



universität
wien

DIPLOMARBEIT / DIPLOMA THESIS

Titel der Diplomarbeit / Title of the Diploma Thesis

A genre analysis of physiotherapists' master thesis abstracts and its educational implications in the Austrian context.

verfasst von / submitted by

Theresa Hochhold

angestrebter akademischer Grad / in partial fulfilment of the requirements for the degree of

Magistra der Philosophie (Mag. phil.)

Wien, 2018 / Vienna, 2018

Studienkennzahl lt. Studienblatt /
degree programme code as it appears on
the student record sheet:

A 190 344 313

Studienrichtung lt. Studienblatt /
degree programme as it appears on
the student record sheet:

UF Englisch, UF Geschichte,
Sozialkunde und Politische
Bildung

Betreut von / Supervisor:

Ao. Univ.-Prof. Mag. Dr. Ute Smit

Inhalt

Acknowledgements	iv
List of Abbreviations.....	v
List of Tables.....	vi
List of Figures.....	vii
Abstracts.....	viii
1. Introduction.....	1
2. Definitions of ‘genre’ and main approaches to genre analysis	2
2.1. A difficult definition.....	3
2.2. Defining elements of genre	3
2.3. Genre in context.....	9
2.4. Development of genre analysis	11
2.4.1. Sydney School (or SFL).....	13
2.4.2. The New Rhetoric	14
2.4.3. The English for Specific Purposes Approach	15
3. Doing genre analysis.....	18
3.1. Methodological steps of a genre analysis	18
3.2. Multiperspectivity	21
3.3. Move analysis	23
3.4. Corpus analysis	23
3.4.1. Definitions and historical background of corpora.....	23
3.4.2. Objectivity, reliability and size of corpora.....	25
3.4.3. Features of corpus analysis tools and related background knowledge	26
3.4.3.1. Frequency	26
3.4.3.2. Keywords	27
3.4.3.3. Concordancing.....	28
4. The genre in question: the abstract	29
5. Developments in physiotherapy and its education.....	36
5.1. General developments in physiotherapy worldwide and evidence-based physiotherapy (EBP)	36
5.2. Developments in the education of physiotherapists in Europe in general as well as Austria, Canada, New Zealand and Australia specifically.....	37
6. (Teaching) ESP(EAP/EOP)	39
6.1. Introduction to ESP and its sub-branches	39
6.2. EMP for physiotherapists in Austria	39
6.3. The role of the teacher.....	41

6.4.	Student versus expert genres.....	42
6.5.	Teaching English for physiotherapists with the help of a corpus.....	43
7.	Genre analysis and its results	45
7.1.	Context of writing.....	45
7.2.	Data and methods	47
7.3.	Average length of abstracts.....	48
7.4.	Move analysis	55
7.4.1.	Methodology	56
7.4.2.	Results	56
7.5.	Corpus analysis	60
7.5.1.	Frequency analysis	60
7.5.2.	Keyword analysis	63
7.5.3.	Concordancing.....	66
7.5.3.1.	Verbs to use in the academic context	66
7.5.3.2.	Nouns	74
7.6.	Summary of findings.....	79
8.	Conclusion	80
9.	References	82
	Appendix	88

Acknowledgements

I would first like to thank my thesis advisor Prof. Mag. Dr. Ute Smit for her continued encouragement and interest in my work. It is never easy to write a thesis. However, it does not get easier if you are not ‘just’ a student. Prof. Smit was demanding where necessary but apart from that nothing but supportive.

Special thanks go to my dear colleague Katrin Finke who provided valuable feedback whenever necessary. Without her expertise I would often have often fallen into despair in the last two years.

Ultimately, I want to thank my family. Especially, my husband Michael without whose love, and encouragement I could never have finished my studies, as well as my daughters Jasmin and Judith who often had to do without their mummy. Finally, sincere thanks go to my mum Gudrun who took care of the two girls willingly whenever asked to and, thereby enabled me to concentrate on my studies.

List of Abbreviations

BNC	The British National Corpus
COCA	Corpus of Contemporary American English
DDL	Data Driven Learning
EAP	English for Academic Purposes
EBP	Evidence Based Physiotherapy
EAMP	English for Academic Medical Purposes
e.g.	example given
EMP	English for Medical Purposes
EOP	English for Occupational Purposes
ESP	English for Specific Purposes
etc.	etcetera
FI	Further Investigation
i.e.	id est
JACS	Journal of the American Chemical Society
KW	Keywords
L	Limitations
MI	Mutual Information value
NISO	National Information Standards Organization
NNS	Non Native Speaker
NR	New Rhetoric
RG	Research Gap
SCBI	Sustained Content Based approach to Instruction
SFL	Systemic Functional Linguistics

List of Tables

Table 1: NISO word limits for abstracts	32
Table 2: Number of words of all English abstracts	49
Table 3: Mean and Median in Australia, Canada and New Zealand	49
Table 4: Number of words in Australian abstracts	50
Table 5: Abstract word limits of Australian universities	50
Table 6: Word limits of universities in New Zealand	51
Table 7: Number of words in abstracts from New Zealand	52
Table 8: Number of words in abstracts from Canada	53
Table 9: Number of words abstracts in Austria and Switzerland	54
Table 10: A classification of rhetorical moves in article abstracts (Hyland 2000: 67)	55
Table 11: Results move analysis	56
Table 12: Structure of abstracts with English origin	58
Table 13: Structure of abstracts with German origin	58
Table 14: Sequence of moves	59
Table 15: Comparison frequency analysis physiotherapy corpus vs. BNC	60
Table 16: Frequency analysis content words	60
Table 17: Types of conjunctive adverbs	61
Table 18: Conjunctive adverbs in the corpus	61
Table 19: Keyword analysis	63
Table 20: Keywords Medical Academic Word List	64
Table 21: Keywords relating to physiotherapy	64
Table 22: Negative keywords	65
Table 23: Past participles	66
Table 24: 'demonstrated'	69
Table 25: Infinitive	69
Table 26: Types of infinitives	70
Table 27: 'Determine' 1	70
Table 28: 'Determine' 2	70
Table 29: 'Determine' 3	71
Table 30: 'Determine' 4	71
Table 31: 'Investigate' 1	72
Table 32: 'Investigate' 2	72
Table 33: 'Investigate' 3	72
Table 34: 'Provide' 1	73
Table 35: 'Provide' 2	74
Table 36: Nouns	74
Table 37: 'Exercise' 1	75
Table 38: 'Exercise' 2	76
Table 39: 'Gait' 1	77
Table 40: 'Gait' 2	78

List of Figures

Figure 1: <i>The colony of promotional. genres</i>	11
Figure 2: <i>Perspectives on discourse (Bhatia 2008: 171)</i>	17
Figure 3: <i>Swales' network of scientific products</i>	30
Figure 4: <i>Abstract of “Biodegradable star HPMA polymer-drug conjugates: biodegradability, distribution and anti-tumor efficacy”</i>	34
Figure 5: <i>Plot of 'however' in abstract no. 91</i>	62

English Abstract

For Austrian physiotherapy students who are writing their master thesis, the production of an English abstract is not obligatory. However, it is highly sensible to author one as a well-written English abstract increases the potential audience of one's scientific contributions considerably. Unfortunately, academic writing is not a God-given gift but a hard-earned skill. When it comes to academic writing in a foreign language, proponents of the ESP (English for Specific Purposes) branch of genre analysis believe that a competent language teacher confiding in genre-based teaching is advantageous. Hence, the aim of this thesis was to gain insights into the structure of and lexical choices in L1 physiotherapy master thesis abstracts through a genre-analysis. Methodologically, 131 abstracts from Canada, New Zealand and Australia were collected online and then a move as well as a corpus analysis was conducted. Additionally, the English-speaking abstracts were compared to 90 abstracts from Austria and Switzerland considering their length. Finally, the results from all three analyses were applied in the production of teaching material which showed the worth of genre analyses for the teaching of English for physiotherapists.

German Abstract

Das Verfassen eines englischen Abstracts ist für Physiotherapie Master Studenten in Österreich nicht verpflichtend. Da aber die potentielle Leserschaft auf Grund eines ansprechenden englischen Abstracts signifikant vergrößert werden kann ist das Einfügen eines solchen sinnvoll. Leider ist das Verfassen akademischer Texte eine Fähigkeit die man sich auch in seiner Muttersprache hart erarbeiten muss. Geht es nun um das Verfassen eines solchen Textes in einer Fremdsprache - in diesem Fall Englisch - ist ein Fachlehrer der sich dabei auf die Ergebnisse von entsprechenden Genre Analysen stützt von Vorteil. Das Ziel der vorliegenden Arbeit war es daher die grundsätzliche Struktur der Abstracts, sowie die Entscheidungen auf sprachlicher Ebene von Individuen mit Englisch als Muttersprache zu untersuchen. Dafür wurden 131 Abstracts aus Kanada, Neuseeland und Australien online gesammelt und eine Genre Analyse sowie eine Corpus Analyse durchgeführt. Außerdem wurden die Englischsprachigen Abstracts hinsichtlich ihrer Länge mit 90 Abstracts aus Österreich und der Schweiz verglichen. Abschließend wurden die Ergebnisse der drei Analysen für die Erstellung von Unterrichtsmaterial verwendet was die Anwendbarkeit der Ergebnisse von Genre Analysen für die Produktion von derartigem Material zeigt.

1. Introduction

To become a successful member of a discourse community, it is necessary for every novice to master the respective community's genres. Written academic genres are the communicative tools of scholars and their peers. They epitomize the textual methodology of the discipline (Trosborg 2000: vii) and, therefore, are "the intellectual scaffold" of professional cultures (Berkenkotter & Huckin 1995: 24). Consequently, 'producing' effective writers should be one of the main world-wide educational goals. Swales, in his ground-breaking book on genre analysis, focused on academic English because he had the impression that in secondary education the quality of writing courses was "nothing more than remedial" (Swales 1993 [1990]: 2). He felt confident that genre analysis was the tool to close the gap between students' needs and courses' contents. This view of genre analysis has not been generally accepted as critics perceived it as being too prescriptive, suppressing any creativity (Bhatia 1993:40). However, as an aspiring painter has to prove skills in the basic techniques of painting before earning a fortune for abstract art, an academic has to show that he or she has arrived in the discourse community before cautiously disregarding its conventions.

As the abstract is the piece of a research article or thesis which is first consumed, its ability to captivate its readers constitutes a threshold for academic success. Physiotherapists in Austria have to write a bachelor and a master thesis in order to earn their degrees. Though mostly written in German, the bachelor thesis has to include an abstract in English. For the master thesis the production of an English abstract is not obligatory but sensible and, most of the German-speaking master theses analyzed included an English abstract. Therefore, conducting a genre analysis, based on a German- and an English-speaker corpus of physiotherapy master thesis abstracts, in order to provide a comprehensive assessment of its (non)obligatory elements as well as a better understanding considering the lexical choices of its authors, seems sensible.

The established English-speaking corpus as well as the results of the analysis will hopefully contribute to the production of teaching material for the abstract writing of physiotherapy master students. So far, scientific writing is something Austrian universities seem to see mostly as a God-given gift students receive automatically when entering tertiary education. At least this is the only explanation the author of this thesis may offer when faced with the common lack of writing instruction. Physiotherapy education makes no exception. Students do get support in the scientific process leading to the development of a bachelor or master thesis, however, actual writing tutoring is not included, not in German and by no means

in English. However, as the Anglophone supremacy in academia cannot be denied (Swales 2004: 33-34) scholars of all fields need, apart from the before-mentioned generic knowledge, an advanced English language competence to be successful internationally. Therefore, it is highly sensible that, according to Austrian law, Medical English should be part of the curricula of all teaching facilities in Austria at least at the bachelor's level. Apparently, in mainland Europe, the teaching of ESP on tertiary level is common practice (Hüttner, Smit & Mehlmauer-Larcher 2009: 99). However, this is not the case in Austria.

Diametrically opposed to the delineated conditions in Austria, are the requirements physiotherapists are facing at the moment all over the world. The competencies of this occupational group are extended as well-educated medical personal is more and more a scarce commodity. To keep pace with these developments, physiotherapists' measures need evidence-based scientific underpinning. However, it is not sufficient to research the existing literature and perform some kind of study. In the end, the results have to be presented in a well formulated paper. Additionally, an abstract has to be composed and, as mentioned above, its importance should not be underestimated.

Common sense would suggest that 'genre' is a simple concept. However, when discussing it in detail its multifacetedness is revealed. Therefore, section two attempts to provide a comprehensive review of the term's historical developments and different genre-analytical approaches. In section three, the implementation of a genre analysis is explained in theory. Especially the deliberations on move analysis and corpus analysis are of importance for the study performed in the second half of the thesis. In the fourth section, ESP and its application in teaching are discussed. Apart from pedagogical issues, particular emphasis is put on the language teacher who occupies a special position in ESP. Section five and six elaborate on the difficult situation of physiotherapy education in Austria in general and EMP (English for Medical Purposes) for physiotherapists in particular. After the principles of abstract writing are explained in detail in section seven, the actual analysis and its results are explicated in section eight. Finally, section nine discusses the subject of genre-based teaching before the conclusions that can be drawn from this paper are presented in section ten.

2. Definitions of 'genre' and main approaches to genre analysis

This chapter introduces the concept of genre with a special focus on the difficulty to define the term. Furthermore, it comprises a detailed explanation of the integral aspects of the ESP definition, explains the integrated nature of genres and, finally, the three major approaches to genre analysis are discussed.

2.1.A difficult definition

Definitions of the main terms often occur at the beginning of the theoretical part of academic papers. In case of the most prominent term in the thesis at hand this proves relatively difficult. On the one hand, ‘genre’ is used in various different fields, as for example “folklore studies, literary studies, rhetoric and linguistics” (Swales 1993 [1990]: 33-34) and the respective proponents understand and employ the term differently. On the other hand, representatives of the same field are not always in agreement about what ‘genre’ stands for and, finally, even definitions of one and the same author sometimes change throughout the decades.

As for the first point, a limitation regarding the field of this thesis is the concentration on linguistics. More specifically, following Paltridge (1997: 23), linguistic genre analysis can be attributed to the field of applied linguistics.

Concerning differences in the understanding of ‘genre’ within a field, one might note Frow and Paltridge. On the one hand, Frow (2015: 19) defines ‘genre’ as something very close to the notion of ‘discourse’ and, thereby, puts the two terms on the same level. Paltridge (2006: 84), on the other hand, distinguishes clearly between the two concepts in his definition of genre, when assessing ‘discourse’ as the superordinate entity of spoken and written genres. Considering changing definitions of one and the same author, Swales might be taken as an example. In his seminal work *Genre analysis* (1993 [1990]: 58) he provides a definition of ‘genre’ as comprising “a class of communicative events, the members of which share some set of communicative purpose”. However, in a book written in 2004 (*Research genres: explorations and applications*), he critically comments on his earlier stance and confesses that he would now view “attempts to characterize genres as being essentially a metaphorical endeavor” (Swales 2004: 61). A more detailed explanation of what Swales meant by this is provided in the following subchapter where the notion of ‘communicative event’ is introduced.

2.2.Defining elements of genre

Despite all the difficulties noted above, some of the major contributions to a definition of genre will be explicated here. It can be said that genre is the linkage between the text and its social surroundings or, as Cope and Kalantzis (1993: 7) put it: “Genres are textual interventions in society; and society itself would be nothing without language in all its patterned predictability.” However, one has to bear in mind that genres are nothing “natural, found, described”, but are “designed to serve the explanatory purpose of critical thought” (Rosmarin 1985: 25) and, therefore, are nothing fixed but something that should be challenged whenever necessary.

Different definitions

There are three schools of ‘genre analysis’ I will elaborate on later. However, their definitions will be explicated at this point. To begin with, Martin (2009: 13), one of the major representatives of the Sydney School, summarizes ‘genre’ as a “staged, goal-oriented social process” and explains thereafter:

- (i) staged: because it usually takes us more than one phase of meaning to work through a genre,
- (ii) goal-oriented: because unfolding phases are designed to accomplish something and we feel a sense of frustration or incompleteness if we are stopped,
- (iii) social: because we undertake genres interactively with others.”

In particular, the last element of Martin’s definition – the social – is a recurrent element in genre definitions.

Miller (1984: 165), for example, the main protagonist of the second school to be mentioned (the New Rhetoric) underlines the social role of genre when she says that we “learn to understand better the situations in which we find ourselves and the potentials for failure and success in acting together”. Furthermore, the author emphasizes that genre is not a term that should be understood as a ‘taxonomy’, as one of its major characteristic is its constant change. However, there is naturally an element of repetition in genre as she defines ‘genre’ as “a recurrent, significant action” (Miller, 1984: 165).

Finally, Swales (1993 [1990]: 58), as the major proponent of the ESP branch of genre analysis, defines genre in the following way:

A genre comprises a class of communicative events, the members of which share some set of communicative purposes. These purposes are recognized 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. Communicative purpose is both a privileged criterion and one that operates to keep the scope of a genre as here conceived narrowly focused on comparable rhetorical action. In addition to purpose, exemplars of a genre exhibit various patterns of similarity in terms of structure, style, content and intended audience. If all high probability expectations are realized, the exemplar will be viewed as prototypical by the parent discourse community. The genre names inherited and produced by discourse communities and imported by others constitute valuable ethnographic communication, but typically need further validation.

Other authors in this tradition partly use different terminology, but essentially their definitions comprise similar elements: “the content and the purpose of the genre, the relationship between us and the person we are speaking to, or the audience we are writing for”, social or cultural context, “previous experience with the genre” and variation in typicality (Paltridge 2006: 84-85). Furthermore, Paltridge (1997: 35) emphasizes that “descriptions of language patterns and audience expectations in the ESP approach to genre analysis are described as being

characteristic [original emphasis] of the particular genre, rather than being features by which the genre might be defined”. This would imply that genre is something inherent to text and not ascribed from the outside through humans which would differ from Rosmarin’s view of genre sketched earlier (1985: 25).

Communicative event

Due to the fact that the analysis at hand may be attributed to the realm of ESP, the most important concepts in Swales’ definition will now be elaborated on. To begin with, Swales (1993 [1990]: 45) employs the term ‘communicative event’ - for him any event “in which language (and/or paralinguistics) plays a significant and indispensable role”. As he puts it: “recurrent classes of communicative events are the *genres* [original emphasis] that orchestrate verbal life” (Swales 1998: 20). This social aspect of communication has been used by various other scientists before him, occupied with the analysis of humans and their language. Paltridge (1997: 23), for example, elaborating on the Sydney School, refers to an anthropologist carrying out research at the beginning of the 20th century when he states that “Malinowski’s insistence on meaning [was] [...] grounded in the context of culture and context of situation of particular communicative events” and, therefore, in the social sphere. Later, Carolyn Miller based parts of her definition on Blumer’s (1969: 17) view that “the preponderant portion of social action in human society [...] exists in the form of recurrent patterns of joint action”. The title of her ground-breaking article (“Genre as social action”) suggests that Miller arrived at the conclusion that ‘genre’ is determined through social action which leads us back to the social in Swales’ definition. However, Swales modifies his definition in his book *Research Genres: Explorations and Applications* (2004) and proposes a less narrow approach instead where genres are seen as “essentially a metaphorical endeavor” (2004: 61). The author explains therein that “genres are seen metaphorically as *frames* [original emphasis] for social action, not as social actions themselves” as opposed to the view of, for example, Miller (1984) or to his own definition of 1993 [1990], where ‘genre’ and what it accomplishes are more or less equated. As stated earlier this twist in Swales’ view of his own definition shows the fluidity of the concept of ‘genre’. However, it does not mean that earlier findings have to be ignored. On the contrary, the concept is still helpful in the analysis of peoples’ participation in communities and, especially in ESP, as it “offers teachers a powerful way of understanding, and hopefully, addressing the communicative needs of their students” (Hyland 2006: 50). Therefore, it is sensible to bear the notion of a ‘communicative event’ in mind whenever conducting a genre analysis.

Communicative purpose

Another important concept in Swales' definition is the 'communicative purpose'. According to him, the latter is the criterion that "turns a collection of communicative events into a genre" (Swales 1993 [1990]: 46) and, therefore, it "is [...] a privileged criterion" (Swales 1993 [1990]: 61). Similarly, Hyland (2004: 57) sees the communicative purpose as influencing what a genre "typically contains and how it is written". Bhatia (2006: 13), also a proponent of the ESP school of genre analysis, points to the "internal structure" the communicative purposes attribute to a genre and, mentions 'sub-genres' which might be identified through an analysis of their different communicative purposes. The concentration on 'communicative purpose' leads analysts away from a mere concentration on form. It "offers protection against a facile classification based on stylistic features and inherited beliefs" (Swales 1993 [1990]: 46) and, thereby, a more objective analysis of language. As Dudley-Evans (1994: 219) puts it: "[t]he emphasis is thus on the means by which a text realizes its communicative purpose rather than on establishing a system for the classification of genres".

However, the identification of the purpose of a communicative event can become difficult, especially if a genre has different "sets of communicative purposes" (Swales 1993[1990]: 47). It would go beyond the scope of most scientific analyses to analyze each genre in detail as far as all its communicative purposes are concerned. But, the "formulaic nature of language use that such a view would give to the emergent forms of discourse" would be unrewarding anyway (Bhatia 2006: 80). Askehave and Swales (2001: 200) who admit that, as opposed to purpose, form and content are "immediately manifest to the genre analyst", reveal deficiencies in the SFL approach to genre analysis. They refer to Halliday and Hasan, "who rely on the existence and arrangement of obligatory structural elements for [the] identification" of a genre. However, the analyst is liable to "end up regarding quite similar texts as instances of different genres, because slight variations in field, tenor, or mode trigger different structural formulas" (Askehave & Swales 2001: 205). Another problem in the identification of communicative purposes indicated through Bhatia (2006: 81) is the lack of knowledge of the "text-external aspects" of the disciplinary culture to which the genre belongs. A final important aspect, connected to the 'communicative purpose', is an author's potential to hide the 'real nature' of a text. Therefore, Swales points to the importance of communicative purposes in differentiating "'the real thing' from parody" (Swales 1993 [1990]: 47). In this context, Askehave and Swales (2001: 205) again criticize Halliday and Hasan when suggesting that "a purely formal approach soon runs up against the widespread uses in contemporary society of generic humor, impersonation, parody, pastiche and send-up". Hyland (2004: 57) gives "an advertisement presented as an offer" as an example. At this point one might also consider that

an abstract is often not a mere summary but an advertisement trying to convince its reader through information to consume the scientific work standing behind the abstract. In conclusion, it can be said that attributing a communicative purpose might be difficult. As opposed to a mere functional approach to genre analysis, ‘communicative purpose’ can be seen as valuable assistance for analysts as it supports them in “completing the hermeneutic circle” (Askehave & Swales 2001: 210).

Discourse community

As the role of the (parent) discourse community is essential in Swales’ definition, I will elaborate on it here as well. Interestingly, Hyland (2006: 41) states “that there is no clear agreement on where to actually locate discourse communities or where to draw their boundaries” when they are detected. Swales himself (1998: 20) emphasizes that there is a difference between a speech community and a discourse community. According to him, “discourse communities are occupational or recreational groups that are somewhat different from the traditional geographic speech communities of sociolinguistics” described, for example, by William Labov. As opposed to the speech communities, “in discourse communities, communalities reside in what people do, rather than in who they are” (Swales 1998: 20). Connecting ‘genre’ and ‘discourse community’, Berkenkotter and Huckin (1995: 4) state that “[g]enre conventions signal a discourse community’s norms, ideology, and social ontology”. Furthermore, with a focus on written discourse, Hyland (2006: 41) points to the important role of discourse communities in binding “writers, texts and readers together”. Without the genre conventions of a specific discourse community its members would have no idea how to proceed. Additionally, Swales provides “six defining characteristics” of discourse communities:

1. A discourse community has a broadly agreed set of common public goals.
2. A discourse community has mechanisms of intercommunication among its members.
3. A discourse community uses its participatory mechanisms primarily to provide information and feedback.
4. A discourse community utilizes and hence possesses one or more genres in the communicative furtherance of aims.
5. In addition to owing genres, a discourse community has acquired some specific lexis.
6. A discourse community has a threshold level of members with a suitable degree of relevant content and discursual expertise. (Swales 1993 [1990]: 24-27).

The reference to ‘common public goals’ may be seen as a linkage to the author’s ‘communicative purpose’ because these goals or their common communicative purposes connect the members of a discourse community, unlike a speech community whose members are “joined by social interaction, [...] not a shared purpose” (Hüttner 2007: 37).

Hüttner (2007: 38) emphasizes the importance of ‘discourse communities’ in language learning. For her, the term stresses the fact that even “native speakers of a language are not [...] competent in all genres of that language” and, furthermore, it provides the discrimination between “novice and expert users, with the notion of an apprenticeship that needs to be served by all novices in order to become familiar with the practices of the discourse community”. The learner’s goal will therefore not be the development of native-like English skills, but, his or her acceptance in a “discourse community that happens to use English in its generic practice” (Hüttner 2007: 38).

At this point, some critique of the concept of ‘discourse communities’ has to be added. Swales (1998: 22) sees the role of ‘discourse communities’ of declining importance when he states that “[i]t seems to have lost its authority as a delineated theoretical construct of some descriptive power and, a little less certainly, of some predictive value”. The problem is that the concept does not do justice to the reality of multifaceted speech and discourse communities as there is too much overlap to identify one ‘discourse community’. Furthermore, the label ‘discourse community’ is only applicable retrospectively because of the unstable linguistic characteristics of “emerging, embryonic, or transitional communities” (Swales 1998: 21-22). Hyland (2006: 41) argues against the critique that ‘discourse communities’ are too static when defining them as “hybrid, often inhabited by various values and discourses and by individuals with diverse experiences, interests and influences”. Finally, one may refer back to the critique of the ‘communicative event’ and repeat that through the use of both concepts valuable contributions are made in the field of genre analysis.

