEK 2 LESSON 1

clarity accuracy precision lucidity striking clarity concise writing enhance readability reduce padding condense sentence clarity of expression plainness *Lesson 1* crystal-clear clear writing make a point economically brevity of expression bare essentials linguistic complexit **WORD SAVING** rd saving clarity acc e writing enhance readability reduce padding condense a sentence clarity of expression plainness crystal-clear clear writing make a point economically brevity of expression bare essentials reduce language complexity reduction of linguistic complexity simplification procedures clearly worded word saving plainness

Keep
It
Short
and
Simple

Analysis of the possibilities of cooperation between SINAMICS DCM converter from SIEMENS company and separately excited DC motor with rated power up to 1 kW

(...) In the next stage, the simulation model has been created. The model is intended to imitate the real drive system which is the object of consideration in this thesis. Based on the simulation results, the model's conformity with its real counterpart has been evaluated. And then the simulation tests have been carried out to find theanswer to the question what can be done to improve the quality of considered drive system. At the end, a summation of the work which has been done as a part of this thesis is placed and basing on this, the appropriate conclusions has been formulated. (...)

Krystian, Adam: Analysis of the possibilities of cooperation between SINAMICS DCM converter from SIEMENS company and separately excited DC motor with rated power up to 1 kW

At the end, a summation of the work which was done as a part of this thesis is placed and basing on this, the appropriate conclusions were formulated. (28)

↓

The thesis ends with a summation of the completed tasks and conclusions. (12)

1. Choose words, not phrases

- increase quickly → **soar**
- run very fast → **dash**

- has the ability to → **can**
- there is a chance that → **may**

- in a clear manner → **clearly**
- at a rapid rate → **rapidly**

- for this reason → **so**
- in addition to → **also**

- due to the fact that → **because**
- concerning the matter of → **about**

- yellow in colour → **yellow**
- conical in shape → **conical**

the to a that in a

at in a this to the in

of the that for in to

There are likely to be many researchers raising questions about this methodological approach. (13)

↓

Many researchers **might question** this methodological approach. (7)

2. Use adjective compounds

- **100-Watt** bulb
- **A-shaped** roof
- **self-cleaning** glass
- **well-adjusted** temperature

The mould consists of two parts which have the shape of letter L. (13)

↓

The mould consists of two **L-shaped** parts. (8)

3. Avoid tautologous expressions

- graphically illustrated
- agricultural tractor
- architectural building

The experimental part of the research was successfully completed. (9)

The experimental part of the research was **completed**. (8)

4 x original sentence = 63 words

4 x edited sentence = 35 words

45%

Abced fgh ij klem operstw vzyz. Cdefdef ab graij klam ope resuw vx yz. A bcdefg hi jk lmnop rstu wvxyz. Abcd fghijkl mnoprs tuwv xyz. Abcdef gh ijaklmn oprst uvwxyz. Abced fgh ij klem operstw vzyz. Ab cdef graij klam ope resuw vx yz ijaklmn oprst. A bcdefg hi jk lmnop rstu wvxyz. Abcd Fghi jkl mnoprs tuwv xyz. Abcdef gh uvwxyz. Abced fgh ij klem operstw vzyz. Graij ab cdef klam ope resuw vx yz. A bcdefg hi jk lmnop rstu wvxyz. Abcd Fghi jkl Mnoprs tuwv xyz. Abcdef gh ijaklmn oprst uvwxyzoperstw vzyz. Ab cdef graij klam Abced fgh ij klem lmnop rstu wvxyz ope resuw vx yz. A bcdefg hi jk. Abcd fghi jkl mnoprs tuwv xyz. Abcdef gh ijaklmn oprst uvwxyz. Abced fgh Abcd Fghi jklm noprs ij klem. Abcde f graij klam ope resuw operstw vzyzvx yz. A bcdefg hi jk lmnop rstu wvxyz. tuwv xyz. Abcdef gh ijaklmn oprst uvwxyz. Abcde fgh ij klem operstw vzyz. Ab cdef graij klam ope resuw vx yz.

clarity accuracy precision lucidity striking clarity concise writing enhance readability reduce padding condense sentence clarity of expression plainness *Lesson 1* crystal-clear clear writing make a point economically brevity of expression bare essentials reduce mplexity simplifi WORD SAVING clarity accuracy writing enhance readability reduce padding condense a sentence clarity of expression plainness crystal-clear clear writing make a point economically brevity of expression bare essentials reduce language complexity reduction of linguistic complexity simplification procedures clearly worded word saving plainness

Quiz: Week 2 Lesson 1

The answers to all the questions below can be found in the training material. If you have problems selecting the right answer, watch the video again.

1. KISS is an acronym that stands for:

- Keep It Short and Sloppy
- Keep It Short and Simple
- Keep It Stylish and Simple
- Keep Its subject Shorter and Simpler

2. Which of the words or phrases has a different meaning?

- wordiness
- wordy style
- word saving
- dense writing

3. An example of a wordy style is:

- an awkward repetition
- an adjective compound
- a strong verb
- every linking word

4. Wordy writing uses many empty words.

- yes
- no

5. Which of the words is a content word?

- this
- make
- in
- an

6. An adjective compound defines a noun that it follows.

- yes
- no

Progress test: Week 2 Lesson 1

Part 1

Read the text about a wordy style. Complete it with the right word. Remember: It is always a good idea to read the whole text before trying to complete it.

Wordiness is taking ..... words than necessary to make your point.

Elimination of a wordy style ..... in stronger, more concise writing.

It is easier to read and provides ..... opportunities for misinterpretation.

If possible, reduce the wordiness in your writing. Producing shorter and simpler sentences involves:

• using strong ..... : I sing well, not: I'm able to sing well;

• watching out for wordy phrases: ..... , not: despite the fact that;

• avoiding a(n) ..... : Warsaw, not: the city of Warsaw;

• ..... an awkward repetition: square, not: square in shape.

Part 2

1. Which of the sentences – 1 or 2 – is a less wordy equivalent of the sentence below?

It may be assumed that there is another additional source of pollution.

1/ There may be an additional source of pollution.

2/ There may be another source of pollution.

- 1
- 2
- both 1 and 2

2. Which of the words or phrases in the sentence below can be removed without a break-down in meaning?

As a result of the multi-stage treatment of concrete rubble produced at the demolition site of the facility, a coarse aggregate is obtained.

- As a result of
- multi-stage
- produced
- of the facility

Part 3

If you want to reduce a wordy style, you can replace longer phrases with single words. Find a shorter alternative to each word combination.

1. a majority of – .....
2. are of the same opinion – .....
3. be deficient in – .....
4. is capable of – .....

Part 4

Rewrite each sentence so that it is less wordy. You can use only **one word** in each gap.

1. Into Chapter 2 the project's objectives are included.

Chapter 2 ..... the project's objectives.

2. The practice of revision would improve our writing.

..... would improve our writing.

3. What we found was a solution to the problem.

We ..... the problem.

4. In this paper is presented a cold bonding process.

This paper ..... a cold bonding process.

5. The hypothesis of the reason for the collapse of the roof was snow load.

The roof may have ..... due to snow load.

6. It consists of two squares which have the same shape and size.

It consists of two ..... -size squares.

WEEK 2 LESSON 2

decide apply refer describe improve increase test search perform explain confirm consider indicate conclude illustrate analyse emphasize answer

Lesson 2

test perform explain confirm apply refer test describe improve increase search perform explain c analyse emphasiz indicate verify det ease test search perform explain confirm consider indicate conclude illustrate analyse emphasize answer verify determine decide apply refer describe improve increase test search perform explain confirm consider indicate perform explain confirm consider indicate conclude illustrate analyse emphasize answer verify

STRONG VERBS

- provide a description of …
- write a review of …
- carry out an analysis of…
- make a reference to …

- provide
- give
- issue

} a description of …

- write
- do

} a review of …

- carry out
- perform
- do
- make

} an analysis of …

- make
- drop
- have
- contain

} a reference to …

- provide a description of → **describe**
- write a review of → **review**
- carry out an analysis of → **analyse**
- make a reference to → **refer to**

- constitute
- realise
- effectuate

- write an email
- make a skype call
- make a click

The thesis **is an attempt to find answers to** few questions. (11)

↓

The thesis **attempts to answer** few questions. (7)

The verification of the parameters **was based on** lab tests. (10)

↓

The parameters **were verified** in lab tests. (7)

The theory **provides an explanation for** the fluctuations in the figures. (11)

↓

The theory **explains** the fluctuations in the figures. (8)

The auger **is used to drill** holes for tree seedlings and shrubs. (12)

↓

The auger **drills** holes for tree seedlings and shrubs. (9)

It **contributed to improving** the compressive strength by 14 %. (11)

It **improved** the compressive strength by 14 %. (9)

5 x original sentence = 55 words

5 x edited sentence = 40 words

27%

Abced fgh ij klem operstw vzyz. Ab cdef graij klam ope resuw vx yz. Sa bcdefg hi jk lmnop rstu wvxyz. Abcd fghijkl Mnoprs tuwv xyz adbced fgh ij klem Operstw vzyz Abcdef gh ijaklmn. Oprst uvwxyz. Ab cdef graij klam ope resuw vx yz. A bcdefg hi jk lmnop rstusvtrz xecdef gh ijaklmn Abcd Fghi jkl mnoprs tuwv xyz. Rpost m uvwxyz Abced Ab cdef graij klam fgh ij klem operstw vzyz. Ope resuw vx yt c bcdefg hi jk lmnop rstu wvxyzbcd. Ba Fghi jkl Mnoprs tuwv xyz. Abcdef gh ijaklmn oprst uvwxyz. Abced fgh ij klem operstw vzyz. Ab cdef A bcdefg hi jk lmnop rstu graij klam ope resuw vx yz. wvxyz. fbcd fghi jkl mnoprs tuwv xyz. Abcdef gh ijaklmn oprst uvwxyz. Abced fgh ij klem operstw vzyz. klam ope resuw vx yz. A bcdefg hi jk lmnop rstu wvxyz. Abcd Ab cdef graij Fghi jklm noprs tuwv xyz. Fcde fgh ij klem Abcdef gh ijaklmn oprst uvwxyz. operstw vzyz. Ab cdef graij klam ope resuw vx yza.

decide apply refer describe improve increase test search perform explain confirm consider indicate conclude illustrate analyse emphasize answer Lesson 2 ecide perform explain confirm apply refer describe improve increase test search perform explain c analyse emphasize STRONG VERBS indicate verify det rease test search perform explain confirm consider indicate conclude illustrate analyse emphasize answer verify determine decide apply refer describe improve increase test search perform explain confirm consider indicate perform explain confirm consider indicate conclude illustrate analyse emphasize answer verify

Quiz: Week 2 Lesson 2

The answers to all the questions below can be found in the training material. If you have problems selecting the right answer, watch the video again.

1. In the phrase *provide a description* of, the word *provide* is:

- a weak verb
- a strong verb

2. Which of the phrases below contains a strong verb?

- *do a review of research findings*
- *make an analysis of research findings*
- *confirm research findings*
- *have a reference to research findings*

3. Which of the sets below contains only strong verbs?

- *carry out, cause, put*
- *make, do, conduct*
- *give, provide, perform*
- *explain, describe, analyse*

4. Is it possible to shorten the phrases *write an email* and *make a skype call*? Select the right answer.

- *write* and *make* cannot be removed.
- *email* and *skype* can be used as verbs.
- *write* and *make* are not weak verbs.
- *email* and *skype* cannot act as strong verbs.

Progress test: Week 2 Lesson 2

Part 1

Replace the verb phrase with a strong verb. Remember: strong verbs make your writing meaningful without extra words.

1. cause an increase – .....
2. implement a change – .....
3. give an indication of – .....

4. reach a conclusion – .....

5. provide an illustration of – .....

6. put a lot of emphasis on – .....

Part 2

Paraphrasing is a useful skill. You can express what you mean in different ways. If you use a strong verb, not a verb phrase, you make your writing shorter and clearer. Change the underlined nouns into verbs.

1. The book gives a description of analogue signals.

The book ..... analogue signals.

2. Lower limb prostheses will bring a positive effect for the amputees.

Lower limb prostheses will positively ..... the amputees.

3. One of the ways to reduce electricity consumption through cooling systems is the use of ejector systems.

One of the ways to reduce electricity consumption through cooling systems is ..... ejector systems.

4. One way of utilising municipal sewage is to use it for the recultivation of degraded areas.

One way of utilising municipal sewage is to use it for ..... degraded areas.

5. The reduction of energy consumption is one of the elements of implementing the concept of sustainable development in construction.

..... energy consumption is one of the elements of implementing sustainable development in construction.

Raport z ankiety ewaluacyjnej kursu „How to write (science) better”

Spis treści

Rozdział 1.

Wstęp

Poniżej przedstawione zostały wyniki badania Course evaluation survey_How to write (science) better

Thank you for taking a course on Navoica! This survey will take you only 3 minutes. It is anonymous.

Your participation in this survey is very valuable to us and will help us make a new edition of this course even better.

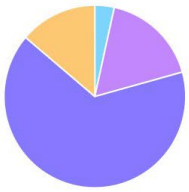
1. What was your main reason for taking this course?

Odpowiedź	%	Liczba odpowiedzi
It is compulsory at my university	20.69%	6
It is related to my field of study	6.90%	2
Acquiring the skills needed for my current job	20.69%	6
Acquiring the skills needed to start a new job	0%	0
I want to have more career prospects	6.90%	2
I like learning new things	37.93%	11
I want to get a certificate	6.90%	2
I was curious what such courses looked like	0%	0
Other:	0%	0

W sumie: **29 wypełnień**

2. Has this course helped you achieve your primary goal?

Odpowiedź	%	Liczba odpowiedzi
Not at all	0%	0
Somewhat	3.45%	1
Neutral	17.24%	5
Mostly	65.52%	19
Completely	13.79%	4



W sumie: **29 wypełnień**

3. Please rate your satisfaction with the:

Instructor/Instructors

1	2	3	4	5	Średnia
0% (0)	3.45% (1)	0% (0)	10.34% (3)	86.21% (25)	**4.79**

W sumie: **29 wypełnień**

4. Please rate your satisfaction with the:

Videos

1	2	3	4	5	Średnia
0% (0)	0% (0)	3.45% (1)	27.59% (8)	68.97% (20)	**4.66**

W sumie: **29 wypełnień**

5. Please rate your satisfaction with the:

Readings

1	2	3	4	5	Średnia
0% (0)	0% (0)	0% (0)	24.14% (7)	75.86% (22)	**4.76**

W sumie: **29 wypełnień**

6. Please rate your satisfaction with the:

Exercises/Tests

1	2	3	4	5	Średnia
0% (0)	3.45% (1)	6.90% (2)	31.03% (9)	58.62% (17)	**4.45**

W sumie: **29 wypełnień**

7. Please rate your satisfaction with the:

Navoica platform

1	2	3	4	5	Średnia
0% (0)	0% (0)	0% (0)	24.14% (7)	75.86% (22)	**4.76**

W sumie: **29 wypełnień**

8. In my opinion, this course is

Odpowiedź	%	Liczba odpowiedzi
Too short	24.14%	7
Just the right length	75.86%	22
Too long	0%	0