Prototypicality

An aspect of significance for genre analysis is a genre’s prototypicality. Swales (1993 [1990]: 49), in explaining ‘prototypicality’ in general, differentiates between a “definitional approach and the family resemblance approach”. The first group refers to the possibility of creating a list of properties that helps to “identify all the members and only the members of a particular category from everything else in the world”. As an example, he gives ‘the bird’ – a creature that may be referred to as “being an animal, having wings and feathers, and laying eggs” and thereby caters for all the group’s members from the ostrich to the penguin. Clearly, this way of attribution only works for some areas like kinship terms, numbers and physical and chemical elements, but when it comes to everyday categories (like *fruit* or *furniture*) or all-or-none-defining features of, for example *lectures* or *jokes*, it gets tricky (Swales 1993 [1990]: 49). A final difficulty of the definitional approach is that members may still be identified if they ‘lose’

some of their defining properties as, for example, “a roast chicken emerging from the cooker”. For the second approach, Swales (1993 [1990]: 50) quotes Wittgenstein (1958: 31-32), who explains the concept of family resemblance through referring to the different sorts of games. In his explanation he elaborates on the fact that a game may share attributes with one game but not with the other which leads to a “complicated network of similarities overlapping and criss-crossing”. According to Swales (1993 [1990]: 51-52), Wittgenstein’s theory led to the development of the ‘prototype’ or ‘cluster approach’ which labels the most typical members of a category ‘prototypes’. In 1983, Armstrong, Gleitman and Gleitman (270) combined both strategies through denominating the definitional approach as “insufficient for picking out all and only the class members” and, therefore, suggesting to draw on the concept of ‘family resemblance’ as soon as the limits of the former approach are reached.

Generic integrity

A further significant term one has to keep in mind when dealing with ‘genre analysis’ is the ‘generic integrity’. Bhatia (2006: 88) even goes as far as to label it the “most important aspect of a genre” and, explains that ‘generic integrity’ is maintained when a genre is “sufficiently standardized and based on a set of mutually accessible conventions, which most members of professional, academic or institutional organizations mutually share”. This ties in with Swales’ (1993 [1990]: 61) definition of genre when he refers to the “expert members of the parent discourse community” who share their understanding of the communicative purposes of a genre and, thereby, “constitute the rationale for the genre”. However, this does not mean that genres are fixed taxonomies which allow for no variation. As Bhatia (2006: 88) puts it:

It may be complex, in that it may reflect a specific form of mixing and/or embedding of two or more generic forms, or even dynamic, in the sense that it may reflect a gradual development over a period of time in response to subtle changes in the rhetorical contexts that it responds to”.

Finally, Bhatia (2006: 89) provides a list of three ‘indicators of generic integrity’

1. the rhetorical context in which the genre is situated
2. the communicative purpose(s) it tends to serve
3. the cognitive structure that it tends to display

The author’s explanation, as well as his list of indicators should facilitate the analysis of the generic integrity of a text at hand.

2.3. Genre in context

Important to keep in mind is that a genre is not an isolated entity. Swales (2004: 18), for example, speaks of ‘chains’ which represent a chronologically ordered succession of genres.

The author gives the following example: “a formal invitation to speak at a departmental colloquium, an acceptance [...], the presentation itself, and then perhaps a thank-you letter possibly enclosing a check”. In this context it is important to mention that this stringing together of genres does not imply any weighting of the individual parts.

A related term emphasizing the ‘proprietors’ of the respective genres is Devitt’s ‘genre set’. The author identifies a network of genres owned by a specific group of people, for example tax accountants, accomplishing their work (Devitt 1991: 340). These genre sets represent a group’s situations and the genres get perpetuated because “the mere existence of an established genre may encourage its continued use” (Devitt 1991: 341). Swales (2004: 20) defines Devitt’s ‘genre-sets’ as “part of the total genre network” individuals or a group of individuals engage in, “both receptively and productively, as part of his or her normal occupational or institutional practice”.

Additionally, genres can be analyzed according to their differentiation. Bhatia (2004: 57) speaks of ‘genres’, ‘sub-genres’ and the so-called ‘super genres’. This ability to differentiate is “a natural consequence of the versatility of genres, in that they are identifiable at various levels of generalization”. Bhatia (2004: 57) makes use of the term ‘colonies’ and explains them as super genres whose “members [are] not necessarily respecting disciplinary or domain boundaries”. For example, considering promotional genres, a job application letter, a sales promotion letter and a reference letter do not seem to share too many characteristics at first sight. (Bhatia 2004: 60). However, all three have in common the positive evaluation of a product or a person and, therefore, “have a large degree of overlap in the communicative purposes they tend to serve” (Bhatia 2004: 60). In this context, also the abstract deserves to be mentioned as Bhatia (2004: 61) sees abstracts as having “a strong promotional concern”. It can be seen as part of the colony of promotional genres, the latter being the ‘super genre’, the thesis it belongs to being the ‘genre’ and, the abstract itself, being a ‘sub-genre’. The author (2004: 62) illustrates the colony of promotional genres in the following diagram:

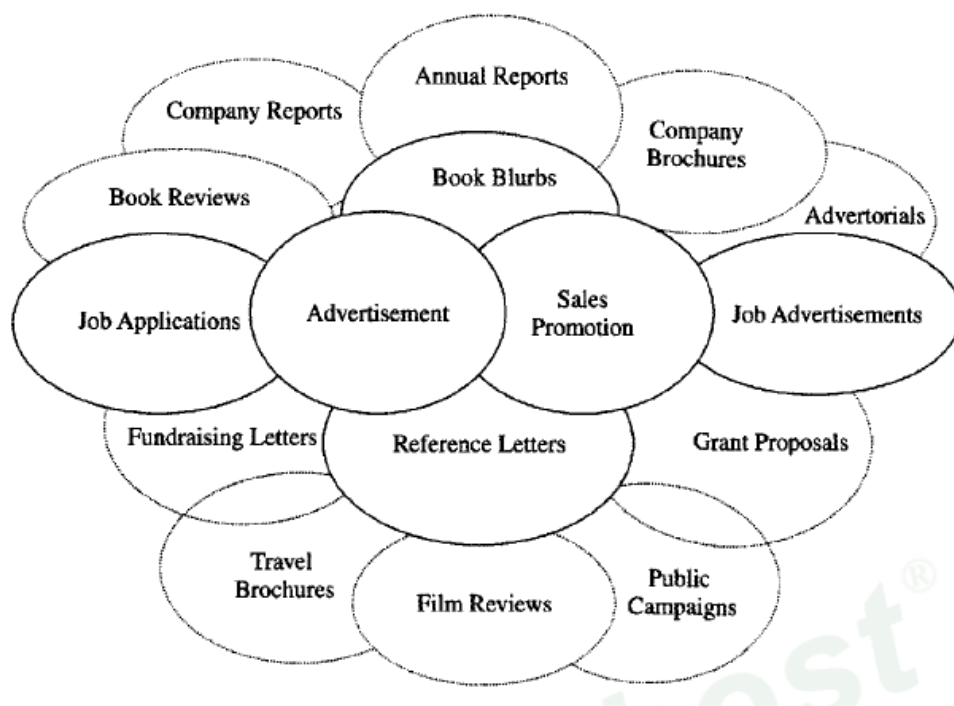


Figure 1: *The colony of promotional genres*

However, this is, by no means meant to provide a complete picture, as the author adds immediately afterwards that “[i]t is not only possible to add new members, it is also possible that over a period of time, the status of certain members can change, in that the genre may change, further develop or even become obsolete because of lack of use”. The promotional nature of an abstract, for example, increased in the last decades in parallel with their online availability. Naturally, an abstract is not considered as a ‘primary member’ of the colony of promotional genres and, probably, not even secondary. However, it can be identified as ‘peripheral members’ like book reviews or annual company reports (Bhatia 2004: 62). The latter Bhatia (2004: 62) calls mixed genres, as they are “partly promotional, partly information-giving or opinion-giving”. As a side note, naturally, a secondary or peripheral member of one colony might be a primary member of another colony (Bhatia 2004: 62).

2.4. Development of genre analysis

Historically, the attribution of literary genres to texts is an ancient procedure which may be traced back as far as the work of the Brothers Grimm or even Aristotle (Paltridge 1997: 1-2). It is “focused on textual regularities” as the genres “were defined by conventions of form and content” (Freedman & Medway 1994: 1). Transferred to the linguistic realm, Swales (1993 [1990]: 61) explicates that naturally there are significant variations in genres – if not so, “there would be little need for genre analysis as a theoretical activity separable from discourse analysis, and probably no need at all for an analysis driven by applied concerns”. However, as

opposed to literary genre analysis, “the new [linguistic] term ‘genre’ has been able to connect a recognition of regularities in discourse types with a broader social and cultural understanding of language in use” (Freedman & Medway 1994: 1) and, thereby, has established an interesting field of analysis.

Admittedly, this development has taken a long time. Bhatia (2012: 239-240) summarizes that genre analyses were directed at “statistically significant features of lexico-grammar” before the “rhetorical value” of those features was at the center of attention and, finally, they were compared across genres. To be able to understand these developments of ‘genre analysis’ in applied linguistics, according to Cope and Kalantzis (1993: 1), the history of the teaching of writing in Australia in the last decades of the 20th century must be adduced. The authors explain that a period of “traditional literacy pedagogies which stress[ed] formal correctness”, or as Halliday (1975: 1) puts it, “a rather one-sided concentration on grammatical structure”, was followed from the 1970ies onwards by a pedagogy relying on “‘natural’ learning through ‘doing’ writing”. However, both approaches did not satisfy the society’s needs and, therefore, ‘genre literacy’ was introduced (Cope & Kalantzis 1993: 1). This term stands for a “genre-based pedagogy consistent with the theoretical work of Michael Halliday” (Hyland 2004: 25) which was aggregated under the umbrella term of the ‘Sydney School’. Linguists’ interest in “regularities of organization in written genres” – the so-called ‘moves’ - was sparked (Bhatia 2012: 240) and this development led to research into the context of a text in the immediate sense (“what surrounds a text”) as well as in the broader sense (“what makes a particular text possible and why most of the professionals from the same profession construct, interpret, and use language, more or less, the same way in specific professional contexts”) (Bhatia 2012: 240).

Apart from the ‘Sydney School’, the approach of the NR has evolved in the United States (Paltridge 1997: 28) and finally, the ESP approach was developed (Paltridge 1997: 27). A commonality of the three approaches is that they have their “origins in the examination of written texts, primarily for pedagogic purposes” (Paltridge 1997: 23). Furthermore, all approaches to genre analysis share their “explicit recognition of the primacy of the social in understanding genres and the role of the context” (Freedman & Medway 1994: 9). However, there are major differences according to the practical application in teaching, the rather dynamic or static nature of genres and the underlying theoretical frameworks (Freedman & Medway 1994: 9).

In the following section, I will give a detailed description of these three approaches. As the object of analysis of this thesis will be an academic product, and the study’s outcome is intended to contribute to its teaching, naturally the ESP approach is of the utmost interest. But

as all three approaches are interconnected on one or the other level it seems, nevertheless, of importance to convey a comprehensive impression of all three.

2.4.1. Sydney School (or SFL)

The historical developments leading to the inception of this approach have been described before. Theoretically, it “is based on the work of systemic functional linguists such as Halliday, Hasan, and Martin” (Paltridge 1997: 23). Those linguists rely heavily on the work of the aforementioned anthropologist Bronislaw Malinowski who studied indigenous people in Melanesia. Malinowski emphasizes that a statement only becomes “intelligible when it is placed within its context of situation” and that “the study of language, spoken by a people who live under conditions different from our own and possess a different culture, must be carried out in conjunction with the study of their culture and of their environment” (Malinowski 1923: 306) (= context of culture). Paltridge (1997: 23) translates this into Malinowski’s insistence that meaning is “being grounded in the context of culture and context of situation of particular communicative events”. The importance of this insight is displayed through Halliday’s (1985: 6) side note that before then the term ‘context’ in English just stood for the textual surroundings of the sequence of words scrutinized. ‘Context of culture’ and ‘context of situation’ are essential for “the structure and lexico-grammatical patterns found in a text” (Paltridge 1997: 38). This interconnectedness causes Hyland (2006: 47) to say that, “internal linguistic criteria” define genres, which enables humans, according to systemic genre analysts like Eggins (2004: 8), “to [not only] *deduce* [original emphasis] context from text, but also to “*predict* [original emphasis] language from context”. Finally, systemic functional linguists understand each genre as “composed of series of stages which contribute to the overall purpose of the genre” (Hyland 2006: 48).

According to most of the proponents of the Sydney School, there is a clear distinction between the term ‘genre’ (= representation of the ‘context of culture’) and the term ‘register’ (= representation of the ‘context of situation’) (Paltridge 1997: 23). ‘Register’ includes three levels on which people make choices when creating a text: ‘field’ (= “the social activity in which people are involved and what the text is about”), ‘tenor’ (= “the relationship of participants in the interaction”) and ‘mode’ (= “the role of language”) (Hyland 2004: 26). These choices in register lead to “texts with fairly predictable features of lexis and grammar” (Hyland 2004:27). ‘Genre’, on the other hand, is a concept that shows how “linguistic choices are influenced by the writer’s social purpose in using language” (Hyland 2004: 27).

As opposed to the other two approaches to genre, “SFL attempts to provide a framework that will help explain genre use at all educational levels rather than just the post-secondary one”

(Hyland 2004: 28). In contrast to NR theorizing (and, by the way, the Hallidayan linguistic theory at its own base), the Sydney School project sees genre as rather static as it argues if it was not static it could not be taught and, therefore, takes a prescriptive stance in teaching (Freedman & Medway 1994: 9). Furthermore, Freedman and Medway state in their work that there is a “far greater emphasis [...] on explicating textual features using Hallidayan schemes of linguistic analysis” in SFL than in the work of the NR who concentrate on “unpacking complex relations between text and context” (Freedman & Medway 1994: 9). Proponents of SFL are praised for “their commitment to the explicit acknowledgement of the political dimension of genre” (Freedman & Medway 1994: 13). However, the before-mentioned prescriptivism makes them uncritically place genres at the foundation of their pedagogy. This may lead to an extended access of students to genres but does not help in “subverting the power of existing genres and/or legitimizing new ones” (Freedman & Medway 1994: 13).

2.4.2. The New Rhetoric

The NR is a development rooted “in the area of composition studies in North American colleges and universities”, with Carolyn Miller being the most influential figure (Paltridge 1997: 16). Its name is derived from its “provenance mainly in a rhetorical tradition” (Hüttner 2007: 22). Considering its underlying theory, the concept is based more on “cultural and rhetorical studies and only occasionally [...] detailed analyses of texts” (Hyland 2004: 36) – as opposed to SFL. This prompted the involved researchers to use “ethnographic rather than linguistic research tools”, such as “participant observation, interviews and descriptions of physical settings” (Hyland 2004: 37).

Regarding the ‘stability’ of genres, the New Rhetoric – as opposed to SFL - sees ‘genre’ as something dynamic, “as ‘stabilized-for-now’ forms of action that are open to change and subject to negotiation” (Hyland 2004: 35). In this sense, the New Rhetoric, according to Hyland (2004: 35), follows Bakhtin’s notion of ‘dialogism’ which acknowledges the fact that although “all our utterances have definite and relatively stable, typical *forms of construction of the whole* [original emphasis]”, generic forms, especially compared to language forms, are “flexible, plastic and free” (Bakhtin 1986: 79). Even if Miller (1984: 151) states that humans’ “urge to classify” is fundamental, the author underlines that genre is not a term that should be understood as a ‘taxonomy’ since one essential feature of genres is their constant change (Miller 1984: 163).

However, Bakhtin’s ‘dialogism’ is also interpreted in a more socially oriented way, for example through Hanks (1989: 114). He defines it as “the more abstract notion that text, even when it is produced by a solitary speaker (...), still typically includes language derived from a

socially diverse discursive formation”. This interpretation can be seen as linking Widdowson’s ‘interactional approach’ (1979: 176) with Bakhtin’s view of dynamic genres in the notion of ‘dialogism’ and, at the same time serves as an introduction to Miller’s social view of ‘genre’ as she emphasizes its social role when she says that we “learn to understand better the situations in which we find ourselves and the potentials for failure and success in acting together” (Miller 1984: 165). The author sees genre as a ‘cultural artefact’, that is, as bearer of “knowledge of the aesthetics, economics, politics, religious beliefs and all the various dimensions of what we know as human culture” (Miller 1984: 69). This focus on culture might be seen as a linkage to the Sydney School where the ‘context of culture’ is an essential notion. Another linkage related to ‘the social’ is Paltridge’s (1997: 38) view of genres as “strategies for responding to particular social situations” and his argument that in this emphasis of the socio-contextual Malinowski’s influence can again be detected.

Subsequently, Miller (1984: 165) defines genre as “a recurrent, significant action” which, again, shows the difficulties in defining ‘genre’ as a recurring action implies a certain degree of stability as opposed to the NR’s general view of genre as dynamic. The scholar’s solution to this problem was the before mentioned view of ‘genre’ as “stabilized-for-now” (Hyland 2004: 35).

A further important aspect for the New Rhetoric is the notion of power, as knowledge of genre is, on the one hand, a means of promoting one’s interests in a certain community, and, on the other hand, excluding others (Hyland 2004: 37). This leads to a criticism of the SFL approach as New Rhetoricians argue that the mere granting of knowledge of genres is further perpetuating this system of dependences and inequalities instead of “subvert[ing] the power of such genres” (Hyland 2004: 37).

One of the last statements of Miller’s seminal paper relates to the value genres have for students as they “serve as keys to understanding how to participate in the actions of a community” (Miller 1984: 165). However, New Rhetoricians see ‘genre’ in general not as a helpful pedagogical tool as they argue that only something stable can be taught sensibly and, furthermore, “that the classroom is seen to represent an inauthentic context for acquiring an understanding of writing” (Hyland 2004: 39). The NR therefore concentrates “on how ‘expert’ users exploit genres for social purposes and the ways genres are created and evolve” (Hyland 2006: 48).

2.4.3. The English for Specific Purposes Approach

The ESP approach may be seen as a development with roots in both of the before mentioned currents and, therefore, Hyland (2004: 44) locates ESP as situated ‘in between’ SFL and NR:

Like NR, ESP employs notions of dialogism and contextual situatedness, but it also draws on SFL understanding of text structure and, more sparingly, on SFL principles of pedagogy. [...] [T]he ESP approach is more linguistic than NR and more oriented to the role of social communities than SFL.

Likewise, Paltridge (1997: 35) recognizes elements of systemic definitions of genre in ESP's main proponents' (Swales and Bhatia) definitions and, therefore, claims to discern an influence there.

The major interest of researchers in ESP is the applicability of 'genre' in the teaching of writing "of non-native English speakers in academic and professional contexts", as their ability to participate adequately in diverse written genres is decisive for their occupational success. (Hyland 2004: 44). Thus, like in SFL, "ESP genre studies are motivated by teaching outcomes" (Hyland 2004: 49). However, the latter "addresses a cross-cultural and L2 dimension of writing instruction that is often lacking in SFL and NR work" (Hyland 2004: 44) and, therefore, seems highly appropriate for the work at hand.

Unlike the other two approaches, there is no underlying distinct theoretical framework for ESP. However, social aspects of genres might be seen as the overarching facet. Hyland (2004: 44), for example, sees "community and social purpose" as the central concepts of the ESP perspective. He refers to Johns (1997: 25) who states that to accomplish one's purposes it is necessary to "be aware of the forms, argumentation, and content that have become conventional in the tradition of a genre". Finally, Paltridge (1997: 38) elucidates that ESP in a Malinowskian tradition "highlight[s] the importance of sociocultural context in [its] discussion and description of genre".

A typical execution of ESP is Swales' move analysis which "describes the rhetorical patterning of a genre" (Hyland 2004: 47). Bhatia (2006: 85) goes as far as designating it to be the "most popular aspect of applied genre analysis". According to the author, an interest in "regularities of organization in written genres" – the 'moves' – was sparked in the early 1970s (Bhatia 2012: 240). The author defines them as "rhetorical instruments that realize a sub-set of specific communicative purposes associated with a genre" (Bhatia 2006: 84), which are "essentially functional in character" (Bhatia 2006: 85). Therefore, they are essential to create 'generic integrity' and any inconsistency in the establishment of the necessary moves may have a negative impact on the achievement of one's rhetorical goals (Bhatia 2006: 84). A typical move analysis includes:

identifying the series of moves that make up the genre from a representative sample of texts. Each move is a distinctive communicative act designed to achieve one main communicative function and can be further subdivided into 'steps'. Both moves and steps

may be optional, embedded in others, repeated, and have constraints on the sequence in which they generally occur (Hyland 2004: 47).

While the NR concentrates more on an ethnographic rather than a linguistic analysis, the proponents of the ESP branch of ‘genre analysis’ as well as the Sydney School scholars identify moves or stages genres consist of. Although the latter two approaches to genre analysis disagree concerning the general stability of the phenomenon ‘genre’, they both see a certain flexibility in the ordering of elements. As Hasan (2015 [1984]: 54) puts it: “The recognition of optionality – both for the elements and for their order vis-à-vis each other – builds in the possibility of text variation from the start”.

The ESP approach to genre analysis has been criticized for its lacking connection to the “discursive realities of the professional world”, which leads to students who “can handle textual features of some of the professional genres” but are then unable to apply their theoretical knowledge (Bhatia 2008: 161). In this context, Bhatia (2006: 81, 2008: 161) speaks of a lack of awareness of text-external factors and a necessary “interdiscursivity” which the author defines as “appropriation of semiotic resources across genres, professional practices and disciplinary cultures” (Bhatia 2008: 162). His solution is a “complex and dynamic multiperspective and multidimensional analytical framework which can encourage much greater integration of analytical tools from various disciplines and frameworks”. This frame is depicted in the following diagram (Bhatia 2008: 171).

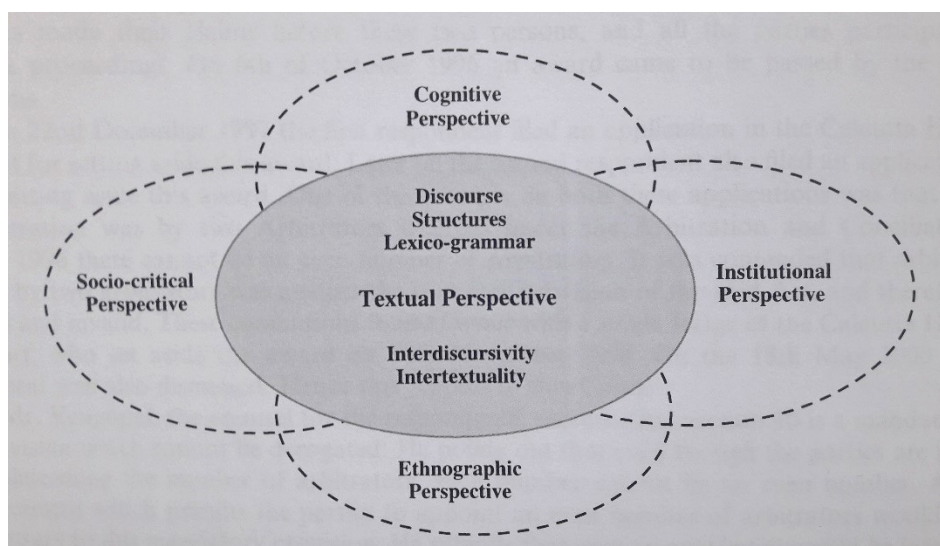


Figure 2: *Perspectives on discourse (Bhatia 2008: 171)*

Bhatia (2008: 171) is confident that this approach “has the capacity to bridge the gap between the ideal world of classroom and the real world of professional practice”. For a more detailed explanation of Bhatia’s concept see section 3.2.

3. Doing genre analysis

Having introduced ‘genre’, the following section seeks to outline the major steps to be taken in a genre analysis, elaborates on multiperspectivity as well as move analysis and corpus analysis.

3.1. Methodological steps of a genre analysis

In this section, the theoretical roots of, and necessary steps for, a ‘genre analysis’ are discussed. However, one should keep in mind that there are no ‘rules’ about how to conduct a genre analysis and, therefore, the given information should not be regarded as obligatory but rather as supportive.

Considering its theoretical roots, Hyland (2004: 195) defines ‘genre analysis’ as “a branch of discourse analysis that explores specific uses of language”. This view is supported by Biber, Connor and Upton (2007: 1), who claim that “[c]orpus linguistic studies are generally considered to be a type of discourse analysis because they describe the use of linguistic forms in context”. Bhatia (1993: 10) claims that ‘applied discourse analysis’ was insufficient on two counts. First, it lacked an “explanation of socio-cultural, institutional and organizational constraints and expectations that influence the nature of a particular discourse-genre. Second, it paid little attention to the conventionalized regularities in the organization of various communicative events”. Therefore, the development of ‘genre analysis’ was necessary. However, the latter remains tightly connected with applied discourse analysis as it “can be utilized for a number of applied linguistic purposes, including the teaching of English for specific purposes” (Bhatia 1993: 11). This claim is supported by Hyland (2004: 195) who emphasizes that genre analysis’ main interest is in communicative situations and that its aim is “to support language education”.

One approach to genre analysis is Bhatia’s (1993: 22-34) seven steps that should be considered when conducting a study using genre analysis:

1. “Placing the given genre-text in a situational context” (Bhatia 1993: 22)

This placing should be conducted with intuition, “by looking at one’s prior experience, the internal clues in the text and the encyclopaedic knowledge of the world that one already has” and, naturally, the knowledge of specialist disciplines is greater in those belonging to a speech community using the genre.

2. “Surveying existing literature” (Bhatia 1993: 22)
3. “Refining the situational/contextual analysis” (Bhatia 1993:23)

Bhatia, therefore, points to the producer of the text, the audience, the discourse community the text belongs to in general and the context of the text in a linguistic sense.

4. “Selecting corpus” (Bhatia 1993: 23)

A detailed description of all procedures related to the establishment of a corpus can be found in the subchapter 3.7.