W sumie: **29 wypełnień**

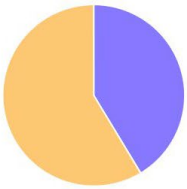
9. In my opinion, this course is

Odpowiedź	%	Liczba odpowiedzi
Too easy	3.45%	1
Just the right difficulty	89.66%	26
Too hard	6.90%	2

W sumie: **29 wypełnień**

10. The course is interesting.

Odpowiedź	%	Liczba odpowiedzi
Disagree	0%	0
Somewhat disagree	0%	0
It's hard to say	0%	0
Somewhat agree	41.38%	12
Agree	58.62%	17



W sumie: **29 wypełnień**

11. There were enough exercises to master the contents of the lessons.

Odpowiedź	%	Liczba odpowiedzi
Disagree	3.45%	1
Somewhat disagree	13.79%	4
It's hard to say	10.34%	3
Somewhat agree	24.14%	7
Agree	48.28%	14

W sumie: **29 wypełnień**

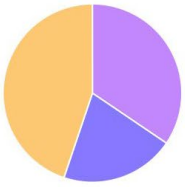
12. Contact with the course staff was possible.

Odpowiedź	%	Liczba odpowiedzi
Disagree	0%	0
Somewhat disagree	0%	0
It's hard to say	37.93%	11
Somewhat agree	0%	0
Agree	62.07%	18

W sumie: **29 wypełnień**

13. Contact with other students was possible.

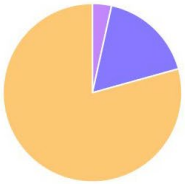
Odpowiedź	%	Liczba odpowiedzi
Disagree	0%	0
Somewhat disagree	0%	0
It's hard to say	34.48%	10
Somewhat agree	20.69%	6
Agree	44.83%	13



W sumie: **29 wypełnień**

14. I would recommend the course to my friends.

Odpowiedź	%	Liczba odpowiedzi
Disagree	0%	0
Somewhat disagree	0%	0
It's hard to say	3.45%	1
Somewhat agree	17.24%	5
Agree	79.31%	23



W sumie: **29 wypełnień**

15. Space for your comments

Wypowiedzi są wyświetlane chronologicznie od najnowszej do najstarszej, z uwzględnieniem najczęściej udzielanych odpowiedzi.

Lista odpowiedzi
I've started too late, but I'm glad I've tried. I found the course very attractive. Thank you.
Amazing
Thank you.
I would like some more excercises :)
The course was very useful and it helps me to pick my knowledge up. In my opinion there weren't enought exercises.
I will send you an e-mail in a moment covering my overall satisfaction and feedback. Best, Bartosz Michalski

Wszystkie wypełnienia w załączniku nr 1

W sumie: **6 wypełnień**

Appendix D. Students' opinions

1. Comments of PhD students (original wording) on language development in the Doctoral School (from the evaluation questionnaire in the USOS)

- Zajęcia pozwoliły na rozwój i doskonalenie umiejętności językowych. Przyjazna i miła atmosfera. Prowadzący zawsze doskonale przygotowany.
- Bardzo ciekawie prowadzone zajęcia, dużo praktycznych informacji – nauczyliśmy się jak powinna wyglądać prezentacja, jak należy pisać abstract. Mocna 5 dla Pani Moniki. :)
- Jeden z lepiej prowadzonych lektoratów na które uczęszczałam. Wysoki poziom – chyba ponad B2 :). Tematy dobrane do potrzeb doktorantów – nie rozmawiamy o wakacjach, czy ulubionym filmie, ale uczymy się jak po angielsku pisać prace naukowe, jakich zwrotów używać, jak wyrazić to samo, na kilka różnych sposobów. Jestem bardzo zadowolona (…). Dziękuję Pani Moniko. :)
- Zajęcia były skupione na użyciu języka a nie na suchej gramatyce co pozwoliło rozwinąć umiejętności pisania i głoszenia prac w języku angielskim. Osobiście były to pierwsze zajęcia z języka angielskiego od 12 lat na których się czegoś nauczyłem. (…) Niczego bym nie zmieniał.
- Zajęcia bardzo potrzebne. Zbyt mało godzin.
- Zrealizowany przedmiot jest bardzo przydatny w pracy naukowej/dydaktycznej. Sposób prowadzenia zajęć jest bardzo dobry i dostosowany do potrzeb doktorantów.
- Więcej godzin mogłoby być, bardzo dobrze prowadzony przedmiot, dziękuję.
- Świetne i przydatne zajęcia.
- Profesjonalne przygotowanie do zajęć, trochę za szybkie tempo pracy.

- Zrealizowany przedmiot jest bardzo przydatny w mojej pracy naukowej, prowadzony w bardzo ciekawy sposób. Język angielski przewija się ciągle w przebiegu studiów doktoranckich, więc możliwość rozwinięcia dodatkowych umiejętności jest bardzo przydatne (ad7). Nie widzę potrzeby wprowadzania zmian w programie tego przedmiotu (ad8).
- Szkoda, że tak mało zajęć z Panią mgr Śleszyńską. Wiele treści jest bardzo pomocnych przy pisaniu artykułów. Jestem z zajęć bardzo zadowolony.
- Pani Monika świetnie prowadzi zajęcia, wzbogaca nasza wiedzę w coraz to nowe informacje, śledzi trendy zarówno w redagowaniu tekstów naukowych jak i technikach autoprezentacji. Zajęcia bardzo mi pomagają w przygotowaniu referatów i wystąpień konferencyjnych. Uważam, że powinniśmy mieć zajęcia z Panią Moniką przez cały okres trwania studiów, wtedy bylibyśmy pewni o egzamin doktorski oraz dzięki zdobytej wiedzy i umiejętnościom byśmy się pozytywnie wyróżniali na konferencjach naukowych.
- Bardzo pozytywne wrażenia z zajęć.
- Przedmiot ten jest niezbędny w mojej pracy naukowej oraz dydaktycznej. Język ten jest powszechnie używany i bez niego niemożliwe jest prowadzenie badań oraz publikowanie czy dydaktyka. (…) Nie widzę potrzeb wprowadzania zmian. Zajęcia prowadzone są w sposób wzorcowy. Pani mgr Monika Śleszyńska jest zdecydowanie najlepszym z lektorów prowadzących zajęcia w CNK. Wiedza przekazywana jest w bardzo przystępny sposób, nawet nowe zagadnienia zostały przeze mnie opanowane bez problemów. Wyśmienite przygotowanie do zajęć jak również ich organizacja. Po prostu nic dodać nic ująć.
- Jeżeli nie rozumiesz gramatyki a pisanie artykułów naukowych jest męką, to tylko Monika Ciebie uratuje :). Zdecydowanie od wielu lat najlepszy nauczyciel angielskiego, pełen pasji, wiedzy i szczery. :)
- Zajęcia uważam za praktyczne. Zajęcia dały mi dużą motywację do pracy na przedmiotem we własnym zakresie, inaczej mówiąc zajęcia zachęcają do nauki j. angielskiego. Program zajęć i sposób ich prowadzenia oceniam na 5+.
- Your lessons was really useful and it is really sad that I'll not be able to continue. Thank you very much for your work!
- Jeżeli chodzi o materiał przerabiany na zajęciach, to jak najbardziej wzbogaca on wiedzę i według mojej opinii nie trzeba go w jakikolwiek sposób zmieniać.

2. Students' comments (original wording) on integrating Plain English into language development (from private e-mail correspondence)

- I would like to sincerely thank you for being such a kind and nice facilitator for the whole semester. In fact, I have learned a lot that would help me move ahead. Thank you for bearing with all the shortcomings from our side.
- Thank you very much for everything, I really enjoyed our time together and in every class I got inspired by you.
- Chciałabym podziękować za zajęcia, które Pani prowadziła w tym semestrze. Był to bardzo ciekawy przedmiot i dzięki Pani bardzo wiele skorzystałam i nauczyłam się. Mam nadzieję, że uda mi się to wykorzystać przy pisaniu pracy magisterskiej jak i w przyszłości. Dziękuję bardzo i mam nadzieję, że będę miała jeszcze kiedyś okazję Panią spotkać.
- Jestem bardzo wdzięczny za pomoc! Coś niewiarygodnego jak wprowadzone przez Panią zmiany wpłynęły na poprawę jakości mojego streszczenia! Niesamowite! Czytając Pani wersję cały czas uśmiecham się sam do siebie, ponieważ ten tekst brzmi wspaniale i nadal trudno mi jest uwierzyć, iż wprowadzone przez Panią modyfikacje tak pozytywnie wpłynęły na jego odbiór! Mogę to czytać w nieskończoność! Ależ podoba mi się! Jest pięknie i wspaniale! Takie streszczenie znacznie upiększy moją pracę! Pani zachowanie… tak szybko i chętnie zdecydowała mi się Pani pomóc… Niewiarygodne! Widać są jeszcze na świecie serdeczni ludzie i nauczyciele z powołaniem. To zaszczyt, że mogłem mieć z Panią zajęcia i zawsze je bardzo miło wspominam. Najserdeczniej dziękuję i życzę wspaniałego dnia!

3. Opinions of PhD students and other course participants (original wording) about the MOOC (from the discussion forum and private e-mail correspondence)

- Hi. I have never heared about Plain English. This lesson was very useful for me and everything was new. Great lesson! I totally agree that we should write short, clear sentences. Beacouse of that whole tekst is clear.
- I nearly never pay attention to the categories verbs and nouns so this course is perfect to me. :)
- When you add previous lessons to the last, You get to see how the clear and understandable text should be looking, and how You should write your papers.
- This course was very useful and gave me a lot of helpful tips. Now, I just have to work on the practice.
- Hi, week 2 completed, so I would like to thank here for this very informative tip on how to eliminate wordy phrases, especially the trick with noun and strong verbs. Of course, as suggested, we should diversify the style we use, but it helps a lot when you struggle to squeeze your text into a given limit.
- Now i make a step deeper into a english language with this course. This course is very helpful for me. I try to be better and better in english writting and speaking.
- I am grateful for the opportunity to take part in your course. I know it was not an easy task and there is space for improvements, too. Well done, especially because of your professional courage and confidence to prepare and launch this course. As we face the upcoming changes in the model of our education, or better said in our life-long learning, this was a good start. As far as the quality of the contents is concerned, I have learnt a lot of useful tips and recommendations. What is more, the book on plain English is also worthwhile for my own curiosity as I need English for my job only. There is this kind of sound self-pressure to improve, so I believe I did a next step towards better skills. What I would suggest is a thorough revision of the contents to transform the course towards being more practical and not so much into the formal terms of linguistics. Another minor thing is the careful proof-reading and clear organisation of graded tasks. For instance, I do not understand why they confirm correct answers after the first try. Therefore, it makes these tasks too easy to be solved and affects the final fair grade. To sum up, it was my great pleasure to complete the course and share my feedback with you. Good luck while launching the upcoming editions and for your future plans. :)

4. Opinions of PhD students and other course participants about the MOOC (the end-of-course questionnaire)

Table 32. End-of-the-course survey results.

Questions:	**Answers:**		
	Yes	No	Maybe
Did the course meet your expectations?	91%	0%	9%
Would you recommend this course to other students?	91%	0%	9%
Do you think you have learned a lot?	76%	3%	21%
Do you feel more confident in writing science?	71%	3%	26%
Are you motivated to write more after the course?	74%	6%	20%
Do you feel you can write a better quality text?	88%	0%	12%
Would you like learn more about improving writing skills?	91%	0%	9%

Appendix E. The questionnaire

Szkoła Doktorska PB (rok akademicki 2020-2021)

Ankieta ma na celu zebranie opinii na temat preferencji i umiejętności doktorantów w kontekście podnoszenia kompetencji językowych na lektoracie języka angielskiego w Szkole Doktorskiej uczelni technicznej. Część pytań dotyczy jednej ze sprawności – pisania, a szczególnie pisania tekstów o charakterze naukowym.

Ankieta jest anonimowa. Wszystkie odpowiedzi są ważne, dlatego bardzo proszę o szczere odpowiedzi. Państwa zaangażowanie pozwoli zebrać rzetelne dane niezbędne do dalszej pracy badawczej. Jeśli są Państwo zainteresowani wynikami ankiety, zapraszam do kontaktu: m.sleszynska@pb.edu.pl.

mgr Monika Śleszyńska
Studium Języków Obcych PB

1. Swój poziom znajomości jęz. angielskiego oceniam na:

A1 / A2 / B1 / B2 / C1 / C2

2. Uczę się jęz. angielskiego:

a. 0-3 lata
b. 4-6 lat
c. 7-9 lat
d. 10-12 lat
e. ponad 12 lat

3. Swoje kompetencje językowe w zakresie słuchania, czytania, mówienia i pisania oceniam na:

1 – bardzo słaby	**2 – słaby**	**3 – średni**	**4 – dobry**	**5 – bardzo dobry**
a. słuchanie	1	2	3	4	5
b. czytanie	1	2	3	4	5
c. mówienie	1	2	3	4	5
d. pisanie	1	2	3	4	5

4. Jako doktorant/doktorantka (w pracy badawczej) jęz. angielski mogę wykorzystać: (*można zaznaczyć kilka opcji*)

a. podczas sesji plakatowych na międzynarodowych konferencjach naukowych
b. podczas prezentacji na międzynarodowych konferencjach naukowych
c. podczas zajęć ze studentami zagranicznymi
d. podczas zajęć i wykładów w trakcie, np. zagranicznych staży naukowych
e. w artykułach naukowych przeznaczonych do publikacji w zagranicznych czasopismach
f. podczas aplikowania o granty
g. inne (jakie?) ……...

5. W pracy zawodowej (pozabadawczej) w jęz. angielskim: (*można zaznaczyć kilka opcji*)

a. piszę maile
b. redaguję instrukcje obsługi produktu itp.
c. redaguję instrukcje montażu produktu itp.
d. sporządzam specyfikacje produktu itp.
e. sporządzam specyfikacje procesów produkcyjnych i okołoprodukcyjnych
f. sporządzam dokumentacje projektowe produktu itp.
g. redaguję zwroty z rynku
h. redaguję newslettery
i. piszę sprawozdania
j. żadne z powyższych
k. inne (jakie?) ……...