5. “Studying the institutional context” (Bhatia 1993: 24)

When discussing the institutional context, one does not only investigate the institution on the surface, but, analyzes “the system and/or methodology, in which the genre is used and the rules and conventions (linguistic, social, cultural, academic, professional) that govern the use of language in such institutional settings”. Therefore, insider information of the institutional context is an advantage.

6. “Levels of linguistic analysis” (Bhatia 1993: 24 ff)

The first five steps enable the analyst to decide for a level of ‘linguistic realization’ that is most interesting for his or her analysis. These three levels are:

Level 1: Analysis of lexico-grammatical features

Level 2: Analysis of text-patterning or textualization

Level 3: Structural interpretation of the text-genre.

Level 1 refers to a quantitative analysis of “specific features of language” which helps to “confirm or disprove some of the intuitive and impressionistic statements that we all tend to make about the high or low incidence of certain lexico-grammatical features of various genres (Bhatia 1993: 25). Analyses on this level are conducted frequently as they are easy to execute and analyze. However, the analyst has to be aware that they “remain severely constrained by their emphasis on surface features” and disregard the communicative purposes behind particular genres. (Bhatia 1993: 25). Analyses on level 2 provide the means to investigate form-function correlations in texts (Bhatia 1993: 29) and, thereby, “take [...] linguistic description a step further in the direction of explaining ‘why do members of the secondary cultures write the way they do?’” (Singh, Shamsudin & Zaid 2012: 375). Finally, the analyses on level 3 in the sense of a “structural interpretation of the text-genre highlight [...] the cognitive aspects of language organization” (Bhatia 1993: 31). Based on an interpretation of the “regularities of organization”, this sort of analysis is conducted in order to “understand the rationale for the genre” (Bhatia 1993: 32). An important notion with regards to this third level is that “[c]ognitive structuring in a genre is the property of the genre as such and not that of the individual reader. It depends upon the communicative purpose(s) that it serves in the genre and that is why it varies from one genre to another” (Bhatia 1993: 33).

7. “Specialist information in genre analysis” (Bhatia 1993: 34)

Finally, the analyst’s findings will be compared with the estimation of a “specialist informant, who, generally, is a practicing member of the disciplinary culture in which the genre is routinely used”. This should prevent the analyst from misinterpreting the outcome of the analysis due to a lack of insight into the discourse community using the genre. According to Bhatia (2008: 161), this is a sensible approach as “professional genres and professional practices [...] not only influence each other but are often co-constructed in specific professional contexts”.

Although textual analytical methods will provide “useful insights about the way the text is constructed”, “[l]inguistic perspective alone will only allow one to see part of the elephant” (Bhatia 2004: 156). Therefore, interviewing experts seems highly sensible, although it might make sense to interview the specialist informant twice. Once before step three, to underpin one’s intuition and, thereby, to facilitate the refinement of the intuitional analysis and then at the end. Biber, Connor and Upton (2007: 6) add that “analyses of interviews and focus group discussions with actual writers and readers of the texts or other academic specialists” have been added to corpus-based studies in order to better understand the social context of discourse.

Bhatia’s steps show similarities with a summary Hyland gives of the aims of a genre analysis. However, the latter adds some more points. Relating to Bhatia’s point 7 (“Specialist information in genre analysis”), Hyland (2004: 202) already suggests conducting interviews with “those who use them” before the actual analysis is executed.

According to Hyland, genre analysis seeks to:

- Identify how texts are structured in terms of functional stages or moves
- Identify the features that characterize texts and that help realize their communicative purposes
- Examine the understanding of those who write and read the genre
- Discover how the genre relates to users’ activities
- Explain language choices in terms of social, cultural, and psychological contexts
- Provide insights for language teaching (Hyland 2004: 195-196).

The author’s second point refers to features which “stood out as a result of their frequency or importance” and Hyland (2004: 204-205) gives tense, voice, themes, verb choices, hedges, noun groups and promotional matters as examples. Especially, the focus on the psychological dimension and his reference to the teaching context add important aspects to Bhatia’s seven steps. These aspects will be kept in mind throughout the analysis.

Another author commenting on Bhatia’s seven steps is Hüttner (2007: 41). In her discussion the author appreciates the role of “non-linguistic expert members of the discourse community” as controlling authority. However, she also adds that in discourse communities where the link to expert members is hard to establish for linguists (e.g. due to confidentiality issues), there is

a “risk that necessary research might not take place for want of expert informants” (Hüttner 2007: 41-42). A further critique of Bhatia’s concept is that the optionality of moves is not emphasized enough (Hüttner 2007: 43).

Discussing Hüttner’s points of criticism with regards to the thesis at hand, the double role of this thesis’ author as linguist and non-linguistic expert member of the physiotherapy discourse community should ensure that a lack of professional information will not affect the study’s outcome. Additionally, the quantitative approach to move analysis categorizing moves into obligatory, core, optional and fully optional represented, for example, through Hüttner (2007: 130), was used to underline the optionality of moves.

3.2. Multiperspectivity

As mentioned above, an analysis will gain validity if the mere textual approach is extended through other strategies as we do want to “see the whole of the elephant” (Bhatia 2004: 156). The main difficulty of this procedure “is how to integrate these different methodological procedures into a coherent genre analytical tool” (Bhatia 2004: 156). In this context, Bhatia (2004: 156) speaks of “three overlapping concepts of space”:

1. Textual space

This aspect relates to “text-internal features of language use, which include lexico-grammatical features, especially the values they carry in the context of rhetorical moves, discourse strategies, regularities of organization, intertextuality and some aspects of interdiscursivity” (Bhatia 2004: 156). The author adds that such an investigation

may include analyses of statistical significance of lexico-grammar based on corpus of texts, textualization of lexico-grammatical resources used in the corpus, patterns of discoursal, rhetorical or cognitive structuring, and intertextuality as well as interdiscursivity, all analyzed within the context of generic conventions and practices.
(Bhatia 2004: 160-161).

Textual analyses have been very popular. The reason behind this may be its easy application “in the design of language teaching and learning courses for specific purposes, [however], they have been found rather constraining for learners when they leave the academy and join the world of work” (Bhatia 2004: 161). As the author explains, the analyses may appear “too simple, and inadequate, often undermining the complex realities of language use in the world of professions” (Bhatia 2004: 161).

2. Socio-cognitive space

This involves the “tactical aspects of language use” which means the “correlation between text-internal and text-external factors [...]” (Bhatia 2004: 156). At a later point, Bhatia (2004: 161)

specifies that the second space consists of two perspectives. On the one hand, is an ethnographic focus which is trying to yield deeper insights into “the conditions under which specific professional practices take shape (Bhatia 2004: 162). On the other hand, and as the name suggests, is a socio-cognitive perspective. The latter “leads to the identification and analysis of various aspects of the integrity of systems of genres employed as part of the typical discursive practice of specific disciplinary cultures” (Bhatia 2004: 161). As the ‘social’ already indicates, this perspective “encourage[s] a community perspective on discourse practices as against a purely individual perspective” (Bhatia 2004: 161). Additionally, this approach urges the analyst to “go beyond the confines of typical professional or disciplinary practices” and see texts in a “wider network of socio-critical practices” including concepts as “ideology and power” and “social changes” (Bhatia 2004: 162).

3. Professional space

The last space refers to “participant relationships, and their contributions to the process of genre construction, interpretation, use and exploitation in the context of disciplinary, professional and other institutional practices and constraints”. Additionally, it includes the exploitation of generic resources through experts to create hybrid genres as well as to “maintain and often assert their control over the genres they often use to achieve their professional objectives” (Bhatia 2004: 156).

The author’s research findings prompted him to revise points six and seven in his seven steps to genre analysis from 1993 (see 3.3). Point six, labelled ‘Levels of linguistic analysis’, is now called ‘Ethnographic analysis’ to highlight its development away from a mere linguistic perspective towards an ethnographic one (Bhatia 2004: 165). Furthermore, point seven, formerly ‘Specialist information in genre analysis’ is now termed ‘Studying institutional context’, to indicate its broader focus (Bhatia 2004: 166).

In conclusion, a multi-perspective approach to genre analysis draws on three different types of data. Textual data is analyzed “as a reflection of discursive practices of disciplinary communities”, ethnographic data is treated as evidence of “genres in action” and, finally, socio-cognitive and institutional data is of interest as it provides an insight into “the conditions under which systems of genre are constructed, interpreted, used and exploited by expert members of disciplinary cultures to achieve their typical goals within the construct of their everyday professional activities” (Bhatia 2004: 168).

The first space is represented in the thesis at hand through a move as well as a corpus analysis. With regards to the second space the critique of the system of physiotherapy education may be mentioned (see. section 5). Finally, the third space can be seen in the fact that the author

of this thesis is physiotherapist and linguist at the same time and, thereby can enrich the linguistic analysis through her own professional knowledge of the disciplinary culture.

3.3. Move analysis

A move analysis, as mentioned in the conclusion of the last section, is a realization of the textual space of language use. The procedure was defined by Biber, Connor and Upton (2007: 15) as an example of “a top-down approach to analyze the discourse structure of texts from a genre”. At its beginning stands “the development of an analytical framework, identifying and describing move types that can occur in this genre [...]” (Biber, Connor & Upton 2007: 15). Kwan (2006: 32) speaks in this context of the “function of the text group” when saying that for the identification of a move structure the linguist has to be aware of this underlying function and “how each move in the structure contributes to the fulfillment of that function”. Biber, Connor and Upton (2007: 32) connect Kwan’s ‘function’ with Swales’ ‘purpose’ when saying that Kwan’s “approach is in line with the theoretical definition of a move” which is that “each move has a local purpose but also contributes to the overall rhetorical purpose of the text”. A next step in the analysis is the segmentation “into moves [and], noting the move type of each move”. Finally, the general structure of a text has to be related to the “sequence of move types” (Biber, Connor & Upton 2007: 15). Additionally, there are certain organizational restrictions to moves. As noted earlier, Hyland (2004: 47) summarizes that “moves [...] may be optional, embedded in others, repeated, and have constraints on the sequence in which they generally occur.” However, “there are no strict ‘rules’ for doing a move analysis” (Biber, Connor & Upton 2007: 33). Biber, Connor and Upton (2007: 33) suggest “a pilot coding, ideally with at least two coders” which is compared and adjusted before turning to the actual corpus. Finally, it has to be mentioned that adjustments might be necessary and that the analyst even has to add move types during the analysis of the total set of texts (Biber, Connor & Upton 2007: 33).

3.4. Corpus analysis

The second example for the textual space of language use in this thesis was the corpus analysis. But, before explaining the procedures of the actual analysis, the concept of ‘corpus’ in general will be elaborated on.

3.4.1. Definitions and historical background of corpora

A corpus can be defined as “a store of naturally occurring examples of language that has been collected for linguistic study” (Hyland 2004: 212). It “provides a solid empirical foundation for general purpose language tools and descriptions” (Biber 2012: 3). Considering the applicability

of corpus studies' outcomes Stubbs (2004: 107) complements that "[c]orpora provide observable language use, which leads to new descriptions, which in turn are embodied in dictionaries, grammars, and teaching materials". The author adds that corpora "are just sources of evidence, available to all linguists, theoretical or applied" which ties in with the view of Scott and Tribble (2006: 5) who see corpus-based methods as "a set of tools and frameworks" and not as a "new branch of knowledge".

These last two viewpoints should not serve to underestimate the potential of corpus studies to "shake the foundations of the field" (Scott & Tribble 2006: 5). Yet groundbreaking research is only possible due to the imaginative nature of humans. The latter forces us to realize patterns behind data, or as Scott and Tribble (2006: 6) put it: "[i]t seems to be a characteristic of the *homo sapiens* [original emphasis] [sic] mind that it is often unable to see things 'as they are' but imposes on them a tendency, a trend, a pattern". This combination of a tool to manipulate data and the "power of imagination and pattern-recognition" of humans (Scott & Tribble 2006: 6) renders possible spectacular results.

The compiling of corpora is not a recent phenomenon. Flowerdew (2013: 160) states that "[t]he earliest known corpora were compiled by hand and consisted of biblical texts". Another analogous example dates back to the late 19th century when "the Oxford English Dictionary was compiled in one of the most impressive research initiatives ever undertaken" (Scott and Tribble 2006: 4). A further seminal development were the first electronically stored corpora, for example, "the Brown corpus, developed at Brown University, USA, in the early 1960s" which consisted of one million words" (Flowerdew 2013: 160). Naturally, the developments of computer technology in the last decades have greatly facilitated corpus studies as larger portions of text can be processed more easily and faster. Stubbs (2004: 106), therefore, defines a 'language corpus' as:

- large: millions, or even hundreds of millions, of running words, usually sampled from hundreds or thousands of individual texts;
- computer-readable: accessible with software such as concordancers, which can find, list and sort linguistic patterns;
- designed for linguistic analysis: selected according to a sociolinguistic theory of language variation, to provide a sample of specific text-types or a broad and balanced sample of a language

Apart from a general understanding of the nature of corpora, one of the most important steps in a corpus analysis is the selection of the appropriate corpus. Therefore, a comprehensive definition of the genre to analyze in the first three of Bhatia's steps mentioned above, is inevitable and the analyst needs to develop clear criteria for a text's inclusion/exclusion to enhance the reliability of the outcome of the analysis (Bhatia 1993: 23).

3.4.2. Objectivity, reliability and size of corpora

Two of the major defining notions of computer-assisted corpus studies are objectivity and reliability which are summarized through Stubbs (2004: 111) in two principles. The first one reads as follows:

1. The observer must not influence what is observed. What is selected for observation depends on convenience, interests and hypotheses, but corpus data are part of natural language use, and not produced for purposes of linguistic analysis.

This principle relates to one of the key virtues of academic work – objectivity. The latter is easier to establish if the analysis is based on a quantitative distribution instead of human's intuition. Furthermore, the analyst has to make sure to collect natural language data from the discourse community of interest.

The second defining notion of computer-assisted corpus studies is reliability which is one of the huge advantages of corpus studies especially compared to humans' intuitions about language (Hyland 2004: 212). As even language teachers have sometimes difficulties to explain why one expression is preferred over another, corpora offer an "evidence-based approach to language teaching" (Hyland 2006: 58). Thus, the considerations behind the privileging of corpus studies are that "if something is observed to happen often enough in the past then it is likely to be significant in the future too" (Hyland 2006: 58) which ties in with the second point of Stubbs' (2004: 111) summary of "[m]odern computer-assisted corpus study":

2. Repeated events are significant. Quantitative work with large corpora reveals what is central and typical, normal and expected. [...] The aim is not to study idiosyncratic details of performance which are, by chance, recorded in a corpus. On the contrary, a corpus reveals what frequently recurs, sometimes hundreds or thousands of times, and cannot possibly be due to chance"

Nevertheless, intuition, which is summarized through Scott and Tribble (2006: 3) as "methods relying on the speaker's own knowledge of the language and what seems to sound like a possible utterance compared with what jars or seems 'un-English'", may be seen as an "established alternative".

Finally, an element often argued about is the size of corpora. Rogers' (2000: 8) approach, seen in an intertextual way, may trigger reminiscences of Freud's penis envy when he interprets the question "'How large is your corpus?' [...] like a personal challenge". 'Size' is seen through most researchers as a guarantee for representativeness, the latter being "the extent to which a sample includes the full range of variability in population" (Biber 2012: 3). However, this is not the case. Only if the sample is representative of the language use of the whole population, which is guaranteed if "a thorough definition of the target population and decisions concerning

the method of sampling are prior considerations” (Biber 2012: 4), the corpus may be utilized to make generalizations based the language as a whole (Biber 2012: 3).

3.4.3. Features of corpus analysis tools and related background knowledge

3.4.3.1. Frequency

A tool for corpus analysis provides many possible applications. However, as Hyland (2004: 213) phrases it, “[o]ne of the major uses of a corpus is to identify the frequency of words or grammatical patterns it contains” The tool produces a list of items ordered according to the frequency of occurrence in a text. According to the respective underlying question, other orderings, for example alphabetical, reverse alphabetical, sorting by capitalization, sorting by word-length, etc. (Scott & Tribble 2006: 17), may also be sensible.

In order to speak of word frequencies, a basic awareness of the different groups of words in terms of their occurrences is essential. According to Nation (2001: 12), there are four different groups of words: First, the author mentions ‘academic words’ which are defined through their occurrence in academic texts and their ability to enable authors, for example, to refer to other authors, to deal with data, etc. They “make up about 9% of the running word text” and are of utmost importance for “anyone using English for academic purposes”. Secondly, the author (2001: 12) refers to ‘technical words’ which show a close resemblance to the text’s topic and help us to immediately realize the topic of the text. They “differ from subject area to subject area” and “typically cover about 5% of the running words in a text”. The third group mentioned (Nation 2001: 12), are ‘low-frequency words’ which form more than 5% of the words and are neither high-frequency, nor academic nor technical words of a particular topic. Instead this group consists of “technical words for other subject areas, proper nouns, words that almost got into the high-frequency list, and words that we rarely meet in our use of the language”. Finally, the author comes to the group of ‘high-frequency words’ which is a small group which “cover[s] a very large proportion of the running words in spoken and written texts and occurs in all kinds of uses of the language” (Nation 2001: 12).

In this context, it is important to be aware of the fact that the most frequently occurring items in any text or corpus are grammar words (Hyland 2004: 214) or as Scott and Tribble (2006: 15) put it: they are “the textual glue”. This phenomenon can be observed in the BNC where “the top-ranked 100 words are nearly all grammatical with any exceptions being lexical items concerned with humans and what they have recently said, known and seen” (Scott & Tribble 2006: 24). The reason for this is that, as opposed to function words, all other words

occur rarely and, therefore, around half of the words of a text or small corpus exist only once (Stubbs 2004: 116). This phenomenon that 40% of the words in a list based on the BNC occur only once each is labeled ‘hapax legomena’ (Scott & Tribble 2006: 26),.

3.4.3.2. Keywords

Apart from the word list ordered according to frequency, alphabet, etc, referred to above, it is also possible to analyze the ‘keyness’ of a term.

According to Culpeper (2009: 32), a ‘keyword’ is “simply a term for statistically significant lexical items” and has nothing to do with lexical items of special “social, cultural or political significance”. However, the mere fact that a word is statistically significant is not the crucial information (Culpeper 2009: 32). Scott and Tribble (2006: 56) refer to a certain cultural aspect and Culpeper (2009: 32) sees the importance “in the link between keywords and style” (Culpeper 2009: 32). Otherwise, the most frequent words would be the keywords of any text. Therefore, Culpeper (2009: 34) summarizes that “‘(k)eyness’ is a matter of being statistically unusual relative to some norm”. Another important aspect related to ‘keyness’, is a threshold of occurrence which usually lies at 2 or 3 (Scott & Tribble 2006: 59) and, which has to be passed to be rated a key word. As Scott and Tribble (2006: 59) summarize: “[f]or a word to be key, then it (a) must occur at least as frequently as the threshold level, and (b) be outstandingly frequent in terms of a reference corpus”.

This reference corpus represents the ‘norm’ Culpeper referred to. However, in order to reach the desired outcome not the corpus itself but a ‘reference corpus word-list’ is necessary. This list presents all types of words included in the corpus with the respective frequencies. In case of the thesis at hand this is the written word list of the BNC recommended through the developer of AntConc, the corpus analysis tool used in the corpus analysis. The program compares the reference corpus word-list with the corpus file the analyst produced and filters out all items which occur in both with approximately the same frequency (Scott & Tribble 2006: 59). The remaining items are the keywords. Furthermore, the reference corpus word-list has to be representative of the respective language which means the corpus should be extensive (Scott & Tribble 2006: 58). Additionally, the analyst needs to keep in mind that a reference corpus’ distance to the actual corpus influences the outcome. As Culpeper (2009: 34) puts it: “The closer the relationship between the target corpus and the reference corpus, the more likely the resultant keywords will reflect something specific to the target corpus”. Therefore, one should aim at analyzing a corpus meticulously and selecting the reference corpus carefully.

Keywords have a certain distribution throughout the respective texts. This phenomenon is labelled ‘dispersion’ and is defined by Flowerdew (2013: 161) as “the rate of occurrence of

an item or feature in a corpus or individual file within a corpus”. The dispersion of keywords can be visualized in a ‘dispersion plot’ which allows for a classification of keywords into local (occurrences restricted to a specific section of the text) and global keywords (“dispersed more or less evenly through the text”) (Scott & Tribble 2006: 67). Furthermore, the collocational proximity of keywords can be explored. This feature gives keywords ordered by keyness including the number of “collocational links they contract”, which means the number of other keywords found in a certain collocational horizon (e.g. 5 words to left and right of the search word).

3.4.3.3. Concordancing

The concordance program necessary for this contextualization of keywords is “bring[ing] together all instances of a search word or phrase in the corpus as a list of unconnected lines of text” (Hyland 2004: 216). Hyland (2004: 216) emphasizes that such a program “allows the user to see regularities in its use that might otherwise be missed”. While Flowerdew (2013: 163) speaks of the concordancer’s ability to identify collocates (“[c]ollocation [original emphasis] is the combination of lexical words with one another”), Scott and Tribble (2006: 40) refer to the ‘pattern function’ and explain it as allowing “one to see the items which are most frequently found to the left and the right of a search-word”. Regardless of which term is used, this function facilitates the detailed analysis of the results as in the case of the example ‘cow’, where the adjectives which can be found in the first left column (*old, mad, stupid, silly*) “allocate low prestige to most cows” (Scott & Tribble 2006: 41). However, if searching for collocates, one has to be aware of the fact that concordancing alone is not 100% reliable for example, *old church tower* [original emphasis] may not be spotted due to interruptibility (*old dilapidated church tower* [original emphasis]) or *aimed at the head* [original emphasis] may not be spotted due to inflexion (*aim/aims/aimed* [original emphasis]) (Scott & Tribble 2006: 20).

In the context of ‘co-occurrences’ an important term to know is ‘node’, which refers to the word the analyst is interested in, as opposed to the “collocates [original emphasis] for those words which co-occur with the node” (Scott & Tribble 2006: 33). Words which are associated with the phenomenon of hapax legomena can obviously not “co-occur with each other in the same corpus” as they only occur once (Scott & Tribble 2006: 33). However, they will co-occur with high-frequency items as well as the high-frequency items will co-occur with each other.

The challenge is to ascertain where a co-occurrence is unusual or not (Scott & Tribble 2006: 34). Of assistance in this decision are the two different concepts of ‘occurring together’: on the one hand, a “belonging together mentally” and, on the other hand, “a textual co-occurrence”. If a co-occurrence appears in a text and, at the same time, is an established mental

co-occurrence, “we can conclude that the mental linkage [...] is matched by textual occurrence” and if such a pattern “becomes established in the language [...], it will gain the right to be listed in dictionaries and taught in EFL” (Scott & Tribble 2006: 34). If the textual occurrence is not matched by a mental linkage one can assume that it might be a co-occurrence established through a non-native speaker.

Another important aspect is the definition of “co-“. According to Scott & Tribble (2006: 34), “[t]he usual understanding of ‘co-‘ in Corpus Linguistics has, since the 1960s, concerned a span of 4 words on either side of the node”. Naturally, there will be collocates outside of this span. However, the mass of “words which turn out not to be connected in comparison with the few which are” makes an expansion of the span nonsensical (Scott & Tribble 2006: 35).

Another interesting aspect is the ‘nature of co-occurrence’. Scott and Tribble (2006: 36) compare co-occurring words with co-occurring people. The fact that two people are usually found next to each other “does not tell us whether they necessarily like each other. It suggests merely that they belong to the same set [...]”. For example, colleagues at work may ‘co-occur’ 8 hours a day, 5 days a week, 47 weeks a year and, yet, detest each other. Another comparison with humans is drawn when referring to ‘directionality’: “one person may be desperately in love with another but the other may not return that love with the same intensity, so it is with words” (Scott & Tribble 2006: 37). For a better understanding of this phenomenon, the authors give the following example: “users of English (in the BNC) were more than twice as likely to refer to milk when discussing cows than they were to mention cows if discussing milk”.

A further important function for a corpus analysis is tagging. Although it is not used in case of the thesis at hand, it will briefly be explained at this point. ‘Tagging’ which is a “semi-automatic procedure [...] [where] codes can be added to each word indicating its part of speech [...] enables the counting of grammatical features” and, thereby, allows for analyses in greater detail (Hyland 2004: 215).

In conclusion, corpora and the tools available to analyze them are a valuable contribution to genre analysis. However, in times when such analyses are easily conducted due to the progress in computer technology, one has to pay special attention to the realization of the analysis and its outcome. The analyst has to be careful not to “perform a keyword analysis in a relatively mechanical way without a critical awareness” (Culpeper 2009: 30).

4. The genre in question: the abstract

Etymologically, ‘abstract’ comes from the Latin word *abstractus* which means “to draw from or separate” (Graetz 1982: 4). Naturally, the abstract was always separated from the actual text

but, in former times it was mostly part of the same entity (= book, research article or thesis). However, the distance between abstract and text has increased through the advances of computer technology which ironically highlights the original meaning of the Latin word.

As described in section 3.5, individual genres are always part of a wider network. The following figure shows how Swales (1993 [1990]: 178) locates the abstract in a network of scientific products.

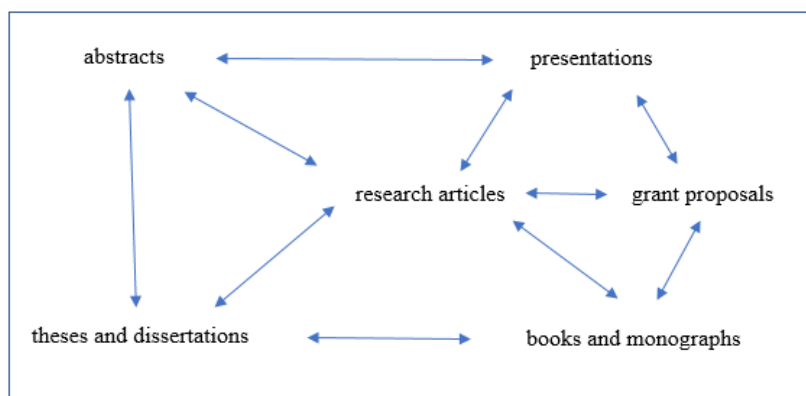


Figure 3: Swales' network of scientific products

This view is supported by Devitt's definition of 'genre sets' which stand for various genres interacting to get the work of a certain community accomplished - in this case academia in general (Devitt 1991: 341).