6. Znam zasady dotyczące pisania typowe dla następujących języków kontrolowanych i uproszczonych: (*można zaznaczyć kilka opcji; jeśli została wybrana odpowiedź h, można przejść do pkt. 9*)

a. Basic English (stworzony przez Ch. K. Ogdena w latach 20-tych XX w.)
b. ASD-STE100 (Simplified Technical English)
c. Caterpillar Fundamental English
d. Ericsson English
e. Bull Controlled English
f. Plain English
g. inne (jakie?) ……...
h. Nie znam żadnego języka angielskiego kontrolowanego lub uproszczonego i zasad pisania typowych dla tego języka.

7. Pisząc teksty naukowe w jęz. angielskim, stosuję zasady typowe dla następujących języków kontrolowanych i uproszczonych: (*można zaznaczyć kilka opcji*)

a. Basic English (stworzony przez Ch. K. Ogdena w latach 20-tych XX w.)
b. ASD-STE100 (Simplified Technical English)
c. Caterpillar Fundamental English
d. Ericsson English
e. Bull Controlled English
f. Plain English
g. inne (jakie?) ……...

8. W pracy zawodowej (pozabadawczej) pisząc w jęz. angielskim, stosuję zasady typowe dla następujących języków kontrolowanych i uproszczonych: (*można zaznaczyć kilka opcji*)

a. Basic English (stworzony przez Ch. K. Ogdena w latach 20-tych XX w.)
b. ASD-STE100 (Simplified Technical English)
c. Caterpillar Fundamental English
d. Ericsson English
e. Bull Controlled English
f. Plain English
g. inne (jakie?) …….

9. Jeśli miałbym/miałabym wybrać **tylko jeden** profil zajęć z jęz. angielskiego w trakcie lektoratu w Szkole Doktorskiej, wybrałbym/wybrałabym: (*należy wpisać do kratki cyfry 1-4 oznaczające* ***kolejność wyboru****, gdzie:* ***1 – najbardziej, 4 – najmniej***)

a. słuchanie (np. oglądanie filmów, słuchanie wypowiedzi native speakers, rozpoznawanie akcentów) ☐

b. czytanie (np. rozpoznawanie rodzajów tekstu, np. charakterystyczne słownictwo i struktury gramatyczne, myślenie krytyczne, wyszukiwanie informacji) ☐

c. mówienie (np. wyrażanie opinii, negocjowanie, dyskusje w parach/grupach, tzw. small talk) ☐

d. pisanie (np. pisanie abstraktów, redagowanie tekstów naukowych w jasny i zrozumiały sposób, redagowanie slajdów) ☐

W pytaniach 10-29 swoją odpowiedź należy wybrać z podanych poniżej:

1. **Zdecydowanie nie zgadzam się**
2. **Nie zgadzam się**
3. **Nie mam zdania**
4. **Zgadzam się**
5. **Zdecydowanie zgadzam się**

10. Na lektoracie z jęz. angielskiego w Szkole Doktorskiej chciałbym/chciałabym podnieść swoje kompetencje językowe w zakresie:

a. słuchania, by zrozumieć, np. wykłady i prezentacje zagranicznych prelegentów; 1 2 3 4 5

b. czytania, by zrozumieć i ocenić, np. wyniki badań naukowych w interesującej mnie dyscyplinie; 1 2 3 4 5

c. mówienia, by móc dyskutować, np. o różnych kwestiach badawczych z naukowcami z innych krajów; 1 2 3 4 5

d. pisania, by przedstawić, np. swoje badania i ich wyniki w jasny i zrozumiały sposób w artykułach naukowych przeznaczonych do publikacji w anglojęzycznych czasopismach. 1 2 3 4 5

11. Na lektoracie jęz. angielskiego w Szkole Doktorskiej chciałbym/chciałabym:

a. powtórzyć podstawowe czasy gramatyczne 1 2 3 4 5
b. poznać słownictwo ze swojej dyscypliny 1 2 3 4 5
c. poznać słownictwo akademickie 1 2 3 4 5
d. nauczyć się parafrazować (przekształcać) treści, by uniknąć powtarzania słownictwa i struktur gramatycznych 1 2 3 4 5
e. nauczyć się precyzyjnie dobierać słownictwo 1 2 3 4 5
f. nauczyć się budować poprawne gramatycznie zdania 1 2 3 4 5
g. nauczyć się budować zwięzłe wypowiedzi pisemne 1 2 3 4 5

12. Lubię przedstawiać swoje myśli w formie pisemnej. 1 2 3 4 5

13. Potrafię napisać spójny tekst w jęz. polskim. 1 2 3 4 5

14. Potrafię napisać spójny tekst w jęz. angielskim. 1 2 3 4 5

15. W jęz. polskim potrafię przedstawić swoje myśli zwięźle w formie pisemnej. 1 2 3 4 5

16. W jęz. angielskim potrafię przedstawić swoje myśli zwięźle w formie pisemnej. 1 2 3 4 5

17. W jęz. polskim potrafię przedstawić swoje myśli precyzyjnie w formie pisemnej. 1 2 3 4 5

18. W jęz. angielskim potrafię przedstawić swoje myśli precyzyjnie w formie pisemnej. 1 2 3 4 5

19. Znam terminologię w jęz. angielskim ze swojej dyscypliny. 1 2 3 4 5

20. Przygotowując tekst naukowy w jęz. angielskim, najpierw piszę go w jęz. polskim, a następnie tłumaczę na jęz. angielski. 1 2 3 4 5

21. Gdy piszę własny tekst naukowy w jęz. angielskim, jego organizację (podział na części) wzoruję się na artykułach w jęz. angielskim innych autorów. 1 2 3 4 5

22. Po napisaniu tekstu naukowego w jęz. angielskim, czytam go na głos, by sprawdzić czy jest przejrzysty. 1 2 3 4 5

23. Po napisaniu tekstu naukowego w jęz. angielskim zastanawiam się czy będzie zrozumiały dla mojego czytelnika. 1 2 3 4 5

24. Sprawdzając własny tekst naukowy w jęz. angielskim wiem, na jakie elementy językowe zwrócić uwagę, poprawność językowa tekstu wzrosła. 1 2 3 4 5

25. Sprawdzając własny tekst naukowy w jęz. angielskim wiem, na jakie elementy językowe zwrócić uwagę, by zachować tzw. normy retoryczne charakterystyczne dla stylu pisania w jęz. angielskim. 1 2 3 4 5

26. Gdy czytam literaturę naukową w jęz. angielskim, zwracam uwagę na aspekty językowe (np. związki wyrazowe, budowę zdania). 1 2 3 4 5

27. Gdy czytam artykuły naukowe w jęz. angielskim, zwracam uwagę na aspekty związane z organizacją treści, np. strukturą abstraktu, poszczególnymi częściami artykułu (np. model AIMRaD: Abstract, Introduction, Methodology, Results and Discussion). 1 2 3 4 5

28. Pisząc tekst naukowy w jęz. angielskim potrafię:

a. podzielić tekst na sekcje (np. Introduction, Methodology) 1 2 3 4 5
b. zatytułować sekcje i podsekcje 1 2 3 4 5
c. przedstawić dane w tabelach i wykresach 1 2 3 4 5
d. podpisać tabele i wykresy 1 2 3 4 5

29. Pisząc tekst naukowy w jęz. angielskim, potrafię:

a. precyzyjnie dobierać słownictwo specjalistyczne 1 2 3 4 5
b. precyzyjnie dobierać słownictwo niespecjalistyczne 1 2 3 4 5
c. stosować związki wielorzeczownikowe (np. heat gain, water flow indicator) 1 2 3 4 5
d. poprawnie zastosować czasy gramatyczne 1 2 3 4 5

e. redagować zwięzłe zdania 1 2 3 4 5
f. stosować stronę bierną 1 2 3 4 5
g. stosować słowa/wyrażenia łączące (np. moreover, as a result) 1 2 3 4 5
h. stosować poprawną interpunkcję 1 2 3 4 5