Considering their history, abstracts in journals were not emerging simultaneously. Berkenkotter & Huckin, (1995: 34), for example, refer to "*Physical Review*" [original emphasis] which was founded in 1893 and "began using abstracts in 1920". Albeit, according to the two authors, "other journals [...] did so much later". However, after referring to the year 1920, the occurrence of first standards for abstract production, for example in 1971 in the USA through the "American National Standard Committee on Standardization in the Field of Library Work, Documentation, and Related Publishing Practices" - now NISO (National Information Standards Organization) - seems quite belated (NISO 1996: V).

The role of 'the abstract' changed substantially over the last decades. In former times, the only occasion where abstracts appeared separately from the actual work was in special abstracting journals. Today, abstracts are, apart from the meta-data, the main information potential readers are given in any search engine. Therefore, they have a crucial function as the reader decides after their consumption if he or she is willing to invest more time and take a closer look at the thesis, article or monograph. As opposed to earlier times, when the consumer had the article or thesis already in his or her hands and just had to be encouraged to read further (Glasman-Deal 2010: 197). Additionally, abstract data bases might be used by scientists 'just'

to obtain a comprehensive picture of “what is going on in their research area” (Glasman-Deal 2010: 197). Due to the “journal explosion” (Graetz 1982: 9) it is virtually impossible to read all published articles etc. from one’s field and, therefore, the scanning of abstracts seems to be a practicable alternative. It can be said that the communicative purpose of abstracts has changed through technological developments from information to promotion (Hyland 2000: 68) which, naturally, changed the whole genre.

The writing of an abstract might be seen as a distilling process and, as Swales (1993 [1990]: 179) puts it, “it is this distilled quality that gives abstracts their particular character and makes them easy to recognize”. The abstract should be “a description or factual summary of the much longer report” and should provide the reader with the information on what the author did and how, what he or she found out and what was the interpretation of the study’s outcome (Bhatia 1993: 78). Important is the author’s awareness that his or her product will be consumed in isolation from the main work and, therefore, it is essential that “readers should be able to understand the key points and results of the research even if they never see the whole article (Gleitman-Deal 2010: 197).

The potential to generalize statements about layout, style, etc. of abstracts of different fields is contested. On the one hand, Swales (1993 [1990]: 181) explicates that the analysis of different abstract types might provide interesting insights into professional discourse communities. Through this connection of an abstract type with a particular discourse community, he implicitly emphasizes that abstracts of diverging discourse communities are quintessentially different. Hyland (2004: 63) corroborates this view when he states that abstracts “are significant carriers of a discipline’s epistemological and social assumptions, and therefore a rich source of interactional features that allow us to see how individuals work to position themselves within their communities”. On the other hand, Bhatia (1993: 77-78) notes that the abstract’s appearance is quasi independent of the respective subject-discipline as its communicative purposes are similar (Bhatia 1993: 77-78). Both viewpoints have their validity. If the abstracts under consideration stem from the same broader scientific field, e.g. the humanities or the natural sciences, they are likely to show a close resemblance. However, there is room for specificities of particular discourse communities, for example, graphical or video abstracts which will be explicated in more detail later.

The closer scientific analysis of abstracts in ESP was sparked through Swales (1993 [1990]: 179), who noticed a research gap regarding the instructive literature on the writing of abstracts for non-native speakers. The author reasons that this lack might be caused through the assumption that NNS authors who are able to write a thesis or a research article “should have

little trouble with the accompanying abstract”. However, it is common practice, also in Austria, to write the thesis in one’s mother tongue and the abstract, for example, in German and English.

There are four different strategies for NNS authors of abstracts:

1. “[T]hey may be tempted to use machine translation, and then discover that the produced text is usually clumsy and incomprehensible”.
2. They may hire somebody proficient in the language but lacking the special vocabulary etc. which “frequently results in misinterpretations and application of incorrect terms”.
3. “[T]he authors may attempt to write in English themselves, although this is linked with the danger of unintelligibility and incorrect grammar or spelling”.
4. They cooperate closely with a professional translator.

(Ufnalska 2007: 101)

Naturally, the last option would yield the desired results. However, availabilities and salaries of professional translators are a limiting factor. Therefore, providing NNS authors with a basic understanding of the necessary vocabulary and stylistic conventions of the abstract, as attempted through this study, seems sensible and may represent a valuable fifth approach to Ufnalska’s four strategies.

The structure of abstracts is related to the overall structure of the thesis or article itself. Hyland (2000: 67) refers to the common structuring “Introduction-Methods-Results-Conclusion” which is also publicized through Bhatia (1993: 78-79) and clearly resembles the structure of the related thesis or article. This has the advantage of providing “an explicit intertextual link to the accompanying article” (Hyland 2000: 67). Hyland includes a “purpose” section after the introduction as he believes it to “perform a very different role” than the introduction itself. Another approach is presented through NISO (1996: 3), which uses a ‘purpose’ section instead of the ‘introduction’.

Length-wise, an abstract “consist[s] of a single paragraph containing from about 4 to 10 full sentences” (Swales & Feak 2004: 282) (in the English-speaking tradition of Western Europe and North America). However, according to Berkenkotter and Huckin (1995: 34), ‘size’ as well as ‘informational density’ increased in the last decades, which might be an indication of the abstracts’ increasing importance. Abstracts intended for publication underlie strict limitations concerning the word count. According to Glasman-Deal (2010: 204), “[m]ost are between 80-150 words”. NISO (1996: 4) gives a precise word limit for the different genres:

Table 1: NISO word limits for abstracts

Document	Maximum Length of Abstract
papers, articles, portions of monographs	250 words
notes, short communications	100 words
editorials, letters to the editor	30 words

long documents such as monographs and theses

single page, 300 words

To begin with, the author suggests forgetting the word limit for the first draft “and then gradually remove words, phrases and even sentences that are not essential” (Glasman-Deal 2010: 204). Generally, Glasman-Deal (2010: 207) recommends “to combine sentences in a way that shortens the total length of the [a]bstract”. For example, the author might combine the aim and the method through using the phrase “*In order to determine x we did y* [original emphasis] (Glasman-Deal 2010: 207).

Language-wise, the scope of the intended audience is decisive. Sometimes, it makes sense to write the abstract in a “slightly less technical way than the article itself in order to attract a wider audience” (Glasman-Deal 2010: 204). However, as Hyland (2004: 63) puts it, “[t]he research and the writer are [...] under close scrutiny in abstracts”. Scientists have to prove through the quality of their texts that they are part of the discourse community and, therefore, that an insider is presenting important findings. Abstracts should be written in complete sentences; “[w]here incomplete sentences are used, they should be clear and coherent” (NISO 1996: 4). Abstracts’ authors should avoid providing hard numbers but, instead, “include quantitative language such as **only** 38% [original emphasis] [...] so that the numbers cannot be misinterpreted” (Glasman-Deal 2010: 211). Additionally, the authors should thoroughly investigate which phrases or keywords are essential in their work. Those should be integrated into the abstract to enable the location through its intended audience (Glasman-Deal 2010: 204).

The content of an abstract depends on whether the author chooses to concentrate more on the results of the study (=informative) or wants to give an overview of the whole work (=indicative) (Swales & Feak 2004: 282). NISO (1996: 3) adds to the distinction that the latter is “best used for less-structured documents [...] that do not contain information relating to methodology or results”. According to Glasman-Deal (2010: 199), the former is the common strategy although it might prove difficult if the results are highly complex as for example in mathematics (Swales & Feak 2004: 282). However, it may be assumed that the more specified a research is, the better informed its audience will be (Glasman-Deal 2010: 199) and, therefore, it will need less additional information.

Abstracts, in an academic context, might be written for articles, papers, theses and conferences. Yet, it has to be noted that the latter may not adhere to the principles valid for the other forms (Glasman-Deal 2010: 199). The reason behind this are their different audiences and different communicative purposes. As opposed to its counterparts, the conference abstracts are aimed at a relatively small group – a conference committee. Its communicative purpose is

different as it should convince the committee that its author's participation in a particular conference is indispensable.

There are special forms of abstracts. A variation of the written abstract which existed mainly in the medical field and is now 'spreading' is the structured abstract which has subheadings like the paper or thesis itself (Swales & Feak 2004: 282) and is "presented in several labeled paragraphs rather than a single one" (NISO 1996: 4).

Additionally, a graphical abstract might make sense in cases where it is possible to provide a "single, concise pictorial and visual summary of the main findings of the article" (Elsevier 2018). This, naturally, will be more likely in the natural sciences. An example for such an abstract from the homepage of Elsevier (Etrych & Kovář 2011: 241), an academic publishing company, is provided at this point:

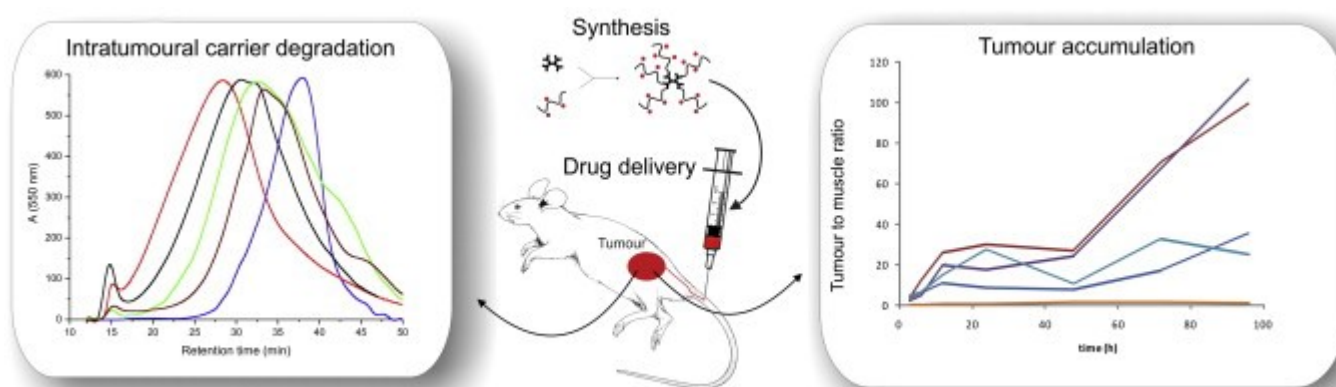


Figure 4: Abstract of "Biodegradable star HPMA polymer-drug conjugates: biodegradability, distribution and anti-tumor efficacy"

Another interesting alternative is a video abstract. JACS, the *Journal of the American Chemical Society* explains video abstracts as providing "a way for researchers and non-specialists alike to quickly orient themselves with the central focus of a published paper/new development" (JACS 2014).

Nowadays, graphical and video abstracts are just a scientific niche product. However, in consideration of the digital developments of the last decades and the concomitant increase of significance for visual input provided, for example, through Youtube and Instagram, one cannot rule out that the importance of the different kinds of abstracts might change any time soon.

Generally, in abstracts, the focus is on "new and important achievements of the study" and, "[a]lmost all [a]bstracts include positive language [...] to demonstrate the value of the work" (Glasman-Deal 2010: 208). Furthermore, an abstract is not the place for hedging. The outcome of a study is "often stated quite strongly, which encourages the reader to read the rest

of the article favorably and accept the conclusions” (Glasman-Deal 2010: 209). Another aspect contributing to this phenomenon, according to Glasman-Deal, is that contents which limit the findings are left to the article itself. However, important problems which affected a study severely, are mentioned in the abstract (Glasman-Deal 2010: 209).

According to a study of research articles (Pitkin & Branagan 1998: 267), there are common defects related to inconsistencies between abstract and body of articles. Those are an “inconsistency in data between abstract and body of manuscript (text, tables, and figures), data or other information given in abstract but not in body, and/or conclusions not justified by information in the abstract”. The authors of the study equipped the research article authors with a summary of those defects when “being returned [...] with the invitation to revise” (Pitkin & Branagan 1998: 267). Surprisingly, this strategy was not effective, as the rate of defective abstracts could not be lowered. The authors recommend journals to include “specific and detailed attention to abstracts” in their editing process (Pitkin & Branagan 1998: 267). However, in an ideal setting, already the students would be alerted to those academic pitfalls. As the thesis at hand focuses on the abstract alone and the reported defects are all related to a mismatch of information between the abstract and the body of the manuscript the necessary teaching material to caution students has not been included.

Another aspect worthwhile considering is the role of a thesis’ title for the abstract. Ufnalska and Hartley (2009: 70), for example, suggest to include a thesis’ title in the evaluation of an abstract as it may add important information, for example its conclusion (“Evidence that mercury from silver dental fillings may be an etiological factor in multiple sclerosis”). However, at least in the study of Hartley and Betts (2007: 2335), the hypothesis that the title prepares the reader for the abstract in the sense of a ‘signpost’ and that therefore, they should be considered jointly, did not prove right as the authors found out that “[t]he presence or absence of titles for these abstracts had no significant main effect” on the understanding of the abstract.

An interesting question is when to write the abstract. Most authors (Swales 1993 [1990], Glasman-Deal 2010) recommend writing the abstract after finishing the rest of the paper. As Glasman-Deal (2010: 198) puts it: “The content of the Abstract is derived from the rest of the article, not the other way around”. An important side-note in this context is that the abstract should not be a copy of parts of the longer text but a sovereign product (Glasman-Deal 2010: 198).

In conclusion, the characteristics of abstracts vary considerably. Length, structure, the choice of language etc. depend on the medium the abstract is written for (research article, thesis, manuscript) and its intended audience. Therefore, abstract authors always need to keep their

audience in mind to craft an abstract that will attract its readers. Analyses of abstracts of different fields are valuable scientific contributions as their results can support the ESP teacher in the development of adequate teaching material – as realized in this thesis.

5. Developments in physiotherapy and its education

In Austria a physiotherapist's ability to write an English abstract is important when he or she wants to finish the bachelor or master's degree. Students often do not possess the necessary skills to produce English abstracts themselves and, therefore, tend to use online translation tools which produce abstracts of low quality. This phenomenon is only a symptom of a general deficiency of the Austrian physiotherapy system: a general lack of appreciation for scientific work in an international context and for evidence-based physiotherapy (EBP) in particular. The following sections serve to elaborate on these issues.

5.1. General developments in physiotherapy worldwide and evidence-based physiotherapy (EBP)

The role of physiotherapists in countries like the USA, Canada, Great Britain and Australia is currently on the move (Yardley et al 2008: 225). This development has its roots in Great Britain where, from the year 2000 onwards, the National Health Service promoted the development of new roles in the health professions to facilitate the population's access to health care and improve its quality (Künzi, Jäggi & Dutoit 2013: 35). In Great Britain so called Extended Scope of Practice roles were developed which allowed health professionals to assume responsibilities of physicians (Künzi, Jäggi & Dutoit 2013: 35). In Canada the role of the 'advanced practitioner' was developed which allows physiotherapists to assume tasks beyond their regular occupational profile (Künzi, Jäggi & Dutoit 2013: 36). In Australia similar developments are on the way. However, the extension of responsibilities of health care professionals is not yet as highly developed as in Great Britain or Canada (Künzi, Jäggi & Dutoit 2013: 36).

Considered globally, representatives of physiotherapists consider it highly important to “promote and support research and careers in research in physiotherapy in order to contribute to development [sic] of the profession” (World Confederation for Physical Therapy: Europe Region 2012: 3). The World Confederation for Physical Therapy (Europe Region 2012: 3) emphasizes the link between “high quality physiotherapy research, education and clinical practice” and the importance of EBP to support the physiotherapist in all three formerly mentioned areas (World Confederation for Physical Therapy: Europe Region 2012: 4). Evidence-based physiotherapy is defined as

a commitment to use the best available evidence to inform decision-making about the care of individuals that involves:

- integrating physiotherapist practitioners
- individual professional judgement with evidence gained through systematic research (World Confederation for Physical Therapy 2015)

Furthermore, it is emphasized that EBP “is an important mechanism to ensure health care quality and to make sure that the best available treatment is given to the individual patient according to the latest knowledge within the field”. Thus, there is no evidence-based physiotherapy without physiotherapists with the ability to conduct scientific studies.

Physio Austria (the advocacy group of physiotherapy in Austria) at least admits that scientifically sound physiotherapy is of importance and that evidence-based medicine is a significant means for that (Physio Austria 2004: 47). However, according to the World Confederation for Physical Therapy (2012: 4), a “researcher in physiotherapy, as in any other field, is defined as a person with recognized academic qualifications such as a doctorate from a higher educational institute/university, and who is affiliated to a university or research institute that is conducive to research”. According to this definition, physiotherapy research is not possible in Austria, as no PhD positions are available. The only PhD program Physio Austria is referring to, is in Doha (Physio Austria: PhD positions in Aspetar).

5.2. Developments in the education of physiotherapists in Europe in general as well as Austria, Canada, New Zealand and Australia specifically

European higher education underwent a significant transition throughout the last two decades. Those radical changes commenced in 1999 when 29 European higher education ministers signed the Bologna Declaration which led to the so-called Bologna Process (Crosier & Parveva 2013: 6). This process is a consequence of the effort to develop comparable higher educational systems across Europe and, thereby, facilitate student mobility across the continent. As a consequence, the legal framework for the physiotherapy education in Austria was revised in 2006 (FH Campus Wien), which led to the development of a bachelor-master system, as opposed to the diploma which students earned prior to that¹.

In Austria, students need such an entrance qualification and can then earn their bachelor's degrees in six semesters at ten Universities for Applied Sciences. After this bachelor conveying the basic knowledge of the profession, physiotherapists are (at least theoretically) obliged to

¹ Though this bachelor-master system for physiotherapists spread over most of Europe, the system in Germany is still double tracked. Apart from the Universities for Applied Sciences, physiotherapy in Germany can still be learned in schools which do not require a higher education entrance qualification (Rudolf 2015: 43).

continue their education (Bundeskanzleramt: Rechtsinformationsgesetz 2018: 16). However, this obligation does not require the completion of a master's degree and, as a master is time-consuming and expensive, the majority of physiotherapists attends specific courses offered, for example, through Physio Austria. Those courses last between a few hours and several weeks and tackle one particular technique. However, there is no supervisory body controlling whether physiotherapists comply with this law for continuing education or not.

Master's degrees are offered at different institutions all over the country, for example, in Graz, Vienna or Salzburg. Unlike various other disciplines, master's degrees for physiotherapists in Austria are relatively expensive. For example, a master's in Data Science and Engineering at the University of Applied Studies in Hagenberg costs € 1453,44 (FH-OOE 2018) as opposed to the master in Sports Physiotherapy at the University of Salzburg which costs € 9000 (Universität Salzburg 2018). Unfortunately, a physiotherapy master's degree has no major impact on salaries. Therefore, students earn such a degree only because of a special personal interest, e.g. in sports physiotherapy, or because they want to teach at one of the country's Universities for Applied Sciences.

As the abstracts analyzed in this thesis stem from Canada, Australia and New Zealand, the respective educational systems for physiotherapists will shortly be described. In Canada, a higher education entrance qualification is obligatory to study physiotherapy. The bachelor takes eight semesters, and the physiotherapy department is part of the faculty of medicine (Bauer-Horvath 2015: 112). To be able to work as a physiotherapist, from 2010 onwards, a master's degree was obligatory (Yardley et al 2008: 225).

According to the Australian Physiotherapy Association (2015: Studying physiotherapy), to study physiotherapy at an Australian university “[p]rerequisite subjects, or assumed knowledge, in either English, biological science, chemistry, physics, and health and physical education are normally required [...]”. However, those requirements may differ at the various universities across the country. According to the Australian Institute of Health and Welfare (2006: 7), persons who want to register as a physiotherapist “must have completed an accredited course (such as the 4-year full-time Bachelor of Physiotherapy course [...])”. Furthermore, postgraduate courses are available but, as opposed to Canada, a master's degree is not compulsory for physiotherapists to pursue their career. As Australia and New Zealand have a common standard considering the classification of occupations (Australian and New Zealand Standard Classification of Occupations 2013: Unit group 2525 physiotherapists), similar conditions are expected in New Zealand.

6. (Teaching) ESP(EAP/EOP)

In order to be able to partake in an international physiotherapy discourse community, the respective knowledge of medical discourse in English needs to be conveyed. Therefore, ESP and the related terms EAP (English for Academic Purposes) and EOP (English for Occupational Purposes) as well as related issues will shortly be explained in relation to the teaching context.

6.1. Introduction to ESP and its sub-branches

According to Longman's *Dictionary of language teaching & applied linguistics* (Richards & Schmidt 2010: 198), ESP refers to "a language course or program of instruction in which the content and aim of the course are fixed by the specific needs of a particular group of learners". In this context critics claim that every group of learners has its specific needs (e.g. Long 2005). In the case under consideration, an identification of a current use is possible with high precision: master physiotherapy students writing their master thesis abstract.

The umbrella term ESP may be classified into sub-branches as, for example, Johnson and Johnson (1998: 105-106) did when further subdividing ESP into EAP and EOP:

English for academic purposes [original emphasis] (EAP), dealing with the use of English in study settings (particularly but not exclusively in higher education) where the main goal of language learning is the ability to cope in the student's chosen academic specialism; and *English for occupational purposes* [original emphasis] (EOP), where the language is needed in the workplace environment of a job or profession.

Those two are then further subdivided "into specific disciplines or professions" (Johnson & Johnson 1998: 106). In the case of the thesis at hand, the focus is on EAP (= master physiotherapy students writing their thesis) and, on a secondary level, on EOP (= physiotherapists who are, after their bachelor degree, already part of the professional life). On the level of EOP, a first subordinate layer would be EMP (as are, for example, Business or Aviation English); the second layer would be English for Physiotherapy (as are, for example, English for Nursing or Pharmacy) (Bruton & Woźniak 2013: 139). Alternatively, both of these layers may be combined in EAMP (English for Academic Medical Purposes), as suggested by Belcher (2009: 2).

ESP can be subdivided into various sub branches. The specific disciplines of interest for the thesis at hand are EMP and English for Physiotherapists.

6.2. EMP for physiotherapists in Austria

EOP in the case of the thesis at hand, relates to EMP. The medical scientific discourse in general, according to Gunnarsson (2009: 55), "has emerged in a cooperative and competitive

struggle among scientists to create the knowledge base of their field, to establish themselves in relation to other scientists and to other professional groups, and to gain influence and control over political and socio-economic means". Naturally, for the discourse community to accomplish those goals, it is essential to pass on its knowledge to future generations of medical staff. Medical knowledge has undergone an enormous transition in the last centuries and language has had a central role in those proceedings, which underlines the importance of EMP.

The situation in Austria considering the teaching of medical English for physiotherapy is alerting. Although the teaching of EMP for physiotherapists in their bachelor's degree is legally regulated (Bundeskanzleramt: Rechtsinformationsgesetz 2018: 20), apparently not all Universities of Applied Sciences offer a respective seminar. For example, on the homepage of the University of Applied Sciences in Salzburg no such course can be found in the curriculum (FH Salzburg 2018). However, the University of Applied Sciences in Graz (FH Joanneum 2018) offers English in three separate seminars in semester one, two and five. Altogether those courses amount to 2.5 ECTS and, the objectives of the seminar in semester five are related to the production of abstracts.

For the master courses there is apparently no specific ESP seminar and various master's degrees (e.g. Donau Universität Krems and FH Wien) do not offer any seminar referring to EMP. However, for example the curriculum of the physiotherapy master at the University of Salzburg (Universität Salzburg 2015: 8) includes the following 'learning outcome' with regards to the first module of the course: „Die Studierenden sind mit der englischen Sprache als wissenschaftliche Fachsprache vertraut und können fachbezogene Informationen sowohl in deutscher als auch in englischer Sprache verstehen und nutzen“ [Students are proficient enough in English in order to participate in the respective discourse community and are able to process professional input in German as well as in English]. This would at least imply some engagement with professional material in English.

As the last two paragraphs have shown, physiotherapy education in Austria on both bachelor as well as master level lacks definite rules regarding the implementation of EMP in their courses. Especially in times where evidence-based methods are considered as the golden standard, an occupation with English in the sense of the main language of academia seems urgently required.

The situation described, shows the difficult standing of physiotherapy in Austria. On the one hand, a master's degree is expensive, has no impact on salaries and earning a PHD is not even possible. On the other hand, international as well as national organizations evaluate a scientific approach as highly important. Therefore, all measures contributing to a more

scientific approach (e.g. physiotherapists' ability to write powerful abstracts) are valuable as they will hopefully bring physiotherapy research in Austria to an international level eventually.

6.3. The role of the teacher

A very interesting factor concerning the teaching of ESP is the special role of the language teacher who has "to enter [...] as a stranger into strange domains – academic and occupational areas that may feel quite unfamiliar" (Belcher 2009: 2). For a large part of the teachers, it is not "a comforting thought [...] to realize that that their students may know more about a crucial subject area [...] of a language course than they, the teachers, do", irrespective of their being "novice or experienced" (Belcher 2009: 11).

Teachers may pursue different strategies to deal with this sensation. One strategy is a collaboration with 'experts'. Bruton and Woźniak (2013: 140), for example, argue in favor of a synergy between language and subject teachers when stating that "language teachers need particular subject knowledge and teachers of non-linguistic subjects need help with the linguistic and methodological aspects of their subjects". Bhatia (2004: 204) goes one step further and, recommends to "bring various stakeholders together, which include not only language teachers and learners, and subject teachers from the academy, but also professionals, employers and practitioners from the workplace". Additionally, teachers may use journals of ESP. Other ESP practitioners may have come across similar problems and have shared them for example in the journal *English for Specific Purposes* or the *ESpecialist* (Belcher 2009: 12).