30. Pisząc tekst naukowy w jęz. angielskim, mam problem z: (*wymień inne kwestie niż w pkt. 28 i 29*)

……..……

……..……

31. Aby lepiej pisać teksty naukowe w jęz. angielskim, powinienem/powinnam: (*można zaznaczyć kilka opcji*)

a. czytać więcej w jęz. angielskim
b. pisać więcej w jęz. angielskim
c. robić więcej ćwiczeń leksykalno-gramatycznych
d. poznać więcej terminów specjalistycznych (typowych dla mojej dyscypliny)
e. poznać więcej terminów akademickich
f. poznać typowe dla anglojęzycznych czasopism sposoby organizacji tekstu (podział na Introduction, Methodology itd.)
g. poznać zwroty i wyrażenia charakterystyczne dla danego tekstu naukowego (np. abstraktu, wstępu do artykułu)
h. podczas czytania literatury naukowej w jęz. angielskim, zwracać uwagę na różne aspekty językowe (np. związki wyrazowe, budowę zdania)
i. analizować na zajęciach jęz. angielskiego typowe błędy leksykalno-gramatyczne popełniane w tekstach naukowych przez autorów niebędących native speakers
j. poznać i przećwiczyć różne aspekty językowe, które wpływają na przejrzystość, zwięzłość i poprawność gramatyczną tekstu naukowego
k. inne (jakie?) ……..……..…

Punkt 32 dotyczy wiedzy i umiejętności przydatnych podczas pisania tekstów naukowych w jęz. angielskim.

32. W zdaniu:

This analyses provides an explanation, for the fluctuations, in the figures.

a.	podmiot jest rzeczownikiem policzalnym	Tak	Nie	Nie wiem
b.	czasownik provide jest czasownikiem przechodnim	Tak	Nie	Nie wiem
c.	orzeczenie jest czasownikiem mocnym	Tak	Nie	Nie wiem
d.	podmiot zgadza się z orzeczeniem w stosunku do liczby	Tak	Nie	Nie wiem
e.	występuje związek wielorzeczownikowy	Tak	Nie	Nie wiem
f.	stronę czynną można zamienić na stronę bierną	Tak	Nie	Nie wiem
g.	interpunkcja jest prawidłowa	Tak	Nie	Nie wiem

33. Odpowiedź *Nie wiem* w pkt. 32 zaznaczyłem/zaznaczyłam, ponieważ:

a.	nie rozumiem, co oznaczają terminy gramatyczne	Tak	Nie
b.	nie znam odpowiedzi	Tak	Nie
c.	w niektórych przypadkach odpowiedź a., w innych b.	Tak	Nie
d.	inne (jakie?) ……..……..…		

34. Uważam, że łatwiejsze do zrozumienia i bardziej przejrzyste jest zdanie: (*należy wstawić do kratki znak* X)

a. The verification of the parameters was based on laboratory tests. ☐
   The parameters were verified in laboratory tests. ☐

b. It improved the compressive strength by 14%. ☐
   It contributed to improving the compressive strength by 14%. ☐

c. The thesis attempts to answer a few questions. ☐
   The thesis is an attempt to find answers to a few questions. ☐

d. There are likely to be many researchers raising questions about this methodological approach. ☐
   Many researchers might question this methodological approach. ☐

e. The mould consists of two L-shaped parts. ☐
   The mould consists of two parts which have the shape of letter L. ☐

f. The municipal sewage treatment has never been easier. ☐
The treatment of the sewage of the city has never been easier. ☐

g. In Chapter 2 the project's objectives are included. ☐
Chapter 2 includes the project's objectives. ☐

h. After irradiation, the samples were degassed. ☐
After the samples were irradiated, they were degassed. ☐

i. It is unlikely that carbon dioxide will have an insignificant impact on people's mood. ☐
It is likely that carbon dioxide will have a significant impact on people's mood. ☐

j. Smoking is bad for our health. This habit results in tumours, ulcers, bad breath and tooth decay. ☐
Smoking is bad for our health. Tumours, ulcers, bad breath and tooth decay result from this habit. ☐

35. Wybierając zdania w pkt. 34 brałem/brałam pod uwagę:

……
……
……

Dziękuję za wypełnienie ankiety! ☺

Appendix F. Semi-structured interviews: questions

1. Interview 1

- Jakie oczekiwania miał Pan/miała Pani w związku z lektoratem języka angielskiego w Szkole Doktorskiej?
- W jaki sposób podnosi Pan/Pani swoje kompetencje językowe poza zajęciami w Szkole Doktorskiej?
- Czym jest dla Pana/Pani gramatyka?
- Czy i dlaczego przywiązuje Pan/Pani dużą wagę do poprawności językowej (np. gramatycznej) pisanych przez siebie treści?
- Jakie elementy językowe uważa Pan/Pani za istotne podczas pisania tekstów naukowych w języku angielskim?
- W jaki sposób pisze Pan/Pani swoje teksty naukowe?
- Czy treści kursu *MOOC* i zajęć dotyczyły pisania? Proszę uzasadnić swoją opinię.
- Czy według Pana/Pani uproszczony język angielski może być odpowiednim narzędziem transferu informacji w tekstach naukowych (np. artykułach przeznaczonych do publikacji) w naukach inżynieryjno-technicznych? Proszę uzasadnić swoją opinię.
- Czy uproszczony język angielski (*Plain English*), którego dotyczyły zajęcia w tym semestrze (kurs *MOOC* i zajęcia) jest odpowiednim tematem zajęć na lektoracie języka angielskiego w Szkole Doktorskiej na uczelni technicznej? Proszę wyjaśnić, dlaczego tak/nie.

- Czy podczas lektoratu języka angielskiego w Szkole Doktorskiej chciałby Pan/Pani poznać i przećwiczyć kolejne elementy uproszczonego języka angielskiego (*Plain English*)? Proszę wyjaśnić, dlaczego tak/nie.
- Które zagadnienie omawiane na kursie *MOOC* i na zajęciach wydają się Panu/Pani najbardziej przydatne w kontekście pisania artykułów naukowych, a które mają niewiele wspólnego z podnoszeniem kompetencji w pisaniu w języku angielskim?
- Jakie kwestie omawiane w *MOOC* i na zajęciach będzie Pan/Pani wykorzystywał/a przy pisaniu własnych tekstów naukowych?
- Jakie zagadnienia omawiane na kursie *MOOC* i na zajęciach były najbardziej/najmniej przydatne w kontekście pisania tekstów naukowych?
- Czy forma kursu *MOOC* i zajęć odpowiadała Panu/Pani? Proszę uzasadnić swoją opinię.
- Czy treści omawiane na kursie *MOOC* i na zajęciach pomogły Panu/Pani określić swoje potrzeby w zakresie podwyższania kompetencji związanych z pisaniem w kontekście akademickim? Proszę wyjaśnić, w czym pomogły, co się zmieniło.
- Czy treści omawiane na kursie *MOOC* i na zajęciach zainspirowały Pana/Panią do własnych działań w zakresie podnoszenia kompetencji związanych z pisaniem w języku angielskim? Proszę uzasadnić swoją opinię. Jeśli tak, jakie zagadnienia będą przedmiotem Pana/Pani zainteresowań?
- Czy kurs *MOOC* i zajęcia wpłynęły na zwiększenie świadomości dotyczącej pewnych aspektów językowych lub zauważaniu ich, np. w tekstach, wypowiedziach ustnych itp.? Proszę uzasadnić swoją opinię.
- W jakim stopniu zajęcia języka angielskiego stały się motywacją do pracy nad podnoszeniem kompetencji językowych?
- W jakim stopniu *checklist* powstała w oparciu o zasady uproszczonego języka angielskiego może być przydatna podczas pisania i korekty własnych tekstów naukowych?
- Jakie narzędzia wykorzystuje Pan/Pani do pisania i/lub sprawdzania poprawności językowej własnych tekstów o charakterze naukowym?