Another sensible cooperation would be between the ESP teacher and the genre analyst. Bhatia (2004: 159) claims that genre analysis should "offer effective pedagogical solutions" and, therefore, demands a better connection between genre analysts and practicing professionals. The author argues that "[t]here has been very little understanding or *collaboration* [original emphasis] between the two *communities* [original emphasis], either in the form of jointly undertaken research projects or team taught ESP courses" (Bhatia 2004: 160).

At this point, the role of the learners should be emphasized as they are the one 'expert' resource mostly available in classrooms. Apart from providing the language teacher with content knowledge, for example through "[s]tudent-compiled portfolios and problem-based-learning presentations", the collaboration between ESP teachers and students "also gives the student a valuable confidence-boosting role to play" (Belcher 2009: 13).

Apart from this help from 'outside', language teachers have to develop their own coping strategies for the situation in the classroom. One approach is to work on one's own attitude: on the one hand, by accepting the fact that they may have less detailed professional knowledge

than their students; on the other hand, through a concentration on skills they have available. Ferguson (1997: 88), for example, suggests substituting ‘specialist knowledge’ through ‘specialized knowledge’, i.e. “(a) knowledge of disciplinary culture, (b) knowledge of the epistemologies of different disciplines and (c) knowledge of genre”. Another approach may be not to delve too deeply into an area in the sense of “keeping the subject matter at manageable levels, for both students and instructors”. To that effect, the sustained content-based approach to instruction (SCBI) may be worth trying, which uses subject-area textbooks from a lower grade level (Belcher 2009: 12). Finally, we have to admit that sometimes it is necessary to adopt a “more narrow-angled approach”. But, exhibiting a positive attitude: probably the preoccupation with a totally different topic may be “invigorating” (Belcher 2009: 12).

In conclusion, ESP teachers should be aware of the fact that they are not on their own. Through a collaboration between all parties involved (field experts, genre analysts, teaching colleagues, students and practitioners from the workplace) the teaching of ESP will prove satisfactory for everybody.

6.4. Student versus expert genres

A difficult question in the context of EAP, is the applicability of genre analyses to student as well as expert genres. Hüttner, for example, encourages a critical discussion of this question and suggests refraining from treating the two alike (2008: 147). Her argument is that “student writing consists of distinct genres, potentially diverse from expert genres”. Furthermore, she argues that, on the one hand, EAP is such a heterogeneous field and, on the other hand, the communicative purposes of students cannot be identical to those of experts (Hüttner 2008: 147). The author differentiates between graduates and students and argues that the English “language use of university graduates varies” substantially and, therefore, makes it “nearly impossible for any curriculum designer to know precisely what the target situations of English language use for graduates are” (Hüttner 2008: 149). Therefore, the author demands the development of “more transferable writing skills” (Hüttner 2008: 149). However, according to the assessment of the author of the thesis at hand, this is not the case for physiotherapists. Naturally, physiotherapy graduates experience a certain specification according to the different medical fields they engage in. But, as the differences between their jobs, compared, for example, to graduates of a degree in economics, are small. Therefore, there is a broad common base of necessary vocabulary and required communicative functions.

However, a distinction which seems sensible in the realm of physiotherapy is between bachelor students in their first year and master students writing their thesis. The former’s knowledge of ‘physiotherapy’ is not yet developed in their L1. This is advantageous as ESP

teachers have, due to students' low level of specialization, the possibility to provide new content motivate students on the language as well as on the content level. However, students are not able to help the ESP practitioner due to a lack of content knowledge. As opposed to the bachelor students, in a master's course, "the student profile is often professional or post graduate and language tends to be perceived as a tool for expressing what students already know in their L1" (Bruton & Woźniak 2013: 142). Therefore, the focus will rather be on the language than the content.

In conclusion, through an awareness of the students' language as well as content proficiency, teachers, as well as their students, will profit.

6.5. Teaching English for physiotherapists with the help of a corpus

In analogy to Swales' ground-breaking analysis of introductions to research articles, this thesis sought to analyze the abstracts of physiotherapy master theses. In the end, the findings of this analysis will be employed to develop teaching material for the non-native speaker population of Austrian physiotherapy master students.

Is a genre analysis performed in order to provide teaching material, normally, at the beginning of a genre analysis, stands the so-called 'needs analysis'. This term refers to a procedure analyzing students' requirements of a course (Hyland 2006: 73). The addressing of "specific **target** [original emphasis] needs" (Belcher 2009: 3) constitutes the difference between ESP and general English courses. However, the identification of learners' present language learning needs is, hopefully, at the center of attention of all language educators and, therefore, also part of general, or as Long (2005: 19) puts it, "language for no purpose" courses. Another important point is that "needs assessment is best when ongoing", thus, traces of learners' needs are constantly there (in the classroom), the teacher 'only' has to realize them (Belcher 2009: 3). However, as the awareness of the need for better instruction concerning the writing of abstracts led to the production of this thesis in the first place, the author refrained from conducting such an analysis. This procedure seems especially sensible as it is highly probable that student writers do not see the writing of abstracts as overly important for their future career. However, the ability to partake in the (inter)national scientific discourse is of significance in order to be able to contribute to the development of the profession and the (inter)national position of Austrian physiotherapists as will be explained later. Therefore, the ability to write an effective English abstract is essential.

The huge advantage of a genre-based approach to teaching is that it may give students an understanding of the social aspect of writing and "reveal that lexico-grammatical features are not an end in themselves in the learning-to-write process, but rather a means to an end, enabling

students to make meaning for the right audience in an appropriate context” (Lee 2012: 120). If students do realize how they act through language even if they are ‘just’ writing their thesis abstract, the notion of genre will play an integral role in their future writing. Therefore, the objective of the genre-based teaching sequence is to provide an understanding for ‘genres’ and their usefulness and arouse the students’ enthusiasm for corpus-based approaches to writing while learning which integral aspects constitute a well-written physiotherapy master abstract.

Apart from Swales’ move analysis, specialized corpora may contribute significantly in language teaching. Although corpora and the associated tools are available for free nowadays, “[t]he practice of ELT [...] to date, at least, seems to be largely unaffected by the advances of corpus research” (Römer 2010: 18). Römer (2010: 19) differentiates between an indirect use of corpora (“hands on for researchers and material writers”), and a direct application (“hands on for learners and teachers (data-driven learning, DDL)”). The advent of indirect pedagogical corpus applications dates back to the 1950s when West generated the General Service List of English Words and suggested “a syllabus that is based on frequently occurring words rather than on grammatical structures” (Römer 2010: 20). The direct approach, which is usually referred to as ‘data-driven learning’, was originally adopted through scholars at the University of Birmingham in the 1980s and made students assume the roles of linguists (Römer 2010: 20-21). To this effect, one has to differentiate between general corpora, which are fairly large and, “are freely accessible online via web-interfaces which allow the user to create concordances and extract lists of collocations” and, specialized corpora, which “are small, often home-made and custom-compiled, and not generally made available by the researchers (or language teachers) who compile them for their own specific research or teaching purpose” (Römer 2010: 21-22). Römer (2010: 26) associates DDL with “learner motivation, serendipity, communicative competence, language awareness raising and learner autonomous learning”. Those associations alone are a motivation to apply DDL to the realm of physiotherapists writing their master thesis abstracts. However, an important factor to keep in mind is that the interpretation of corpus data is not straight-forward and, that “[m]any different factors and conditions (from grammatical ones to sociolinguistic ones) influence language use, so trying to figure out why a linguistic feature is used the way it is can place considerable demands on the corpus user” – student or linguist (Ädel 2010: 46).

Considering the teaching of vocabulary, corpus analysis has two valuable ways of contributing to teaching of vocabulary. On the one hand, according to Flowerdew (2013: 163), its worth for “language pedagogical purposes is in the potential for contrasting data from different corpora and obtaining information about register variation according to fields of

discourse”. Naturally, the lexis required in university registers is different to the one required in everyday life and, therefore, corpus analysis is very helpful in identifying the former. This contrasting approach has been adopted in the thesis at hand when comparing a corpus informed through abstracts from physiotherapy master theses with the written BNC word list. The developed teaching material was then based on the outcome of this comparison which ties in with Römer’s (2010: 26) view that priority should be given “to teaching those words and expressions that (...) learners will need later on to be able to handle texts in their subject area”. On the other hand, corpus analyses might be used to raise students’ language awareness in class. This approach has been used for the development of the actual teaching in class where the generated corpus will be used to identify typical verbs for the written description of scientific findings.

Furthermore, students enjoy working with concordancers themselves “once they know how to read them and what to focus on” (Römer 2010: 27). Therefore, the teaching sequence will include a hands-on corpus analysis session. Dudley-Evans and St. John (1998: 207) suggest providing the students with the specified corpus to “check whether they have used the correct collocation in their writing”. This has the huge advantage that students see the “vocabulary in authentic contexts” (Dudley-Evans & St. John 1998: 208) as opposed to their normal vocabulary contact in dictionaries. However, the direct approach has many traps which makes Ädel (2010: 45-46) compare the corpus with a maze and in order not to get lost suggests working in “teacher-guided settings and [with] clearly defined tasks”.

Finally, one has to be aware of the fact that physiotherapy students are no linguists, and therefore, may not share the language teacher’s enthusiasm about genre-based teaching. Especially as it is rather time-consuming and physiotherapy curricula are rather tight anyway. Therefore, a well digestible selection of genre-based methods is essential.

7. Genre analysis and its results

7.1.Context of writing

The broader context of physiotherapy is outlined in section 5.2., detailed information about the abstract in general is provided in chapter 4. This section deals with the immediate context of the production of physiotherapy master abstracts in Austria. The provided information is partly based on communication with Austrian physiotherapy students as well as teachers of physiotherapy, information presented on the homepages of the respective teaching institutions and, on the experience of the author of this thesis who is a physiotherapist herself.

General information

To earn one's master of physiotherapy in Austria it is necessary to compose a master thesis. According to the homepage of the University Salzburg (2018) 20 ECTS are reserved for the production of the master thesis, distributed between semester three, four and five. The theses are written in German and the abstracts must be included in German. An English abstract, which is the genre under consideration in this thesis, is not compulsory but according to a reference corpus of German-speaking master thesis abstracts, it is common usage to include one. The rationale for this study is based on the difficulties Austrian master physiotherapy students – according to students as well as teachers – have with the production of the English abstract. A genre analysis (for detailed information about data and methods see section 7.2) was performed in order to identify material worth teaching to Austrian physiotherapy master students in order to improve the quality of their English abstracts. The outcome was then used for the development of a teaching sequence (see Appendix).

Discourse community: the authors and their audience

To participate in a physiotherapy master course, a bachelor's degree in physiotherapy is obligatory. As the course is expensive – between 8.000 and 12.000€ - and time-consuming - 750 teaching units á 45 minutes (Donau-Universität Krems: 4-5) – students normally participate not immediately after their bachelor's degree. Therefore, the authors of physiotherapy master thesis abstracts in Austria are physiotherapists with at least 3-5 years of professional experience. Considering audience, students will regard the respective teacher who is their supervisor as their audience. However, the students must provide a copy of their thesis for the respective institution's library and, therefore their theses are available for anybody with access to the library. Meta data of all theses are included in the online catalogues of the libraries; the whole theses are only available online if the students agreed to share them. Therefore, if students are willing to provide their intellectual property, their audience is extended from one teacher to a national as well as an international audience.

Communicative purpose

As explained in section 2.2 the communicative purpose is a “privileged criterion” (Swales 1993 [1990]: 61) as it turns communicative events into genres (Swales 1993 [1990]: 46). However, a clear definition of the communicative purpose of a genre is difficult. As the audience plays an important role, the purpose changes with the audience under consideration. If the student has the teacher in mind who is assessing the abstract, the communicative purpose will be the fulfillment of the necessary conventions (stylistic and content-wise) considering abstract-

writing which were possibly provided through the teacher beforehand. If the possible national or even international audience is considered, the communicative purpose changes. Nationally, master students of physiotherapy might try to position themselves advantageously amid their professional peers through their thesis which is accessed via the abstract. This professional network is important as the collaboration with national peers extends beyond the academic context (e.g. in the organization of professional trainings, students' internships etc.). Internationally the networking is unfortunately mostly confined to the scholarly exchange. The difference between national and international audience has one consequence for the communicative purpose: master thesis students might make an effort to refer to national peers or institutions as they are dependent on their colleague's goodwill on another occasion.

7.2. Data and methods

The present study is based on two corpora. The major corpus consists of 131 physiotherapy master abstracts from universities in English speaking countries (Canada, New Zealand and Australia) which have been collected online via the library homepages of the respective universities. 67 originate from Canada, 40 from Australia and, 24 from New Zealand. In order to be able to compare the abstracts length-wise with abstracts from German-speaking countries, an additional corpus with 90 abstracts from universities in Austria (48) and Switzerland (42) was provided. The respective abstracts from Austria were, again, gathered via the universities' library homepages. Swiss physiotherapy master abstracts are collected annually and provided online (Abstracts 2016 & Abstracts 2017). For the German-speaking corpus those Swiss abstracts available in English of 2016 and 2017 were utilized. At this point it shall be noted that the German-speaking reference corpus was only used to compare abstracts length-wise. An analysis in greater detail would have been interesting. However, it was not a prerequisite to accomplish this thesis and, due to time management issues the author refrained from analyzing it.

Considering the methodology, the physiotherapy master abstracts are analyzed with the help of genre-analytical tools. First, the abstracts from the L1 context are examined with regards to their length and, subsequently compared to 90 abstracts from German speaking countries. Then, a move analysis of the English abstracts is conducted which leads to a recommended structure for physiotherapy master thesis abstracts. Finally, AntConc, a corpus analysis tool, is used to obtain information about frequently occurring elements in the main corpus as well as keywords and their collocates (Anthony 2018a).

7.3.Average length of abstracts

As explained in the chapter on abstracts, there are certain standards considering the length of an abstract. For a thesis, NISO (1996: 4) for example, specifies this standard as one page or 300 words². While working with the English abstracts used for this thesis, I realized that there are considerable differences according to their length. Therefore, the aspect of the abstracts' length will be dealt with in detail.

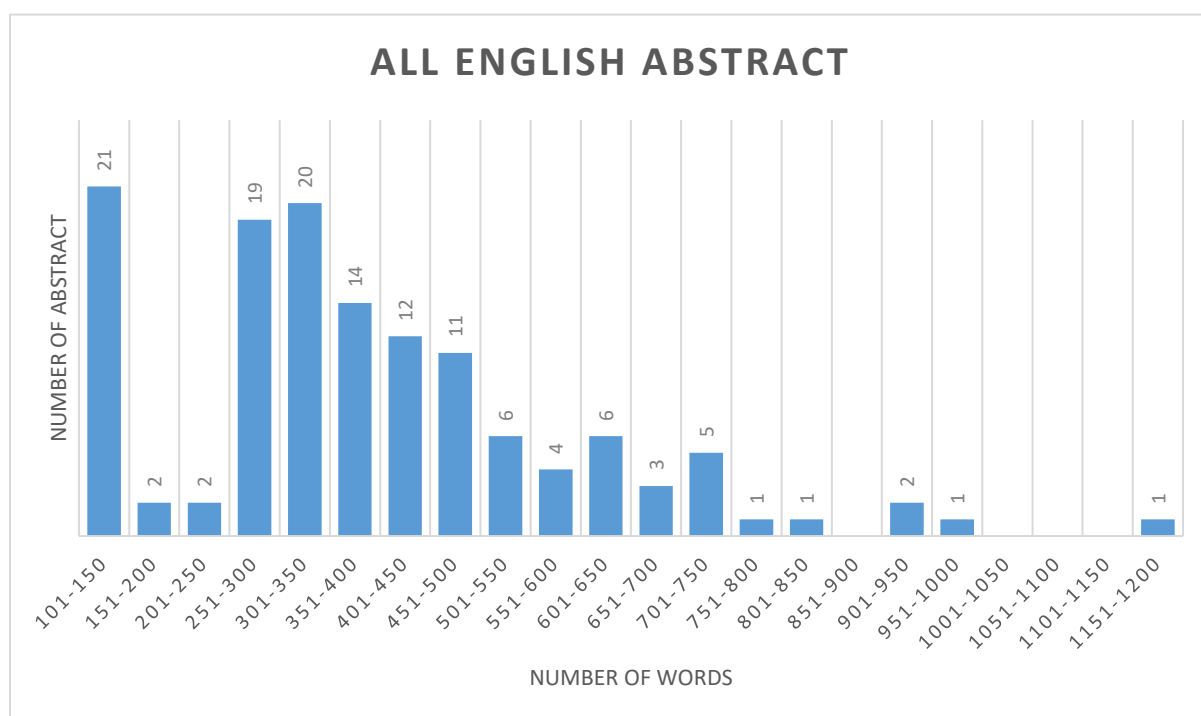
Generally, any average value in statistical terms is labelled the arithmetic mean or its mean for short. This refers to a figure calculated by “adding together all the raw data and dividing by the number of data items” (Oakes 2012: 117). However, this approach does only make sense if the data is normally distributed, which means it is more or less evenly distributed around the central value. If this is not the case, there is a “second measure of the average called the *median* [original emphasis]” which is the value lying exactly in the middle of all items “except in some cases where data values are equal (Oakes 2012: 117).

When including all English abstracts (Canada, Australia and New Zealand), the mean amounts to 396.06 as opposed to the median which comes to 355. This considerable difference shows that the data is not distributed normally around the center value as mean and median differ substantially and, therefore, it may be assumed that statistical outliers influenced the mean. However, this is only one aspect as, additionally, there are clusters related to different Universities' guidelines.

When considering the following table illustrating the length of all English abstracts, the most apparent discrepancy is the high incidence of cases in the first category and the outliers in the end. The first irregularity is attributable to the fact that there are 20 abstracts between 140 and 150 words.

² This is just a general recommendation by the National Information Standards Organization of the USA which is provided as there are, apart from guidelines of the different universities, there are no physiotherapy-specific recommendations.

Table 2: Number of words of all English abstracts



Apart from that this concentration, the abstracts seem more or less evenly distributed length-wise. However, if regarded separately, the data gives a different picture.

The following table summarizes ‘mean’ and ‘median’ according to the abstracts’ different origins:

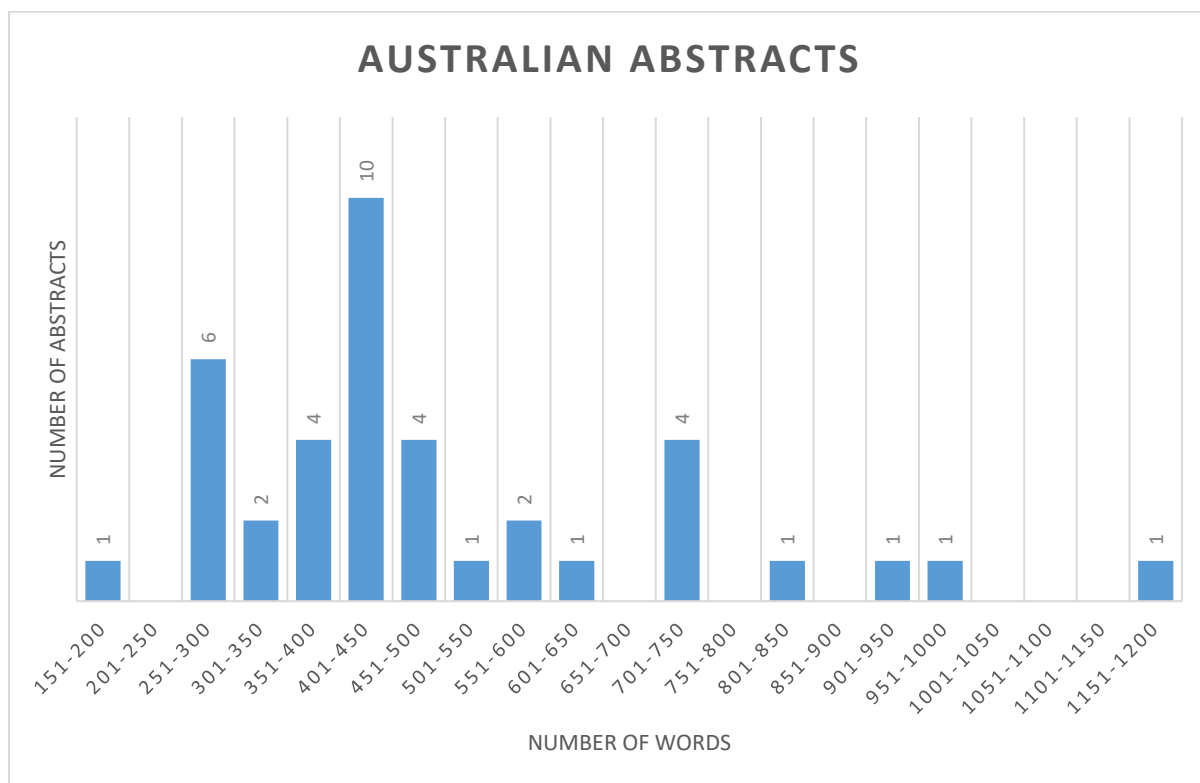
Table 3: Mean and Median in Australia, Canada and New Zealand

Country	Mean	Median
Australia	494,64	439
Canada	289,81	296
New Zealand	527,04	526

What immediately attracts one’s attention is the huge difference in average length between Canada and the two other countries. Another interesting point is that, as opposed to Australia, the mean and the median in Canada and New Zealand are very similar. Those differences will be analyzed in detail in the following paragraphs, beginning with Australia.

As may be seen in the following table, the length of Australian abstracts varies considerably.

Table 4: Number of words in Australian abstracts



These results led to the suspicion that Australian universities give different guidelines concerning the length which leads to a broad range of applications. Therefore, the universities' homepages were searched for directives. The results of this search are summarized in the following table:

Table 5: Abstract word limits of Australian universities

University	Word limit
University of Melbourne	250 words (University of Melbourne: Writing an abstract)
Curtin University	a page or less (Curtin University: Better writing)
University of South Australia	short paragraph (King & Bastalich 2016: Abstract writing)
University of Canberra	max. 500 words (University of Canberra 2016: Writing the abstract)
University of Queensland	abstract should answer 5 questions (what, why, how, results, significance?) – even if

	that means not to comply to a word limit (University of Queensland 2018: Sections of a thesis)
University of Western Australia	around 250 words, no more than 700 (University of Western Australia: Style and format)

These findings support the proposed hypothesis that guidelines regarding abstracts' length vary considerably, as Australian universities give guidelines reaching from 250 to 700 words, and, as in the case of the University of Queensland students are even permitted to exceed the latter limit as long as no key findings have to be sacrificed.

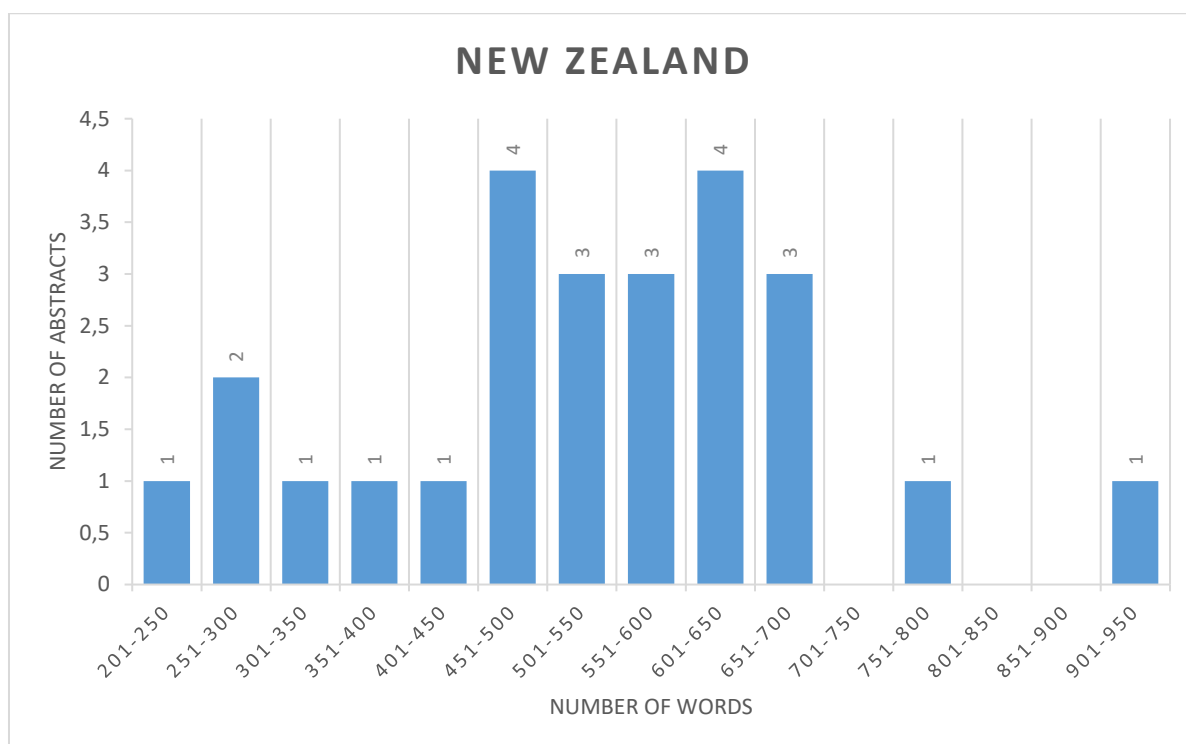
As the abstracts from New Zealand only stem from two universities, the near vicinity of mean and median suggests that those two universities give similar suggestions according the word limit, presumably around 500 words.

Table 6: Word limits of universities in New Zealand

University	Word limit
University of Otago	“not exceeding 500 words” (University of Otago 2014: Examination and assessment regulations)
University of Auckland	“not exceeding 500 words in length” (The Auckland University of Technology 2015: 115)

These limitations give reason to expect that most of the abstracts have between 450 and 500 words. However, as the diagram shows, the majority of the abstracts exceeds the given limit.

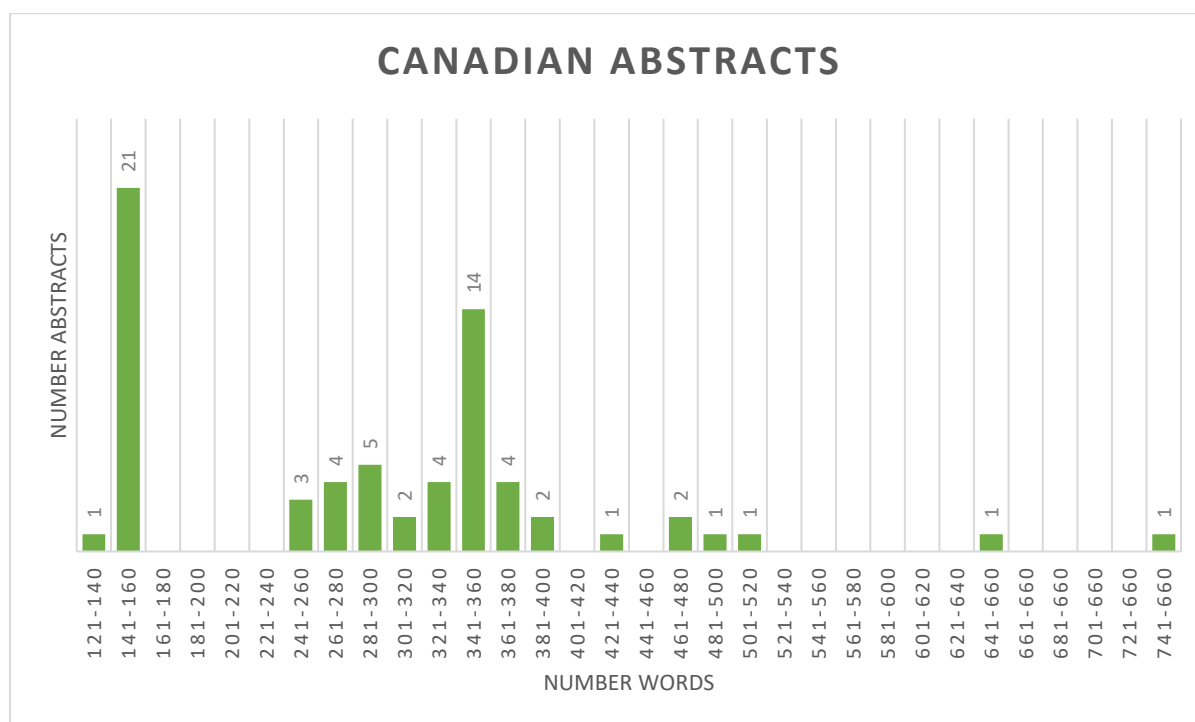
Table 7: Number of words in abstracts from New Zealand



Only ten abstracts lie within the limit, as opposed to 15 which lie within 501 to 950 words. These results imply that the adherence to the word limit is not decisive for the assessment of the abstract.

When examining the data from Canada, it becomes obvious that there are two different prevalent guidelines, as there is an exceptional number of abstracts which have around 150 and 350 words. More than half of the 67 abstract (35) can be located between 140-160 as well as 340-360 words. When considering the following diagram, it is important to note that the categories for 'NUMBER OF WORDS' each comprise of 20 words, as opposed to the 50 words categories in the other diagrams. This approach has been chosen to be able to show the accumulation of abstracts around 150 and 350.

Table 8: Number of words in abstracts from Canada



The accumulation of abstracts around 150 and 350 words leads to the hypothesis that, again, universities' guidelines influence the length of the abstracts and, as the following table shows, this is the case.

University	Word limit
Dalhousie University	around 150 words (Dalhousie University 2016)
University of British Columbia	maximum of 350 words (The University of British Columbia 2018)

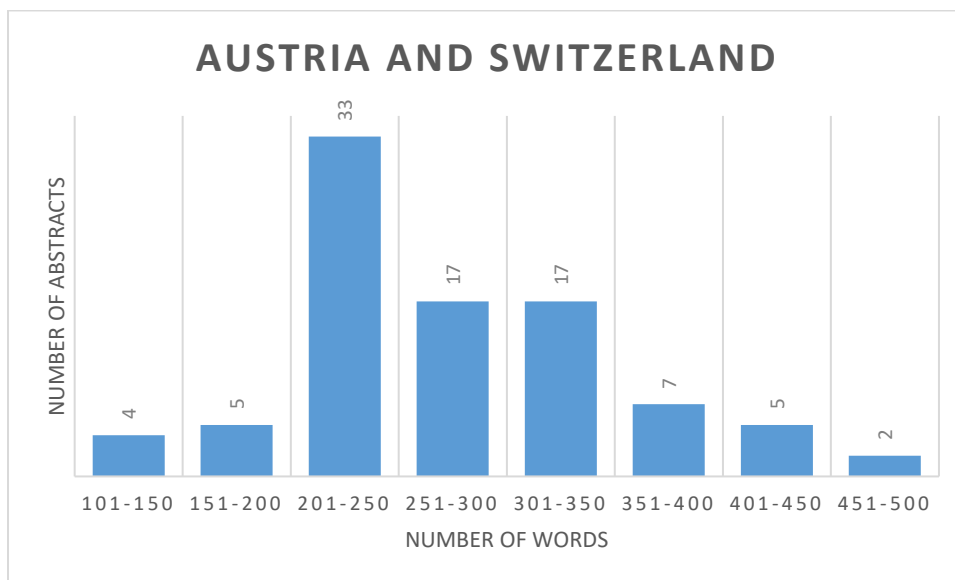
Apart from those two accumulations around 150 words ($n = 22$) and around 350 words ($321-380 = 22$), there is a considerable last group which has under 321 ($n = 14$) or over 380 words ($n = 9$). As this group amounts to a third of the total number of abstracts two hypotheses are possible: Either sticking to the word limit is not highly relevant in the assessment of the students' abstracts in Canada, or other universities allow for a broader range of lengths (e.g. 250-500 words). Unfortunately, these hypotheses cannot be tested within the current study.

As shown in the three previous paragraphs, it is not possible to give a clear guideline considering the length of physiotherapy master abstracts as there are significant differences regarding the different countries and the respective universities' guidelines. Therefore, a separate corpus of 90 abstracts was formed consisting of 42 physiotherapy master abstracts

from Switzerland and 48 from Austria in order to have reference data from the German speaking area.

As the following table suggests, the abstracts' distribution is more equal than in their English counterparts.

Table 9: Number of words abstracts in Austria and Switzerland



As mean and median of Austria and Switzerland were more or less comparable (Austria: mean 286.79, median: 271; Switzerland: mean: 290, median: 250), no differentiated diagram was provided. These results suggest that there are guidelines regarding the length of abstracts which lie between 200 and 350 words as the abstracts within this group represent 74% of all abstracts.

In conclusion, the analysis of the length of English abstracts in relation to guidelines of the different universities provided interesting results. The guidelines of Australian universities offer widely diverging results (from a short paragraph to no limit at all), which is reflected in the analysis of the Australian abstracts which included abstracts between 150 to 1200 words. In New Zealand, the two existing universities offering a physiotherapy master's degree give a guideline considering master thesis abstracts of a maximum of 500 words. However, more than 50 percent exceed this limit which implies that the importance of this guideline for the assessment is negligible. For Canada, two guidelines are represented in the corpus, as a third of the abstracts has around 150 words and a third around 350 words. The last third either depicts a further guideline which was not detected (250-500 words), or a certain ignorance towards the existing limit which, as in New Zealand, might have to do with the assessment of the abstracts. As 74% of Austrian and Swiss abstracts lie between 200 and 350 words, it seems sensible for Austrian physiotherapy master students to orientate themselves towards this word limit if they

are not provided with a word limit by their supervisor. However, everything ranging from 150 to 500 words is reasonable, as the huge majority of the analyzed abstracts from Canada, Australia and New Zealand (90 abstracts = 69%), as well as Austria and Switzerland (86 abstracts = 95,56%) can be found in this range.

7.4. Move analysis

In the move analysis, the 131 English physiotherapy master abstracts were analyzed. A basic introduction to moves in abstracts was given in section 3.3. This overview from Hyland (2000: 67) for research article abstracts might be a helpful tool to recall the most important moves, especially as it was used as a guideline for the obligatory moves in the analysis of the corpus:

Table 10: A classification of rhetorical moves in article abstracts (Hyland 2000: 67)

Move	Function
Introduction	Establishes context of the paper and motivates the research or discussion.
Purpose	Indicates purpose, thesis or hypothesis, outlines the intention behind the paper.
Method	Provides information on design, procedures, assumptions, approach, data, etc.
Product	States main findings or results, the argument, or what was accomplished
Conclusion	Interprets or extends results beyond scope of paper, draws inferences, points to applications or wider implications.

Interestingly, Hyland (2000: 68) qualifies his own proposed structure as, according to his study, “less than 5 per cent of the papers contained all five steps in this sequence”. Furthermore, around half of the papers omitted a method section and an explicit introduction. This is especially interesting in context of the classification of obligatory and non-obligatory moves suggested, for example, through Hüttner (2007: 130) which will be elaborated on in the methodology section.

Other authors use fewer categories in their classifications (e.g. Bhatia (1993: 78-79): “introducing purpose, describing methodology, summarizing results, presenting conclusions”), or other terms (e.g. Swales and Feak (2004: 282) ‘aim’ instead of ‘purpose’) or different concepts (e.g. Swales and Feak (2004: 282): ‘background’ instead of ‘introduction’). Additionally, as Ufnalska and Hartley (2009: 70) suggested, also the title may be considered as it may include relevant information otherwise not provided in the abstract.

7.4.1. Methodology

Hyland's classification was used as a guideline in the coding process of the abstracts. In order to categorize if moves were (not) obligatory, a classification provided, for example, by Hüttner (2007: 130) was used. The author suggests categorizing those moves which occur with a frequency of over 90% as obligatory, those occurring within more than 50% of the texts as core moves, those ranging between 30 and 50% as optional and, those with a frequency of occurrence below 30% as fully optional.

Apart from Hyland's moves, the abstracts were analyzed for text passages representing a research gap (RG), a limitation of the study's validity (L) or, a call for further investigation (FI). Furthermore, data about the abstracts' structure, the caption of the actual text and the role of the thesis' title was compiled. Abstracts were coded twice with some temporal distance. Then the results were compared and, where inconsistencies occurred, the author examined the original data once more.

7.4.2. Results

Considering the occurrence of the various moves the following results were reached:

Table 11: Results move analysis

Move	Percentage
Introduction	74,05
Purpose	90,84
Method	97,71
Results	99,24
Conclusion	96,18
Research Gap (RG)	47,32
Limitation (L)	17,56
Further Investigation (FI)	40,46

According to Hüttner's categorization this would make 'Purpose', 'Method', 'Results' and 'Conclusion' obligatory moves, 'Introduction' a core move, 'Further Investigation' an optional move and, 'Limitations' a fully optional move. 'Research Gap' has an exceptional position as it is very close to a core move.

The results regarding those additional moves seem sensible. Authors will be reluctant to indicate limitations of their study in the abstract as it may reduce their possible audience. Therefore, only 17.56% of the thesis authors included limitations in their abstracts. However,

scientific principles advise to do so if the results are severely impaired (Glasman-Deal 2010: 209). Besides, the author may take the opportunity to provide an explanation and, thereby, demonstrate the study's existing merits. Typical limitations relate to a small sample size (abstract no. 1: *due to the small sample size*), technical problems (abstract no. 19: *the inability of the measurement tools used to capture subtle changes in motor behavior in this sample*), lack of statistical power (abstract no. 112: *Although this study lacked statistical power*) or methodological problems (abstract no. 85: *it is possible that the methodology used in this study may have influenced the results*).

The RG provides the justification for the writing of the thesis in the first place as it clearly develops a gap in the existing research. Therefore, it seems sensible that it is included in nearly half of the abstracts. Most authors state that, to date, no research related to a specific issue has been conducted (abstract no. 124: *However, no such investigations have been undertaken in the field of emergency on-call*). This example already shows a common wording for the establishment of the research gap. When word-initial *however* is analyzed in AntConc, twelve out of thirty-five instances (34.29%) are related to a research gap.

Finally, through FI the author explicates that despite its limitations, the continuation of the scientific process is critically important and, thereby, also underlines his or her pioneering contribution. Mostly authors either request a larger sample size for their original research (abstract no 121: *and a larger study is needed to test the full value*), a different methodological approach (abstract no. 95: *A randomized trial to test the intervention under more rigorous scientific conditions*) or, suggest an expansion of their work onto other areas (abstract no. 35: *Future research should examine these relationships in other PT programs*).

Considering the additional elements analyzed, the first to comment on is the role of the thesis' title. The title was included through the thesis' author only in two instances. In case of the first abstract (no. 28), this only provided redundant information as the abstract itself is self-explanatory. However, in the second example (abstract no. 111), without the title an important bit of information (that the objects of the study are surgically repaired flexor digitorum profundus tendons) would be lacking throughout the introductory paragraph without the title.

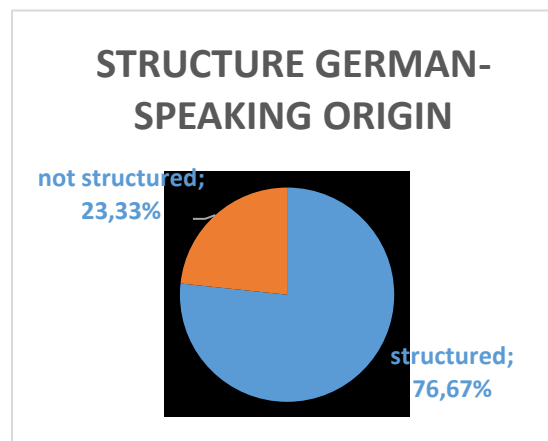
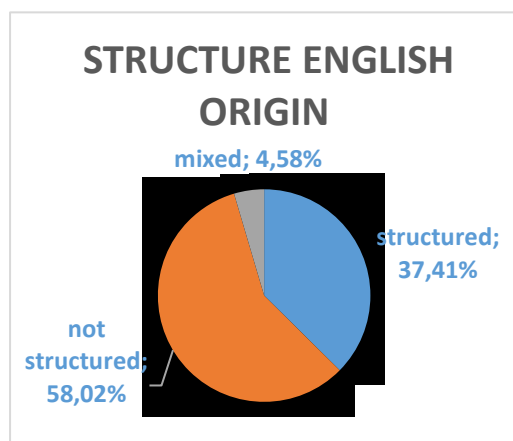
Secondly, there are two abstracts where essential information, that the title would provide, is missing. The first instance is abstract no. 90, where the explanation for a vital abbreviation (BoNT-A = botulinum neurotoxin) is given in the title but not in the abstract. The second example is abstract no. 125, where the essential information that this study has to do something with physiotherapy which would be available in the title, is only given after 228 words.

Considering the abstract's structure, the heading, the type of the abstract (structured or not structured) and the move structure was analyzed. In all but one abstract ('Summary') 'Abstract' was used as a heading.

According to the overall structure of the abstract, authors proceed differently.

Table 12: Structure of abstracts with English origin

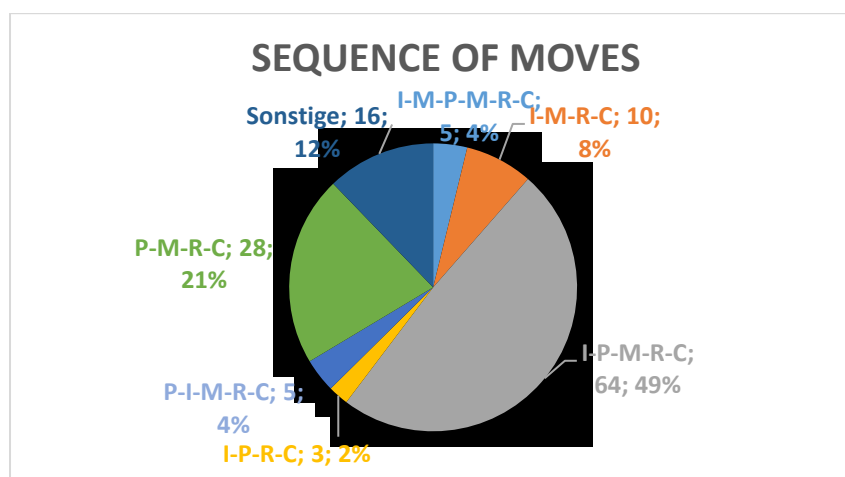
Table 13: Structure of abstracts with German origin



As may be seen in the diagram on the left, the prevalent type of abstracts with English origin is the non-structured one (n=76 or 58.02%), followed by the structured abstract (n=49 or 37.41%) and the mixed type (n=6 or 4.58%). Interestingly, there are only three structured abstracts consisting of one coherent paragraph including the subheadings; the rest has paragraphs with the respective captions. Furthermore, all six mixed examples do have an introductory paragraph which is not explicitly labelled as opposed to other paragraphs. Interestingly, in the corpus of 90 abstracts of German-speaking origin the distribution is different. Here, the structured abstract is clearly prevalent (n=69 or 76.67%) as opposed to the non-structured alternative (n=21 or 23.33%).

Obligatory and core moves were then grouped according to their sequence. To facilitate this process, complicated representations of studies consisting of various sub-studies were simplified.

Table 14: Sequence of moves



The diagram clearly shows the prevalence of I-P-M-R-C (49%) (Introduction – Purpose – Method – Results – Conclusion), particularly as the second category reaching 21% differs only slightly (the ‘Introduction’ is lacking). This is especially interesting, since, as previously mentioned, Hyland found out that of the research article abstracts he examined, only five percent contained all of these five steps. A possible explanation for this phenomenon may be the differences between authors of research articles and master theses. Established researchers may choose to leave out an obligatory move to highlight another. Students who have to show their abilities to adhere to the discourse communities’ conventions will be reluctant to do so. These considerations tie in with Bhatia’s (1995: 16) suggestion that expert members of discourse communities do “manipulate generic resources and conventions to express private intentions within the framework of socially recognized communicative purposes”.

In conclusion, a physiotherapy master thesis abstract has four obligatory moves (Purpose, Method, Results, Conclusion), one core move (Introduction), one optional move (Further Investigation) and, a fully optional move (Limitation). The establishment of a RG may be termed an optional core move as it occurs in 47.32% of the abstracts and the limit between optional and core move lies at 50%. It is not common to include the title. However, if the author insists on adding it, the information in the title should not be repeated in the abstract to avoid redundancy. Furthermore, the heading to be used is ‘abstract’ and, structure-wise there is a preference in abstracts with English origins for non-structured abstracts which is, however, not shared in the NNS reference corpus. Finally, with regards to the structure of the moves, (I)-P-M-R-C is prevalent in the corpus under analysis.

7.5. Corpus analysis

For the corpus analysis a freely available software from Laurence Anthony was used called AntConc (Anthony, 2018a). This tool allows for all the required functionalities, namely, the production of frequency lists, keyword lists, a concordance and a collocate tool. As a reference corpus for the production of keyword lists, the BNC written word list provided through Laurence Anthony on his homepage was used (Anthony, 2018b). The author of this thesis would have preferred a more recent wordlist of American English as for example the COCA word list. However, this was not possible due to budgetary reasons.

7.5.1. Frequency analysis

First, a word list was generated to see the items occurring most frequently in the corpus (a list with the first 50 entries can be found in the Appendix). The first five entries in the present corpus as opposed to the BNC are:

Table 15: Comparison frequency analysis physiotherapy corpus vs. BNC

Rank	Corpus	Frequency	BNC	Frequency
1	the	2929	the	5529513
2	and	2080	of	2820005
3	of	2053	to	2321161
4	in	1337	and	2316623
5	a	1156	a	1942423

As explained earlier, the first entries of such a list consists mainly of function words. When comparing the most frequent items in the present corpus and the BNC it becomes apparent that similarities prevail over genre boundaries.

After the most frequent function words, also content words are detectable in the corpus. The following table includes the first ten content words according to frequency of occurrence:

Table 16: Frequency analysis content words

Number	Corpus rank	Word		Number	Corpus rank	Word
1	13	study		6	31	results
2	22	exercise		7	32	pain
3	26	participants		8	33	using
4	28	group		9	34	significant
5	30	clinical		10	37	test

These words may be attributed to three different sets: physiotherapy, medicine in general and academia. Those reflect the content of the corpus very well. *Exercise* is clearly a word attributed to the profession of physiotherapy, while *clinical* is related to general medical vocabulary. The third group, academia is represented through *study*, *participants*, *group*, *results*, *using* and *significant*. Furthermore, there are words which may be attributed to more than one group. As for example, *pain* is commonly used by physiotherapists as well as general medical personnel, and, *test* is a word used in physiotherapy as well as in academia. As becomes obvious through these deliberations, most of the words may be attributed to academia (7 out of 10 or 70%). Naturally, the ranking of *study*, *exercise*, *group* and *test* has to be treated with caution as they may be attributed to different parts of speech.

A category which is especially interesting in academic writing are conjunctive adverbs. Even for native speakers the mastering of this word class marks a transition point in their language development as they allow learners to produce “[c]lauses of cause, reason, condition or concession” (Hargis 2008:159). Hostmeyer (2013: 99) provides the following summary:

Table 17: Types of conjunctive adverbs

Type of Relationship	Conjunctive Adverbs
Addition	Besides, finally, furthermore, moreover
Comparison	Also, likewise, similarly
Contrast	Even though, however, instead, nevertheless, otherwise, though
Cause and Effect	Therefore, hence, consequently, subsequently
Sequence	Afterward, eventually, meanwhile

These conjunctive adverbs were subsequently searched within the corpus which led to the following results:

Table 18: Conjunctive adverbs in the corpus

No	Conjuncture	Frequency		No	Conjuncture	Frequency
1	besides	-		11	nevertheless	-
2	finally	2		12	otherwise	-
3	furthermore	9		13	though	2
4	moreover	1		14	therefore	16
5	also	5		15	hence	-

6	likewise	1		16	consequently	6
7	similarly	5		17	subsequently	5
8	even though	-		18	afterwards	-
9	however	66		19	eventually	-
10	instead	1		20	meanwhile	-

This information was used to build three groups of conjunctive adverbs based on frequency. The first category comprises only of one conjuncture, namely *however*, which is by far the most used one (n=66). As noted earlier, it is frequently employed when establishing a research gap which is mostly done in the beginning of the abstract. Furthermore, it is often used in the conclusion to refer to limitations or further investigation. This distribution is visually represented in the following plot of abstract no. 91:



Figure 5: Plot of 'however' in abstract no. 91

However occurs twice in the introductory part introducing the research gap:

- (1) Physical therapies are accepted as first-line management of AT; *however*, despite a growing volume of research, there remains a lack of high quality studies evaluating their efficacy. Previous systematic reviews for the conservative management of AT provide useful summaries of the available evidence; *however*, they lack key quality components of systematic reviews.

The third instance is in the conclusion where the author elaborates on the need for further investigation:

- (2) *However*, further studies are needed to determine the long term biomechanical effects in people with AT and its role in improving pain and function outcomes.

The second group contains the conjunctures *furthermore*, *also*, *similarly*, *therefore*, *consequently* and *subsequently* which all appear between five and sixteen times. Finally, the last group comprises of conjunctions which appear once or not at all in the corpus. The limited number of conjunctions used may be an indication of the lacking ability of physiotherapy master students to utilize a variety of different formulations. Summarized, frequently used conjunctive adverbs for physiotherapy students writing their master abstracts are *however*, *furthermore*, *also*, *similarly*, *therefore*, *consequently* and *subsequently*. However, offering a greater variety of conjunctions has the potential to ameliorate the abstracts' quality.

In conclusion, frequency analyses allow for a first general approach to the contents of a corpus as those words occurring with a higher frequency will, to a certain degree, constitute its main contents. In case of the thesis at hand, three different thematic sets were detected: physiotherapy, medicine in general and academia. Furthermore, specific questions may be tackled, as for example in this case, how different conjunctions are distributed according to their frequency.

7.5.2. Keyword analysis

In a next step the corpus of abstracts was compared to the written word list of the BNC in order to identify keywords, i.e. words which are “statistically unusual relative to some norm” (Culpeper 2009: 34). The first ten keywords were analyzed in order to get an impression of the contents of the corpus and were then compared to a general medical word list. The reasoning based on the results of this juxtaposition seems reasonable, however a comparison of a greater number of keywords would be sensible.

Table 19: Keyword analysis

Rank	Word	Frequency		Rank	Word	Frequency
1	study	366		6	muscle	108
2	physiotherapy	112		7	gait	71
3	participants	165		8	stroke	102
4	clinical	147		9	pain	139
5	exercise	174		10	physiotherapists	57

When grouped with regards to the thematic field the words belong to, it becomes immediately apparent that in the keyness analysis, words related to academia in general fade from the spotlight. Although *study* again ranks first, only *participants* also belongs to the group of academic vocabulary. *Physiotherapy*, *physiotherapists*, *exercise* and *gait* may be attributed to physiotherapy-related vocabulary and *clinical* to general medical vocabulary. Finally, *muscle*, *stroke* and *pain* may be classified with either of the last two groups.

The value of a list with key items for physiotherapists becomes more evident when the data is compared with the results of a general Medical Academic Word List (Wang, Liang & Ge 2008: 452):

Table 20: Keywords Medical Academic Word List

Rank	Words		Rank	Word
1	cell		6	analyze
2	data		7	respond
3	muscular		8	factor
4	significant		9	method
5	clinic		10	protein

In this study of Wang, Liang and Ge (2008: 445), a corpus was generated consisting of research articles from the fields of medicine and dentistry taken from the online database Science Direct Online. The most frequent items on the list either relate to the object of study (*cell*, *muscular*, *protein*), general medical English (*clinic*) or words related to methodology (*data*, *analyze*, *respond*, *significant*, *factor*, *method*). *Cell*, *muscular* and *protein* rank among the words associated with a particular research object. However, cells and proteins are normally not part of physiotherapy research. *Cell*, for example, occurs in the physiotherapy corpus once and, in this case refers to a cell phone and for *protein* there is no hit at all. And, although *muscle* occupies rank three in the physiotherapy corpus, *muscular* is on rank 2149. In both frequency lists a reference to *clinic* is made – *clinical* in the physiotherapy list and *clinic* in the general medical English list. As for the last group of words, it becomes clear that vocabulary related to the implementation of the study rates higher in the general medical corpus than in the physiotherapy corpus. This shows, once more, how different those two corpora are and, clearly supports the production of a specific corpus for physiotherapy.