- W jakim stopniu promotor pracy doktorskiej może pomóc Panu/Pani przygotować tekst w języku angielskim przeznaczony do publikacji (np. organizacja tekstu, poprawność językowa, konwencje retoryczne)?
- W jaki sposób zajęcia z języka angielskiego wpłynęły na Pana/Pani postrzeganie siebie jako autora/autorkę tekstów naukowych?

2. Interview 2

- W jakim języku pisał Pan/pisała Pani abstrakt i wstęp do artykułu naukowego? Czym kierował się Pan/kierowała się Pani przy wyborze języka?
- Czy oba teksty w jęz. angielskim napisał Pan/napisala Pani samodzielnie?
- Czy korzystał Pan/korzystała Pani z internetowych narzędzi do sprawdzania poprawności gramatycznej i stylistycznej tekstów? Proszę wyjaśnić powód korzystania z tych narzędzi.
- Czy podczas pisania lub korekty wstępu do artykułu naukowego korzystał Pan/korzystała Pani z *checklist*? Proszę wyjaśnić, dlaczego tak/nie.
- Czy obecnie korzysta Pan/Pani z *checklist* podczas pisania artykułów naukowych? Proszę wyjaśnić, dlaczego tak/nie.
- W jaki sposób wzmacnia Pan/Pani swoje umiejętności w zakresie pisania w języku angielskim poza zajęciami w Szkole Doktorskiej?
- Czy pisze Pan/Pan regularnie w języku angielskim? Jakie teksty Pan/Pani pisze?
- Jakie są Pana/Pani doświadczenia w pisaniu tekstów naukowych przeznaczonych do publikacji?
- W jakim stopniu wiedza i umiejętności zdobyte podczas zajęć języka angielskiego w Semestrze 1 przydają się Panu/Pani obecnie w pracy naukowej?
- Jakie problemy napotyka Pan/Pani podczas pisania artykułów naukowych w języku angielskim? Jak je Pan/Pani rozwiązuje? Proszę podać przykłady.
- W jaki sposób postrzega Pan/Pani obecnie swoje umiejętności w zakresie pisania akademickiego w języku angielskim?

- W jakim stopniu treści omawiane i ćwiczone na zajęciach języka angielskiego zgodne są z Pana/Pani potrzebami akademickimi?
- Jakie tematy dotyczące pisania akademickiego chciałby Pan/chciałaby Pani omówić na lektoracie języka angielskiego?
- Jakie tematy dotyczące pisania w języku angielskim chciałby Pan/chciałaby Pani omówić na lektoracie języka angielskiego?

Appendix G. Pre- and post-tests of the selected participants

Participant 4 (the least likely to succeed)

- **Pre-test**

With the development of medicine and engineering, the number of implantation surgeries has continuously increased. Bone implant surgery is currently the most common surgery of this type. Each implant has been designed to restore lost bone functions as well as enhancing the esthetic qualities of the body. In recent years, the number of implantation surgeries in the jawbone area has considerably increased (up to 100,000 per year in Poland).

Unfortunately, every surgery operation carries the risk of revision surgery. About 8% of them all requires resurgeries and implant removal. The main cause is the loosening of the implant, therefore its displacement. This can lead to implant damage and even bone fractures. The etiology of this occurrence may be of biological or mechanical nature.

Study analysis showed that both the implant placement, chewing conditions as well as the mechanical properties of the implant itself affect the HMH stresses occurred in the bone. To investigate further the interaction between the implant and the jawbone, tests were performed with finite element method.

The study performed under the conditions of primary stabilization showed that the higher Young's modulus of the material, the lower the stresses in the bone. Given the implant geometry, it can be said that implant sharp edges might have caused more HMH stresses in the bone therefore edge rounding can reduce the HMH stresses created in the cortical bone.

- **Post-test**

Nowadays, technological progress covers many fields of science, in particular medicine and dentistry. The use of modern technologies allows us to improve the quality of treatment and extend the life of the average person. Problems of the stomatognathic system - morphological and functional complex of tissues and organs within the mouth and craniofacial cavity, constitute a large group of diseases. If not treated properly, they can lead to serious complications and, in extreme cases, also to death. Therapies, on the other hand, despite the obvious benefits, are often associated with an irreversible change in the structures that build teeth, which can significantly affect their strength. Many scientists showed interest in studying how endodontic treatment affects teeth with an experimental approach as well as numerical analysis. There is in fact lack of studies showing how specific geometry of tooth prepared for treatment can change the strength of the root itself. The following thesis contains numerical studies conducted in the program ANSYS Workbench R19.3 where one of 3 main parameters were changed in 3 different variants. These parameters are a type of filling material, load, and root canal geometry. Each of those showed a different impact on HMH strain and stress distributions within root and root canal filling. The study performed with a primal type of load and geometry showed that the filling material with the highest young modulus that is matching the modulus of the root effect in the lowest max HMH stress and root deformation. On the other hand, the highest HMH stresses and strain occurred with changed load, showing that not only the value of the load alter strain and stress distribution but also placement and angle of load application. The geometry of the root canal had the smallest impact on root strength, which can implicate that type of root preparing method does not have a significant influence on tooth strength and remains up to the choice of a treating specialist.

Participant 8 (the most likely to succeed)

- **Pre-test**

In order to generte the best possible protection in frontal collisions new types of materials are used. The following paper describes the process of studying the energy consumption of cellular materials.

This paper presents an introduction to the subject of cellular materials, starting from definitions, through their properties and classifications, and ending with production methods. The process of testing energy consumption consisted of several stages. The first was to

conduct a study of the effect of the number of adjacent elements on a representative cell unit in order to establish the minimum number of cells. The second step was to study the influence of the geometric structure on the energy absorption of the cellular structure.

The analyzed modified geometrical structures were characterized by greater energy absorption compared to the traditional hexagonal structure. The value of the absorbed energy per unit on cross-sectional area of the cell was established as a comparative parameter. In the case of the most energy-consuming structure, i.e. full double hexagonal, this value was 80% higher compared to the hexagonal structure.

In order to further expand the scope of knowledge, it is possible to carry out a non-linear analysis taking into account the thermal phenomena arising during the deformation processes of materials. The next stage should be experimental work to verify the theses put forward based on the results obtained numerically

- **Post-test**

The aim of this paper was to develop a method for determining mechanical properties based on the example of the Young's modulus of aluminium specimens coated by hard-anodizing method. The methodology was based on inverse elasticity theory correlated with displacement field measurements carried out by high speed photography as data for digital image correlation (DIC) technique.

Eight specimens with dimensions 15 mm x 2,1 mm x 130 mm were prepared for the test. Four of them were hard-anodized, and the rest of them were aluminium without coating. The oxide coating layer had thickness equal to 0,05 mm, and were made by type II anodizing. The research was conducted in two ways. The first method consisted in determining the Young's modulus on the basis of a well-known method using vibrations of a cantilever beam for two cases, i.e. a cantilever beam with or without an anodizing layer. The idea of the test was to force the specimens to vibration through a modal hammer and record the vibration until it is stabilized. The process was recorded with ultra-high frequency, for period of time set to three seconds. Second tests was unidirectional tensile test by using Shimadzu AGX-V testing machine. The velocity of tensile tests were set to 0,08 mm/s and recorded with two compartments of frequency by 3D Aramis system. First one was equal to 25 Hz and recorded for 600 images to perfectly capture linear elasticity of material, second one was set to 1 Hz and performed until specimen rupture.

The next step was to analyze received recordings by using GOM Correlate system and digital image correlation software by tracking movement of markers made on the specimen surface. This process allowed to determine the displacement distributions on every plane of individual specimens. In the uniaxial tensile test, the strain as a function of time was determined and subsequently correlated with force value obtained from tensile strength testing machine. To correlate those data interpolating algorithm was created. In case of vibration analysis the vibration characteristics of individual specimens were determined on the basis of the Fourier analysis and cleaned of environmental noise.

Afterwards, the obtained empirically data were applied to numerical simulation for two cases of test, i.e. a cantilever beam and tensile test. The inverse problem of the elasticity theory was applied to build numerical model, which determines the value of the Young's modulus of individual materials based on the assumption that the mechanical properties of the substrate are known. The formulated problem was solved by using COMSOL Multiphysics software. The results obtained from both methods were compared and conclusions on the applicability of the proposed method were created.

Participant 10 (the high achiever)

- **Pre-test**

In 2017 I created a strategy game played in a system of turns with RPG elements. Created application allowed to carry out the game between two players. Additionally players make battles with neutral armies commanded by AI. Unfortunately it was only possible to simulate battle. Major problem with conducting a battle was the lack of an advanced turn-based game strategy algorithm. The purpose of work was showing the results of research about advanced turn-based game strategy algorithms, implementation and comparison of the proposed approaches to the issue. I examined a few algorithms concerning game strategy. There were simple approaches and a lot more complicated based on calculating the current state of the battlefield and taking into consideration state in future turns. Additionally I used a random algorithm as a basis of comparisons. To anlalite it, I created a module which was able to carry out battle between two AI players. Additionally this module collected process and result data. To provide reliable results was necessary to make a lot of simulations. I made a few tests where different algorithms fight each other having the same army. Then took a look how each approach work when the forces are not equal. At the end I researched the impact of army size on the results of each algorithm. More advanced was better in each

test. For the test with equal forces, fighting against random AI: less complex approach won 76,4% games and more complex won 90,4%. The test against each other result was: 73,4% to 26,6% for the more advanced algorithm. In some specific settings a more complex algorithm won 100% games. Moreover this algorithm kept more armies after battle (32,57% to 21,12%). Another criterion for comparisons was amount of moves needed to win a battle. Once again a more complex algorithm was better, it needs 18,22 moves when less complex needs 18,46. This time the difference was not big but in some specific settings was even 113,47 to 139,22. As predicted, a more complex approach gets a better result in every aspect. Unfortunately this algorithm is more difficult to implement, needs suitable parameter settings and a lot of training games to adjust parameters.

- **Post-test**

The vast amount of data collected by existing computer systems provides constantly growing numbers of unused information. With this in mind, it leads to the urge to conduct research concerning better algorithms that allow extracting those pieces of information. This trend is known as the Big Data, which is a branch that deals with analysing information which are too large or complex to be explored by the use of traditional methods. The Big data consists of five main parts, which can be described as: volume (the size of data), variety (the characteristics of data), velocity (the speed of data inflow), veracity (the reliability of data) and value (the worth of information which can be obtained). Furthermore, it includes stream data, that is to say, those are data with some limitations, such as inability to store them, coupled with very little time to compute them. Moreover, they are used in many commercial fields, for instance social media platforms, online shops as well as Internet traffic management. The growing significance of data stream classification techniques has resulted in the design of data stream classifiers that can process data in real-time. The aim of this paper is to present a new algorithm dedicated to Stream Data analysis. Classifiers used in commonly known methods are based on decision trees. What is more, there is a variation called hoeffding tree dedicated to stream data. The innovation in our research is the use of evolutionary algorithm to create a better model than typical top down induction

Appendix H. Checklists

1. Students' writing or editing checklist (Checklist 1)

Plain English recommends, for example, a less wordy style with strong verbs, short or medium-length sentences and fewer sophisticated words to glue specialist ideas together. This is what many journals call *good writing* or *correct scientific English.* Such English is expected of you by editors, peer-reviewers and readers of journal articles. This checklist will help you compose a clear, effective and readable manuscript. It will also help you grow as a more independent writer if you use it regularly while writing and/or editing your texts.

	What to remember about while writing and/or editing a text:
A.	short, everyday words rather than long Latinates if they are not required (e.g. *end*, not: *terminate*)
B.	strong verbs (e.g. *describe*, not: *provide a description of*)
C.	consistency in terminology (e.g. only *Δ-structure*, not: *Δ-structure, delta structure*, *delta configuration* and *Δ configuration* in the same text)
D.	compound nouns (but not multiple-word ones) (e.g. *heat pump*, not: *scanner head motion control arm*)
E.	word saving (e.g. *clearly*, not: *in a clear way*)
F.	short and medium-length sentences
G.	the active voice (primarily and if possible)
H.	parallel structures (e.g. *The information was used for configuring and parametrizing the converter*, not: *The information was used for configuring and to parametrize the converter*.)
I.	accurate punctuation

2. Raters' evaluation rubric (Checklist 2)

Participant: ……..…

Y: yes (if prevalent or frequent) N: no (if incidental or absent)

Features of Plain English used in the writing samples:	**Abstract**	**Introduction**
A. short, everyday words rather than long Latinates if they are not required (e.g. *end*, not: *terminate*)	Y / N	Y / N
B. strong verbs (e.g. *describe*, not: *provide a description of*).	Y / N	Y / N
C. consistent terminology (e.g. only *Δ-structure*, not: *Δ-structure*, *delta structure*, *delta configuration* and *Δ configuration* in the same text)	Y / N	Y / N
D. compound nouns (but not multiple-word ones) (e.g. *heat pump*, not: *scanner head motion control arm*)	Y / N	Y / N
E. word saving (e.g. *clearly*, not: *in a clear way*)	Y / N	Y / N
F. short and medium-length sentences	Y / N	Y / N
G. the active voice (primarily and if possible)	Y / N	Y / N
H. parallel forms (e.g. *The information was used for configuring and parametrizing the converter*, not: *The information was used for configuring and to parametrize the converter*.)	Y / N	Y / N
I. accurate punctuation	Y / N	Y / N

3. Raters' evaluation rubric (Checklist 3)

Participant: ……..…

Y: yes N: no

Clarity, effectiveness and readability of the writing samples:	**Abstract**	**Introduction**
A. The author uses precise words to convey meanings.	Y / N	Y / N
B. The sentences are grammatically correct.	Y / N	Y / N
C. The text is concise (i.e. it avoids needless words).	Y / N	Y / N
D. The text is clear (i.e. it is easily and quickly understood).	Y / N	Y / N
E. The text is effective (i.e. it is efficient, successful and adequate).	Y / N	Y / N
F. The text is fluid (i.e. enables smooth transition from sentence to sentence).	Y / N	Y / N
G. The text is readable (i.e. easy and enjoyable to read).	Y / N	Y / N
H. The text is organised according to the guidelines provided by the teacher.	Y / N	Y / N

The overall assessment of the student's performance on the texts:

1: very poor 2: poor 3: average 4: good 5: very good

Abstract ……..…… Introduction ……..……