Additionally, the keyword analysis clearly shows which topics are prevalent in the master theses. In the following table the first ten words which indicate a specific physiotherapy content are collected:

Table 21: Keywords relating to physiotherapy

Number	Rank	Keyword		Number	Rank	Keyword
1	6	muscle		6	19	strength
2	7	gait		7	20	knee
3	8	stroke		8	21	postural

4	9	pain		9	24	pd (Parkinson Disease)
5	12	injury		10	32	balance

These words relate, on the one hand, to three medical sub-fields, namely neurology (*muscle, gait, stroke, pain, pd*), traumatology (*muscle, gait, pain, injury, strength*) and orthopedics (*muscle, gait, pain, strength, knee*). And on the other hand, to general medical concepts like balance (*postural, balance*) and muscle strength (*muscle, strength*). Interestingly enough, all three medical sub-fields are represented through five domain-specific vocabularies in the list. This suggests that those sub-fields are also more or less evenly represented in the theses' topics.

Apart from those positive keywords, also negative keywords may be analyzed. This group consists of words which occur less often than in the respective reference corpus. In the following table the ten words with the highest negative keyness are collected:

Table 22: Negative keywords

Number	Frequency	Keywords		Number	Frequency	Keywords
1	2	he		6	3	her
2	23	I		7	110	s
3	2	you		8	37	they
4	100	it		9	56	but
5	3	his		10	16	we

Interestingly, seven out of ten items on the list are personal or possessive pronouns. Their low keyness relates to academic conventions which favor the use of passive over active voice as it “serves both to ‘conceal agency’ and to claim an authority based on collective knowledge of a discipline” (Logan 2012: 779). Therefore, phrases like “this project aimed at” are preferred over a phrase like “I aimed at”. According to the results, *it* belongs to the group of the negative keywords. This is surprising, as *it* is used to conceal agency in phrases like “it has been suggested”. A possible explanation is that students are not advanced enough in their academic writing and, therefore, do not use the respective phrases ‘often enough’.

In conclusion, the keyword analysis yields interesting results with regards to physiotherapy specific vocabulary. The comparison with a general Medical Academic Word List clearly demonstrates the need for specific data for physiotherapists. Furthermore, the medical sub-fields physiotherapists mainly engage in in their theses become obvious. Finally, the negative keywords partly confirm the academic tendency to omit personal voice.

7.5.3. Concordancing

The concordance program of AntConc allows for a search of a word as well as its context. For the latter, three slots, either to the right and or the left, may be chosen. Apart from searching for a full word, specific structures may be found through the use of an asterisk. For example, with the combination **ed* all regular past participles are listed. However, the analyst has to treat the data tentatively as it may on the one hand, include other parts of speech (e.g. nouns like *need*) and, on the other hand, irregular verb forms are not covered. Another function of AntConc, the collocational tool, can be used to verify the results of the concordancing tool. The former produces a statistical value (MI = mutual information) which indicates that a certain collocation is significant if it is ≥ 3 (Cheng 2012: 94-95). This means that those two words occur more often together than coincidence would explain. With the annotated limitations in mind, the results of the concordance tool are highly valuable for the development of teaching material as useful vocabulary can be located.

7.5.3.1. Verbs to use in the academic context

Writing academic texts is a skill students have to learn in their mother tongue throughout their studies. Specific vocabulary is necessary, for example, to explain processes. Clearly, this skill is then limited to the students' mother tongue. EMP courses which include such vocabulary will prove helpful when students have to author the English abstract for their master's thesis. Therefore, past participles and infinitives are analyzed. On the one hand, the collocational context three words to the left and to the right is analyzed in the concordance tool; on the other hand, the collocates list ordered according to frequency, which also provides the MI value, is analyzed for content words. The combination of the results then leads to phrases frequently used for the description of academic processes which are finally included in the teaching material (see Appendix).

Past participles

First, the concordance tool is employed to search for words ending in *-ed* via the *** function which led to the following table comprising the first twenty past participles:

Table 23: Past participles

No.	Frequency	Past participle		No.	Frequency	Past participle
1	121	used		11	34	improved
2	77	compared		12	34	included

3	63	increased		13	33	showed
4	46	demonstrated		14	31	performed
5	45	measured		15	30	conducted
6	42	reported		16	27	affected
7	39	associated		17	27	analyz/sed
8	38	identified		18	27	calculated
9	35	assessed		19	26	completed
10	34	determined		20	26	provided

Hereafter, the three most frequent past participles will be analyzed in detail. However, in this analysis *used* has not been included as it is not considered an academic word as, for example, it is not part of Coxhead's Academic Word List (Coxhead 2000: 235).

Compared

For *compared*, if analyzed according to its frequently occurring elements on the left, *was*, *were* and *when* stand out of the rest. The frequent co-occurrence of *was* and *were* can be attributed to passive constructions (e.g. abstract 70: *The final conceptual model was compared and contrasted [...]* and abstract 85: *The ratings by the experts and novices were compared with [...]*). Both forms of *to be* can be found in the list of the first twenty collocates of *compared* if sorted by frequency (*were* on rank seven, *was* on rank thirteen). The respective MI value is relatively low (3,87 for *were* and 3,05 for *was*) but, nevertheless, ≥ 3 and, therefore, significant. *When* is mainly used to compare intervention and control group, e.g. abstract 92:

(3) *Results indicated a significant effect on well-being scores and depressive symptoms of the exercise group when compared with the control group [...]*.

It occupies rank eight of the collocates list of *compared* and, has a relatively high MI value of 6,73.

For the right-side context of *compared*, *to* and *with* stand out of the other co-occurrences. This seems sensible as a comparison always requires two comparable items, and the second has to be connected with the first linguistically. This collocational strength is also represented through the ranking and the MI value of the two words in the collocates tool, as *to* ranks second with an MI value of 4,59, and *with* ranks fourth with an MI value of 4,58.

Increased

The analysis of the context on the left side of *increased* shows various adverbs quantifying the increase: *dramatically*, *frequently*, *progressively*, *significantly*, *slightly*. However, only

significantly can be found repeatedly which may be attributed to the fact that a significant increase is an interesting result to present in a study. These findings are confirmed through the collocates tool, where *significantly* is the only adverb to be found in the first twenty collocates. It is placed on thirteenth position with an MI value of 6,33.

When the context on the right side of *increased* is examined, the only co-occurrence which is obvious is the one with *risk*. Formulations dealing with increased risks for some medical condition are utilized mainly in the introduction, e.g. abstract no. 63:

- (4) Deficits in balance, mobility and executive functions are common among chronic stroke survivors and contribute to *increased falls risk*.

In the collocates tool, *risk* takes the fourteenth rank with an MI value of 6,05 which confirms its significance. The other content words ranked before *significantly* and *risk* can be excluded from a detailed analysis as they are related to the statistical analysis (*percent*) or repetition in one abstract (*increased muscle stiffness*).

Demonstrated

Demonstrated is a highly interesting example to analyze. Authors of scientific works often try not to be clearly perceptible for their audiences. They attempt to appear more like an omniscient impartial narrator than a real person presenting his or her findings. This leads to the personification of non-existing entities, for example, it is not the author who demonstrates something but the study. Beginning with the context left of the search word, *study*, therefore, is a word co-occurring frequently with *demonstrated* which leads to rank seven in the collocates tool and an MI value of 4,62. Furthermore, *group* is a frequent collocation of *demonstrated* as authors are likely to emphasize that their intervention groups made significant gains, e.g. abstract 95:

- (5) Results: The experimental group demonstrated a significant reduction in the prevalence of LBP [...]).

This leads to an eighth rank of *group* in the collocates tool and an MI value of 5,90. Obviously, the groups' accomplishments are mostly presented in the results section.

When the context on the right side of *demonstrated* is analyzed, again, *significant* is standing out prominently. The following table shows the manifold collocations of *demonstrated* in combination with *significant*.

Table 24: 'demonstrated'

Search word			
demonstrated	a	significant	association, correlation, difference, improvement, reduction, relationship
demonstrated	-	significant	differences, positive Pearson's r correlation coefficient, relationships with

These results are supported by a comparison with the collocates tool where *significant* is on rank 4 with an MI value of 6,77.

Infinitives

As the infinitive does not have comparable endings, it is more difficult to locate. However, when searching *to ** and then again feeding the concordance tool with the data (= the individual infinitive), it is possible. The results are presented in the following table:

Table 25: Infinitive

Rank	Frequency	Word		Rank	Frequency	Word
1	83	determine		1	21	influence
2	44	investigate		2	20	explore
3	34	provide		3	19	increase
4	33	identify		4	18	develop
5	32	examine		5	17	use
6	31	suggest		6	15	reduce
7	28	assess		7	14	achieve
8	26	support		8	14	measure
9	25	evaluate		9	13	assist
10	22	improve		10	12	compare

Those verbs are highly useful in the production of academic writing in general, as well as for physiotherapy master abstracts in particular. The verbs may be grouped according to their different functions:

Table 26: Types of infinitives

Function	Infinitives
Positive development	increase, improve, develop, achieve
Negative development	reduce
Treating data	investigate, examine, assess, explore, identify, evaluate, compare, measure, determine,
Allocation	support, assist, provide
Implications	suggest
Impact	influence

In order to analyze the first three verbs (*determine*, *investigate*, *provide*) in their context, the concordance tool of AntConc is used. Those constellations which occurred three times or more were recorded.

Determine

First, the results related to the verb *determine* will be elaborated on. Considering the context on the left side of the verb, *determine* is used, on the one hand, in constellations introducing the aim, the purpose or the objective of the thesis. This is realized in two different ways:

Table 27: 'Determine' 1

the aim/purpose/objective	of this study/ investigation/ dissertation/ analysis	was	to	determine
Aim: / Objective:/ Purpose:				to determine

Considering those two options the first one seems more appropriate for an academic text, as the second variant does not include all grammatically necessary parts of a sentence. When regarding the list with the twenty most frequent collocates of *determine*, *study*, *analysis* and *objectives* can be found which, in combination with MIs clearly over three, shows the significance of those phrases.

Furthermore, *determine* is used in the following contexts:

Table 28: 'Determine' 2

		search word	MI
in order	to	determine	order = 6,70
was/were used	to	determine	used = 5,17

aimed	to	determine	aimed = 7,55
-------	----	------------------	--------------

The first group of application of *determine* (table 28) mostly occurs in the first half of the abstracts as opposed to the second group (table 29), which mostly appears in the methods section as they denote some kind of assessment.

When turning to the context on the right side of *determine*, three frequently used collocations stand out of:

Table 29: 'Determine' 3

	search word		MI
to	determine	if	if = 7,65
to	determine	the * [noun]	
to	determine	whether	whether = 7,70

All three are mostly used in the purpose section. The noun in the open slot in the second example, is mostly related to *effect* (*effect*, *effectiveness*, *effects*, *efficacy*) or to validity and reliability (*construct validity*, *inter-tester reliability*, *reliability and validity*). When considering the collocates of *determine* in the list of the twenty collocates with the highest frequency, *reliability* (rank 13, frequency = 8, MI = 6,05), *used* (rank 14, frequency 7, MI = 5.16), *effect* (rank 17, frequency = 5, MI = 5,77) and *validity* (rank 19, frequency = 4, MI = 6,19) belong to the group of the content words.

Table 30: 'Determine' 4

collocate	rank		collocate	rank
study	7		analysis	18
reliability	13		validity	19
used	14		objectives	20
effect	17			

As Table 30 shows, all content words occurring in the first twenty collocates of *determine* were also found at a prominent position in the concordancing tool.

Investigate

Turning to the second verb *investigate*, again first the context on the left of the word will be analyzed. Here are the two prevalent constellations:

Table 31: 'Investigate' 1

*[noun]	were used	to	investigate
the aim/purpose/objective	of this study/research	was to	investigate

The noun in the empty slot of the first collocation, is filled with a word related to methodological means (e.g. *T-tests*, *structured interviews*). The second constellation is highly similar to the first group of collocations of *determine* establishing the aim of the study. As for *determine*, *study* (MI = 5,38) is the content word first to appear on the collocate list sorted by frequency. Furthermore, *thesis* (MI = 7,23) and *research* (MI = 5,21) may be found in this group and, thereby, show the significance of the related phrases.

When turning to the right side of the verb, the analysis also yields similar results as for *determine*:

Table 32: 'Investigate' 2

	search word		MI
to	investigate	differences	MI = 5,97
to	investigate	the * [noun]	
to	investigate	whether	MI = 6,91

The first collocation with *differences* occurs in the methods section when specific statistical methods are used to examine differences in *gait* analysis. For the noun slot, again, *effect* (*effect*, *efficacy*, *self-efficacy*) and *validity* and *reliability* (*inter-rater reliability*, *reliability and validity*, *validity*) are the prevalent collocations. When considering the collocates of *investigate* in the list of the twenty collocates with the highest frequency, *efficacy* (rank 15, frequency = 4, MI = 6,88) and *validity* (rank 17, frequency = 3, MI = 6,69) belong to the group of the content words. As opposed to the collocates of *determine*, *reliability* falls out of the twenty most frequent collocates (rank 27, frequency = 2, MI = 4,97).

Table 33: 'Investigate' 3

collocate	rank		collocate	rank
study	7		validity	17

thesis	11		self	18
used	13		research	19
muscle	14		physiotherapy	20
efficacy	15			

Provide

Finally, the collocational vicinity of the third verb – *provide* - will be analyzed. In the context to the left of the verb very similar constellations can be found.

Table 34: 'Provide' 1

		search word
	These findings	provide
	These results	provide
The results	from both studies	provide
The outcomes	of this study	provide
The results are important	because they	provide

The content of this table indicates that one of the main uses of *provide* is in the results section. The formulation is often used to provide a first conclusive statement after the actual results are presented, e.g. abstract no. 72:

- (6) As the age of healthy elderly people increases the variability in their BBS scores also increases. These findings provide guidance as to when the BBS should, and should not be used[...]"

Alternatively, it is utilized in the introduction of the concluding paragraph, e.g. abstract no. 2:

- (7) Conclusion: These findings provide preliminary information of aspects of validity and reliability of the BioTone system.

Analyzing the verb's context on the right side, there are different terms which will be provided: *evidence*, *information* or *support*. Those relating to *evidence* have a conclusive function, e.g. abstract no. 14:

- (8) The participants' narratives provide evidence that social factors do play a large role in enabling or disabling their participation in sport and physical activity after SCI

In the case of the provision of *information*, the examples relate, for example, to the valuable hands-on consequences the study has for clinicians, e.g. abstract no. 72:

- (9) [...] provide important normative information to allow clinicians to accurately determinate balance related to age.

Finally, the findings relate to the provision of *support* in the results as well as the conclusion section.

These results are supported by the collocates tool of AntConc which yields the following data for the collocations of *provide*:

Table 35: 'Provide' 2

Rank	Frequ	Stat	Collocate		Rank	Frequ	Stat	Collocate
1	26	3,75	the		7	5	5,72	results
2	23	4,09	of		8	5	7,94	information
3	20	4,51	to		9	4	5,52	these
4	10	4,64	for		10	4	4,28	that
5	6	6,98	evidence		11	4	6,64	support
6	5	4,29	this		12	4	4,05	study

Apart from the function words, all content words belong to the examples elaborated on before.

7.5.3.2. Nouns

Finally, collocations of the first three keywords which are closely tied to the realm of physiotherapy, will be analyzed. Those are *physiotherapy*, *exercise* and *gait*. The intention behind this analysis is to be able to the contexts in which these key nouns are used. The information gained may be used for the teaching material for physiotherapy master students. To convey a comprehensive picture, an analysis of a higher number of nouns would be necessary.

Physiotherapy

Firstly, for *physiotherapy*, *exercise/s*, *intervention/s*, *practice/s* and, *students* appear with a higher frequency in the word's immediate vicinity in the concordance tool. Again, those four words are the first content words in the list of the most frequent collocates of *physiotherapy*:

Table 36: Nouns

Rank	Frequ	Stat	Collocate
10	12	7,08	students
11	12	5,97	intervention
12	11	4,87	exercise
13	10	6,24	practice

Exercise/s is especially interesting as it is the word belonging the thematic field of physiotherapy with the highest keyness after *physiotherapy*. Therefore, apparently, the two most important physiotherapy-related words in the corpus have a strong tendency to co-occur. However, when taking a closer look at the abstracts, it becomes obvious that four out of six occurrences stem from the same abstract (no. 92) and, therefore, the keyword's significance in this context is negligible. *Intervention/s* mostly occurs in the purpose section followed by the results section. It highlights the role of the physiotherapist as the one to intervene and ameliorate the situation of the patient. Physiotherapy *practice/s* in this context mainly refers to the everyday procedures in a physiotherapist's professional life and the studies are surveying physiotherapy practice to be able to draw conclusions about the efficacy of measures and, thereby, further enhance physiotherapy practice. Finally, the frequent occurrence of *students* only indicates that physiotherapy students are a common research area for physiotherapy master students.

As the physiotherapist is closely linked to physiotherapy itself an interesting phenomenon will be briefly commented on. In the concordance tool a search for physiotherapist* produces results which often deal with the differentiation between novice and expert physiotherapists. This implies that in the discourse community there is a clear distinction between those two groups with the latter having a higher reputation as they are expected to perform better than their younger colleagues.

Exercise

For the second noun used as a search word, *exercise*, the results naturally include nouns as well as verbs, which has to be taken into consideration in the analysis. The context of those words which occurred more than three times in the concordance tool was examined manually in greater detail, but only those collocations were categorized as possibly useful for the teaching context were further discussed. The results are summarized in the following table:

Table 37: 'Exercise' 1

1	aerobic/ aqua-aerobic/ asymmetric/ balance/ eccentric/ physiotherapy-led/ light/ Pelvic Floor Muscle/ physiotherapy/ resistance/ trunk stability/ strength and stretching/ submaximal/ therapeutic/ fall prevention	exercise	
2	class-based/ community-based/ home-based	exercise	
3	the role of	exercise	

4		exercise	program/mes/classes
5		exercise	adherence
6		exercise	participation
7		exercise	protocols

No. 1 refers to different kinds of exercises and no. 2 to the different locations where exercises are performed. No. 3 (*the role of exercise*) is employable in various parts of the abstract as it may be used to call for further investigation, e.g. abstract no. 4:

- (10) Larger trials are needed to further examine the role of exercise in ameliorating the side effects of ADT [...]

Furthermore, it may be utilized to establish a research gap, or explain the purpose of an abstract. No. 4 (*exercise programs/classes*) with all spelling variants is an important collocation for a study dealing with physiotherapy as most of these do provide some sort of gathering where a specific intervention program is offered to a definite set of clients. No. 5 & 6 (*exercise adherence* and *participation*) tackle an important issue in physiotherapy practice as well as in academia in general – without the self-discipline of the patient who regularly exercises symptoms will not disappear and studies will provide no valid results. Finally, no. 7 (*exercise protocols*) can be understood as a guideline for the treatment of specific ailments and occurred only in three abstracts (no. 39, no. 55 & no. 123), which were analyzing such specific protocols. Therefore, though the MI of *protocol*, as can be seen in the following table in rank 25 and 29, is over 3, it is not considered to be significant.

In the following table the most frequent content words of the first thirty hits collocating with *exercise* are summarized. Their mutual information value is clearly over three, therefore, their collocation with *exercise* is significant.

Table 38: 'Exercise' 2

No	Rank	Frequ	Stat	Collocate	No	Rank	Frequ	Stat	Collocate
1	8	19	6,71	program	7	22	11	6,21	participation
2	9	19	8,00	aerobic	8	25	10	7,63	protocols
3	10	18	4,94	exercise	9	27	10	5,08	intervention
4	17	13	5,56	based	10	28	10	4,31	group
5	20	11	8,50	resistance	11	29	9	6,92	protocol
6	21	11	4,87	physiotherapy	12	30	9	5,63	programme

Out of these twelve content words from the collocates tool, seven (*program/me, aerobic, physiotherapy, participation, protocol/s*) were identified before on the base of the concordance tool.

An unexpected collocation of *exercise* is *exercise*. However, this phenomenon is easily explained. On the one hand, due to the basic settings of AntConc, the context presented in the collocates tool includes five words to the right and to the left of the search word, which occasionally leads to a mixture of different sentences, e.g. abstract no. 46:

- (11) Chiropractors see a significant proportion of the NS-CLBP population, commonly prescribing exercise as a treatment. Exercise is one [...]).

On the other hand, different aspects of exercises are enumerated, e.g. abstract 22:

- (12) [...] both in terms of exercise duration and exercise intensity

Gait

Finally, *gait* will be analyzed in detail. First, frequent co-occurrences which were identified manually in the concordance tool are provided in the following table:

Table 39: 'Gait' 1

1	improv*	gait	
2	balance and/ balance, /measure of balance,	gait	
3		gait	and balance
4	assessing, observe	gait	
5		gait	assessment
6	freezing of, slowing of, reduced, slow	gait	
7		gait	speed/velocity
8		gait	analysis/assessment
9		gait	cycle/pattern
10	abnormal	gait	
11		gait	difficulties/disorders/dysfunctions
12		gait	parameters

No. 1 epitomizes the overall goal of all gait analysis and subsequent therapy: to improve the patient's gait. Therefore, the patient's gate cycle (no. 9 & 12) needs to be analyzed (no. 4, 5 &

8) in order to identify difficulties (no. 10 & 11) which might lead to a loss of balance (no. 2 & 3) or an impairment of the gait velocity (no. 6 & 7). As all those elements contribute to the general description of gait impairments they may occur throughout an abstract.

The following table provides the respective data from the collocates tool which partly confirms the insights gained in the concordance tool:

Table 40: 'Gait' 2

No	Rank	Frequ	Stat	Collocate		No	Rank	Frequ	Stat	Collocate
1	7	11	6,49	balance		6	19	6	5,94	gait
2	8	9	7,92	speed		7	21	4	8,18	velocity
3	12	7	7,18	walking		8	22	4	4,91	training
4	14	7	8,51	parameters		9	25	4	7,81	stride
5	18	6	7,63	improve		10	27	4	8,33	oga (Observational Gait Analysis)

Balance, *speed*, *parameter*, *improve* and *velocity* have been identified before as significant collocations of gait which is depicted in table 38.

The collocation with *walking* may be attributed to enumerations, e.g. abstract no. 103

- (13) with beneficial effects for walking, freezing of gait and health related quality of life.

Furthermore, the vicinity of *gait* and *walking* occurs across sentence boundaries and, is therefore not considered to be significant. The same is true for *gait* and *gait* as well as for *training*. *Stride* collocates with *length* or *variability* and is a parameter of *gait* analyses which leads to their co-occurrence. And, finally, *oga* is an abbreviation for the observational gait analysis which should be a self-explanatory collocation.

In conclusion, the concordance tool in combination with the collocates tool provide valuable information about the verbal context in which frequently occurring elements of physiotherapy master abstracts are to be found. This is especially important for non-native speakers of English whose lack of intuition about possible collocations may affect the comprehensibility of their scientific work and, therefore, jeopardize their careers.

7.6. Summary of findings

The conducted analysis was based on three sub-surveys: an analysis of the abstracts' length, a move analysis and a corpus analysis. The first survey, which compared the length of 131 abstracts from Canada, Australia and New Zealand amongst each other and, consequently with a German-speaking reference corpus consisting of 90 abstracts from Austria and Switzerland, led to two different recommendations. If the German-speaking abstracts alone were considered, a length between 200 and 350 words seemed sensible. However, the abstracts from the English-speaking context showed a greater variety considering their length and, therefore, the suggested length lies between 150 and 500 words. Naturally, students should follow this recommendation only if they do not get a guideline from their own supervisor.

In the move analysis, only the English-speaking abstracts were analyzed as a native speaker perspective was of interest. A classification from Hyland, including Introduction, Purpose, Method, Product (= Results) and Conclusion, was used as a guideline for the coding process. Additionally, the author of the study included three more moves: the research gap, a limitation of the study's validity and, a call for further investigation. As genres are no rigid entities, not all moves are always realized. This is reflected in a categorization of moves into obligatory (>90% of the abstracts), core (>50% of the abstracts), optional (30-50% of the abstracts) and fully obligatory moves (<30% of the abstracts) which is, for example, suggested through Hüttner (2007: 130). In the move analysis four obligatory moves were identified (Purpose, Method, Results, Conclusion); additionally, a core move (Introduction), an optional move (Further Investigation) and, a fully optional move (Limitations) were found. Another category – the optional core move - was added as the Research Gap was realized in 47.32% of the abstracts. The inclusion of the thesis' title is not a common practice, the heading used is 'abstract', and the prevalent structure is (Introduction)-Purpose-Method-Results-Conclusion.

In the third sub-survey, the corpus analysis, different aspects were discussed: Frequently occurring items, keywords and words within their context. First, the content words found in the word list ordered according to frequency were used to identify the main thematic fields of the theses. These are physiotherapy, medicine in general and academia in general. Furthermore, on the base of a summary of conjunctive adverbs provided by Hostmeyer (2013: 99), the frequency of occurrence of conjunctions was analyzed. The results showed that only a small variety of conjunctive adverbs is used in English physiotherapy master abstracts: *However* (n= 66), *therefore* (16) and *furthermore* (9) are conjunctions most commonly used. This phenomenon might be attributed to lacking academic writing skills of English physiotherapy master students.

In the keyword analysis, the English-speaking corpus was compared to the written word list of the BNC through the corpus analysis tool AntConc and a list of ten keywords of physiotherapy master theses was produced. These were then compared to a general Medical Academic Word List (Wand, Liang & Ge 2008: 452). The differences between the two lists point at the necessity to develop a physiotherapy specific academic word list. The keyword list was also used identify the medical sub-fields physiotherapy master students tend to write their master theses in. However, an analysis based on a longer keyword list would be necessary in order to obtain reliable results. Finally, an analysis of the negative keywords partly confirmed the academic tendency to omit personal voice.

Finally, words were analyzed within their context with the help of the collocate as well as the concordance tool. The author of this thesis chose to analyze, on the one hand past participles and infinitives, as those might be helpful for German-speaking physiotherapy master students to describe the processes behind their academic endeavor. On the other hand, keywords closely tied to the realm of physiotherapy were analyzed in order to provide students with valuable concepts and, through the given context, a way to incorporate them in their work.

In conclusion, the results of the analysis of abstracts' length, as well as the move analysis are quite straight forward. For the corpus analysis, however, more time would have been necessary to analyze more aspects in more detail.

8. Conclusion

The present thesis is based on the genre analysis of physiotherapy master theses. After discussing the difficult definition of 'genre' and, consequently elaborating on the defining elements of the concept, the author provided an overview of the development of 'genre' throughout the last decades. Hereafter, the basic information necessary for the implementation of a genre analysis was provided before the author elaborated on 'the abstract'. Before coming to the actual analysis, a short introduction to physiotherapy and its education as well as teaching of ESP and, especially EMP for physiotherapists was provided.

The conducted genre analysis of 131 physiotherapy master thesis abstracts from Canada, Australia and New Zealand as well as 90 physiotherapy master thesis abstracts from Austria and Switzerland provides valuable insights into the abstracts' structure and lexical choices. The reported findings were utilized to produce some genre-based teaching material (see Appendix) which proved that genre analysis is a useful tool for material production for physiotherapists. Results were, on the one hand indirectly applied, for example in gap-filling activities. On the other hand, the direct implementation of corpus analysis in the teaching material in form of

DDL was tested. Though DDL, apart from the presented limitations, seems very interesting for the ESP teaching context, studies evaluating the actual teaching situations would be necessary.

In conclusion, the results of this thesis could contribute to the Austrian physiotherapy community being better connected with the international one and, to an increase of urgently required evidence-based treatments. To date, bachelor and master theses for most students are deadlocks. They have to be written in order to graduate but, subsequently, physiotherapists tend to concentrate on their work with their patients. If students are able to write powerful abstracts, their scientific contribution will find a larger audience. Positive feedback may provide motivation to further continue one's scientific work and not totally concentrate on the work with one's patients. It is a long way to evidence-based treatments. However, the ability to author well-written abstracts is an important step in the right direction.

9. References

- Abstracts 2016. 2016. In Niedermann, Karin; Tal, Amir (eds.). *Masterarbeiten Master of Science in Physiotherapie (MScPT) Studiengang 2013*. https://www.gesundheit.bfh.ch/fileadmin/wgs_upload/gesundheit/3_master/phy/Abstract_MSc_PHY_2016.pdf (17. Jan 2018).
- Abstracts 2017. 2017. In Niedermann, Karin; Tal, Amir (eds.). *Masterarbeiten Master of Science in Physiotherapie (MScPT) Studiengang 2014*. https://www.gesundheit.bfh.ch/fileadmin/wgs_upload/gesundheit/3_master/phy/Abstract_MSc_PHY_2017_Web.pdf (17. Jan 2018).
- Ädel, Annelie. 2010. "Using corpora to teach academic writing: challenges for the direct approach. In Campoy, Mari Carmen; Bellés-Fortuno, Begona & Gea-Valor, Lluïsa (eds.). *Corpus-base approaches to English language teaching*. London: Continuum, 39-55.
- Anthony, Laurence. 2018a. *AntConc* (Version 3.5.2) [Computer Software]. Japan: Waseda University.
- Anthony, Laurence. 2018b. *Word frequency lists*. <http://www.laurenceanthony.net/software/antconc/> (20. March 2018).
- Armstrong, Sharon L.; Gleitman, Henry; Gleitman Lila. 1983. "What some concepts might not be". *Cognition* 13, 263-308.
- Askehave, Inger; Swales, John M. "Genre identification and communicative purpose: A problem and a possible solution". *Applied Linguistics* 22(2), 195-212.
- Australian and New Zealand Standard Classification of Occupations. 2013. *Unit group 2525 physiotherapists*. <http://www.abs.gov.au/ausstats/abs@.nsf/Product+Lookup/1220.0~2013,+Version+1.2~Chapter~UNIT+GROUP+2525+Physiotherapists> (01. March 2018).
- Australian Institute of Health and Welfare. 2006. *Physiotherapy labour force 2002*. Canberra: National Health Labour Force Series.
- Australian Physiotherapy Association. 2015. *Studying physiotherapy*. http://www.physiotherapy.asn.au/APAWCM/Careers/Studying_Physiotherapy/APAWCM/Careers/APA_StudyingPhysiotherapy.aspx?hkey=20f4ef74-51bf-4804-a43e-486311ded1ba (01. March 2018).
- Bakhtin, Mikhail. 1986. "The problem of speech genres". In Emerson, Caryl; Holquist, Michael. *Speech genres and other late essays*. Austin: University of Texas, 66-102.
- Bauer-Horvath, Heike. 2015. „Zugang zur Physiotherapie – ein Vergleich zwischen Kanada und Österreich“. In Maurer, Ute (ed.). *Health professionals auf neuen Wegen*. Graz: Leykam, 111-119.
- Belcher, Diane. 2009. "What ESP is and can be: an introduction". In Belcher, Diane (ed.). *English for specific purposes in theory and practice*. Ann Arbor: University of Michigan Press.
- Berkenkotter, Carol; Huckin, Thomas N. 1995. *Genre knowledge in disciplinary communication: cognition/culture/power*. London: Routledge.
- Bhatia, Vijay K. 1993. *Analyzing genre: language use in professional settings*. Abingdon: Routledge.
- Bhatia, Vijay K. 2006. "Analyzing genre: some conceptual issues". In Hewings, Martin (ed.). *Academic writing in context: implications and applications*. London: Continuum, 79-92.
- Bhatia, Vijay K. 2008. "Genre analysis, ESP and professional practice". *English for Specific Purposes* 27, 161-174.
- Bhatia, Vijay, K. 1995. "Genre-mixing in professional communication: The case of 'private intentions' v. 'socially recognized purposes'". In Bruthiaux, P; Boswood, T; Bertha, B (eds.), *Explorations in English for professional communication*. Hong Kong: City University of Hong Kong, 1-19.

- Bhatia, Vijay K. 2012. "Professional written genres". In Gee, James, P.; Handford, Michael (eds.). *The Routledge handbook of discourse analysis*. Abingdon: Routledge, 239-251.
- Bhatia, Vijay K. 2004. *Worlds of written discourse: A genre-based view*. London: Continuum.
- Biber, Douglas. 2012. "Representativeness in corpus design". In Biber, Douglas; Reppen, Randi (eds.). *Corpus linguistics: methods and applications*. Los Angeles: Sage, 3-33.
- Biber, Douglas; Connor, Ulla; Upton, Thomas A. 2007. *Discourse on the move: using corpus analysis to describe discourse structure*. Amsterdam: John Benjamins.
- Blumer, Herbert. 1986 [1969]. *Symbolic interactionism: perspective and method*. Berkley: University of California Press.
- Bruton, Lindsey; Woźniak, Monika. 2013. "English for physiotherapy, physiotherapy for English: A synergistic approach". *Revista Nebrija de Lingüística aplicada a la enseñanza de Lenguas* 13, 139-146.
- Bundeskanzleramt: Rechtsinformationsgesetz. 2018. *Gesamte Rechtsvorschrift für MTD Gesetz*.
<https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=Bundesnormen&Gesetzesnummer=10010701> (20 Feb. 2018).
- Cheng, Winnie. 2012. *Exploring corpus linguistics: language in action*. London: Routledge.
- Cope, Bill; Kalantzis, Mary. 1993. *The powers of literacy: a genre approach to teaching writing*. London: Routledge.
- Coxhead, Averil. 2000. "A new academic word list". *TESOL Quarterly* 34(2), 213-238.
- Crosier, David; Parveva, Teodora. 2013. *The Bologna process: its impact in Europe and beyond*. Paris: UNESCO: International Institute for Educational Planning.
- Culpeper, Jonathan. 2009. "Keyness: words, parts-of-speech and semantic categories in the character-talk of Shakespeare's Romeo and Juliet". *International Journal of Corpus Linguistics* 14 (1): 29-59.
- Curtin University. *Better writing: scientific report writing*. studyskills.curtin.edu.au/wp-content/uploads/2017/05/SR-Structure-PDF.pdf (05 March 2018).
- Dalhousie University. 2016. *Thesis format guidelines*.
https://cdn.dal.ca/content/dam/dalhousie/pdf/fgs/thesesanddefences/thesis_regs.pdf (06 March 2018).
- Devitt, Amy J. 1991. "Intertextuality in tax accounting." In Bazerman, Charles; Paradis, James (eds.). *Textual dynamics of the professions: historical and contemporary studies of writing in professional communities*. Madison: University of Wisconsin Press, 336-357.
- Donau-Universität Krems. *Informationen für InteressentInnen*. <https://www.donau-uni.ac.at/imperia/md/content/departement/kmbt/mtd/physiotherapie/physio.interessentinneninformationen.pdf> (May 2018).
- Dudley-Evans, Tony. 1994. "Genre analysis: an approach to text analysis for ESP". In Coulthard, Malcolm (ed.). *Advances in written text analysis*. London: Routledge, 219-228.
- Dudley-Evans, Tony; St John, Maggie Jo. 1998. *Developments in ESP*. Cambridge: Cambridge University Press.
- Eggins, Suzanne. 2004. *An introduction to systemic functional linguistics*. (2nd edition). London: Continuum.
- Elsevier. 2018. *Graphical abstracts*. <https://www.elsevier.com/authors/journal-authors/graphical-abstract> (29 Jan. 2018).
- Etrych, Tomáš; Kovář Lubomír. 2011. "Biodegradable star HPMa polymer–drug conjugates: biodegradability, distribution and anti-tumor efficacy". *Journal of Controlled Release* 154(3), 241-248.
- FH Campus Wien. *What we offer you*. <https://www.fh-campuswien.ac.at/en/studies/study-programs/detail/physiotherapy.html> (15 Feb. 2018).

- FH Joanneum. 2018. *Physiotherapie: Studienplan*. <https://www.fh-joanneum.at/physiotherapie/bachelor/im-studium/studienplan/> (21. March 2018).
- FH OOE. 2018. *Kosten*. <https://www.fh-ooe.at/studieren/kosten/> (20 Feb. 2018).
- FH Salzburg. 2018. *Studienplan Physiotherapie Bachelor Vollzeit*. <https://www.fh-salzburg.ac.at/disziplinen/gesundheitswissenschaften/bachelor-physiotherapie/studienaufbau/curriculum/> (21. March 2018).
- Ferguson, Gibson. 1997. "Teacher education and LSP: the role of specialized knowledge". In Howard, Ron; Brown, Gillian (eds.). *Teacher education for LSP*. Clevedon: Multilingual Matters.
- Flowerdew, John. 2013. *Discourse in English language education*. London: Routledge.
- Freedman, Aviva; Medway, Peter. 1994. "Locating genre studies: antecedent and prospects". In Freedman, Aviva; Medway, Peter (eds.). *Genre and the New Rhetoric*. London: Taylor & Francis.
- Frow, John. 2015. *Genre*. Abingdon: Routledge.
- Glasman-Deal, Hilary. 2010. *Science research writing for non-native speakers of English*. London: Imperial College Press.
- Graetz, Naomi. 1982. *Teaching EFL students to extract structural information from abstracts*. Paper presented at the International Symposium on English for Special Purposes, Eindhoven, The Netherlands, 2-4 Aug. 1982.
- Gunnarsson, Britt-Louise. 2009. *Professional discourse*. London: Continuum.
- Halliday, Michael A.K. 1985. *Introduction to functional grammar*. London: Edward Arnold.
- Halliday, Michael A.K. 1975. *Learning how to mean: explorations in the development of language*. London: Arnold.
- Hanks, William F. 1989. "Text and textuality". *Annual Review of Anthropology* 18, 95-127.
- Hargis, Charles H. 2008. *English Syntax: an outline for teachers of English language learners*. Springfield: Charles C Thomas Publisher.
- Hartley, James; Betts, Lucy. 2007. "The effects of spacing and titles on judgments of the effectiveness of structured abstracts". *Journal of the American Society for Information Science and Technology* 58 (14), 2335-2340.
- Hasan, Ruqaiya. 2015 [1984]. "The nursery tale as a genre". In Cloran, Carmel; Butt, David; Williams, Geoffrey (eds.). *Ways of saying: ways of meaning. Selected Papers of Ruqaiya Hasan*. London: Bloomsbury, 51-72.
- Hostmeyer, Phyllis. 2013. *Tools students need to be skillful writers building better sentences*. Thousand Oaks: Corwin.
- Hüttner, Julia I. 2007. *Academic writing in a foreign language: an extended genre analysis of student texts*. Frankfurt am Main: Peter Lang.
- Hüttner, Julia I. 2008. "The genre(s) of student writing: developing writing models". *International Journal of Applied Linguistics*, 18, 2, 146-165.
- Hüttner, Julia; Smit, Ute; Mehlmauer-Larcher, Barbara. „ESP teacher education at the interface of theory and practice: Introducing a model of mediated corpus-based genre analysis. *System* 37, 99-109.
- Hyland, Ken. 2000. *Disciplinary Discourses: social interactions in academic writing*. London: Longman.
- Hyland, Ken. 2006. *English for academic purposes: an advanced resource book*. London: Routledge.
- Hyland, Ken. 2004. *Genre and second language writing*. Michigan: Michigan University Press.
- JACS[®]. 2014. *Video Abstracts*. <http://pubs.acs.org/JACSbeta/vabstracts/index.html> 29 Jan. 2018).
- Johns, Ann M. 1997. *Text, role, and context*. Cambridge: Cambridge University Press.
- Johnson, Keith; Johnson, Helen. 1998. *Encyclopedic dictionary of applied linguistics: a handbook for language teaching*. Oxford: Blackwell Publishers.

- King, Debora; Bastalich, Wendy. 2016. *Abstract writing: purposes, conventions and types*. University of South Australia. <https://lo.unisa.edu.au/mod/page/view.php?id=489391#type> (05 March 2018).
- Künzi, Kilian; Jäggi, Jolanda; Dutoit, Laure. 2013. *Aktueller Stand der schweizerischen Diskussion über den Einbezug von hoch ausgebildeten nichtärztlichen Berufsleuten in der medizinischen Grundversorgung*. Bern: Bundesamt für Gesundheit.
- Kwan, Becky S.C. 2006. "The schematic structure of literature reviews in doctoral theses of applied linguistics". *English for Specific Purposes* 25, 30-55.
- Lee, Icy. 2012. "Genre-based teaching and assessment in secondary English classrooms". *English Teaching: Practice and Critique* 11(4), 120-136.
- Logan, Anna. 2012. "Improving personal voice in academic writing: an action inquiry using self-reflective practice". *Reflective Practice* 13(6), 775-788.
- Long, Michael H. 2005. *Second language needs analysis*. Cambridge: Cambridge University Press.
- Malinowski, Bronislaw. 1923. "The problem of meaning in primitive languages". In Ogden, Charles K.; Richards, Ivor A. (eds). *The meaning of meaning*. London: Kegan Paul, Supplement 1.
- Martin, James R. 2009. "Genre and language learning: a social semiotic perspective". *Linguistics and Education* 20, 10-21.
- Miller, Carolyn R. 1984. "Genre as social action". *Quarterly Journal of Speech* 70, 151-167.
- Nation, Paul I.S. 2001. *Learning vocabulary in another language*. Cambridge: Cambridge UP.
- National Information Standards Organization (NISO). 1996. *Guidelines for abstracts: an American national standard developed by the National Information Standards Organization*. Bethesda: Niso Press.
- Oakes, Michael P. 2012. "Describing a translational corpus". In Oakes, Michael P.; Ji, Meng (eds.). *Quantitative methods in corpus-based translation studies*. Amsterdam: John Benjamins, 115-147.
- Paltridge, Brian. 2006. *Discourse analysis: an introduction*. London: Continuum.
- Paltridge, Brian. 1997. *Genre, frames and writing in research settings*. Amsterdam: John Benjamin.
- Physio Austria. 2004. Berufsprofil der / des Diplomierten Physiotherapeutin / Physiotherapeut. *Physiotherapie* 1a.
- Physio Austria. *PHD positions in Aspetar*. <https://www.physioaustria.at/news/phd-positions-aspetar> (3. March 2018).
- Physiotherapie-Ausbildung.net. *Ausbildungsdauer*. <https://www.physiotherapie-ausbildung.net/> (20 Feb. 2018).
- Pitkin, Roy M.; Branagan, Mary Ann. 1998. "Can the accuracy of abstracts be improved by providing specific instructions? A randomized controlled trial". *Jama* 280 (3), 267-269.
- Richards, Jack C.; Schmidt, Richard. 2010. *Longman: dictionary of language teaching & applied linguistics*. (4th edition). London: Routledge.
- Rogers, Margaret. 2000. "Genre, terminology, and corpus studies". In Trosborg, Anna (ed.). *Analyzing professional genres*. Amsterdam: John Benjamins, 3-21.
- Römer, Ute. 2010. "Using general and specialized corpora in English language teaching: past, present, future". In Campoy, Mari Carmen; Bellés-Fortuno, Begona & Gea-Valor, Lluïsa (eds.). *Corpus-base approaches to English language teaching*. London: Continuum, 18-38.
- Rose, David. 2012. "Genre in the Sydney School". In Gee, James, Paul; Handford, Michael (eds.). *The Routledge handbook of discourse analysis*. Abingdon: Routledge, 209-225.
- Rosmarin, Adena. 1985. *The power of genre*. Minneapolis: University of Minnesota Press.
- Rudolf, Michael. 2015. *Professionalisierung der Physiotherapie in Deutschland: Bestrebungen im Bereich Ausbildung und Qualitätsmanagement*. Hamburg: Diplomica.

- Scott, Mike; Tribble Christopher. 2006. *Textual patterns: key words and corpus analysis in language education*. Amsterdam: John Benjamins Publishing Company.
- Singh, Manvender Kaur Sarjit; Shamsudin, Sarimah; Zaid, Yasmin Hanafi. 2012. "Revisiting genre analysis: applying Vijay Bhatia's approach". *Procedia: Social and Behavioral Sciences* 66, 370-379.
- Stubbs, Michael. 2004. "Language corpora". In Davies, Alan; Elder, Catherine (eds.). *The handbook of applied linguistics*. Oxford: Blackwell, 106-132.
- Swales, John M. 1993. *Genre analysis: English in academic and research settings*. (3rd edition). New York: Cambridge University Press.
- Swales, John M. 1998 [2009]. *Other floors, other voices: a textography of a small university*. New York: Routledge.
- Swales, John M. 2004. *Research genres: explorations and applications*. Cambridge: Cambridge University Press.
- The Auckland University of Technology. 2015. *Postgraduate handbook*. http://www.aut.ac.nz/data/assets/pdf_file/0010/189946/2015-PG-Handbook-web.pdf (05 March 2018).
- The University of British Columbia. 2018. *Thesis/dissertation checklist: components of the thesis/dissertation*. https://www.grad.ubc.ca/sites/default/files/doc/page/thesis_checklist_components_1.pdf (06 March 2018).
- Trosborg, Anna. 2000. "Introduction". In Trosborg, Anna, *Analyzing professional genres*. Amsterdam: John Benjamins, vii-xvi.
- Ufnalska, Sylwie B. 2007. "Abstracts of research article: problems of translation". *European Science Editing* 33 (4), 101-104.
- Ufnalska, Sylwie B.; Hartley, James. 2009. "How can we evaluate the quality of abstracts?" *European Science Editing* 35 (3), 69 – 71.
- Universität Salzburg. 2018. *Lehrgangsbeitrag*. <http://sportsphysiotherapy.uni-salzburg.at/anmeldung/lehrgangsbeitrag/> (20 Feb. 2018).
- Universität Salzburg. 2015. *Mitteilungsblatt-Sondernummer der Paris Lodron-Universität Salzburg*. Salzburg: Schmidinger, Heinrich.
- University of Canberra. 2016. *Writing the abstract*. <http://learnonline.canberra.edu.au/mod/page/view.php?id=828133&inpopup=1> (05 March 2018).
- University of Melbourne. *Writing an abstract*. https://services.unimelb.edu.au/data/assets/pdf_file/0007/471274/Writing_an_Abstract_Update_051112.pdf (05 March 2018).
- University of Otago. 2014. *Examination and assessment regulations*. <http://www.otago.ac.nz/administration/policies/otago070388.html> (05 March 2018).
- University of Queensland. *Sections of a thesis: the abstract*. <http://www.uq.edu.au/student-services/learning/sections-thesis> (05 March 2018).
- University of Western Australia. *Style and format: abstract/summary*. <http://www.postgraduate.uwa.edu.au/students/thesis/style#abstract> (05 March 2018).
- Wang, Jing; Liang, Shao-lan; Ge, Guang-chun. 2008. "Establishment of a medical academic word list". *English for Specific Purposes* 27, 442-458.
- Widdowson, Henry G. 1979. *Explorations in applied linguistics*. Oxford: Oxford University Press.
- Wittgenstein, Ludwig. 1958. *Philosophical investigation*. Oxford: Basil Blackwell.
- World Confederation for Physical Therapy. 2015. *Evidence Based Physiotherapy and Research*. http://www.erwcpt.eu/education/evidence_based_physiotherapy_evidence_and_research (20 Feb. 2018).

- World Confederation for Physical Therapy. 2012. *Promoting research and research careers within physiotherapy in Europe – briefing paper*. General Meeting of the European Region of the WCPT 2012.
- Yardley, Darryl; Gordon, Robert; Freeburn, Ryan; So, Colleen; Beauchamp, David; Landry, Michel D.; Switzer-McIntyre, Sharon; Evans, Cathy; Brooks, Dina. 2008. "Clinical specialists and advanced practitioners in physical therapy: a survey of physical therapists and employers of physical therapists in Ontario, Canada". *Physiotherapy Canada* 60 (3), 224-238).
- Zongker, Doug. "Chicken chicken chicken: chicken chicken". *Annals of Improbable Research* September-October, 16-21.

Appendix

Number of word per abstract in the English abstract:

1-70 from Canada, 71-110 from Australia, 111-135 from New Zealand.

1	642	21	348	41	255	61	149	81	491	101	343	121	553
2	504	22	348	42	252	62	149	82	483	102	320	122	552
3	498	23	347	43	247	63	148	83	480	103	300	123	526
4	479	24	347	44	245	64	148	84	462	104	296	124	522
5	462	25	342	45	192	65	148	85	450	105	286	125	516
6	452	26	338	46	182	66	148	86	449	106	280	126	495
7	394	27	336	47	160	67	145	87	448	107	264	127	473
8	386	28	332	48	150	68	144	88	439	108	254	128	467
9	369	29	330	49	150	69	142	89	439	109	253	129	464
10	366	30	314	50	150	70	136	90	439	110	79	130	416
11	366	31	304	51	150	71	987	91	437	111	901	131	397
12	355	32	296	52	150	72	921	92	427	112	756	132	323
13	355	33	293	53	150	73	804	93	420	113	682	133	282
14	352	34	289	54	150	74	739	94	413	114	669	134	276
15	350	35	285	55	150	75	726	95	410	115	660	135	210
16	350	36	281	56	150	76	714	96	407	116	630		
17	350	37	280	57	150	77	711	97	398	117	628		
18	350	38	278	58	149	78	620	98	394	118	618		
19	348	39	271	59	149	79	550	99	367	119	602		
20	348	40	270	60	149	80	501	100	362	120	555		

Numbers of words per abstract in the German corpus:

1-23 from Switzerland, 24-44 from Austria, 45 from Germany

1	355	16	240	31	351
2	349	17	239	32	332
3	348	18	223	33	324
4	347	19	223	34	312
5	320	20	204	35	301
6	295	21	202	36	278

7	256	22	169	37	271
8	254	23	145	38	256
9	253	24	437	39	250
10	248	25	415	40	219
11	247	26	405	41	216
12	246	27	401	42	212
13	243	28	369	43	204
14	241	29	362	44	134
15	240	30	354	45	340

List of the 50 most frequent words of the corpus (identified through AntConc)

Rank	Freq	Word		Rank	Freq	Word		Rank	Freq	Word
1	2929	the		18	220	an		35	132	these
2	2080	and		19	194	at		36	131	not
3	2053	of		20	193	by		37	124	test
4	1337	to		21	183	be		38	122	two
5	1156	in		22	174	exercise		39	121	during
6	972	a		23	170	from		40	121	used
7	619	with		24	170	p		41	114	health
8	611	for		25	166	their		42	112	patients
9	566	was		26	165	participants		43	112	physiotherapy
10	549	were		27	164	or		44	110	s
11	389	this		28	150	group		45	109	injury
12	366	study		29	148	are		46	108	muscle
13	322	is		30	147	clinical		47	106	strength
14	312	that		31	144	results		48	106	there
15	294	on		32	139	pain		49	103	have
16	288	as		33	137	using		50	102	may
17	237	between		34	134	significant				

Lesson plan unit 1-4 Abstract writing for physiotherapy master students

Unit	Objectives	Procedures	Materials	Notes
1	Students are able to use AntConc in order to identify typical terms or phrases of a specialized corpus.	What do academic writers say...? With the help of guiding questions students learn how to use AntConc.	Handout Laptop with AntConc and the specialized corpus	
2	Students know which elements a physiotherapy master abstract (may) consist(s) of.	Obligatory, core and optional moves are explained. A well-written example and one lacking various elements are presented. Finally, students should re-write the example in need of improvement and then compare with partners.	Handout	
3	Students know linking devices and are able to apply them in abstracts. Students have available a multitude of verbs in past and present tense to describe their research.	The concept of conjunctive adverbs is introduced. Students first use the linking devices to structure the Chicken chicken text (Zongker 2006: 16). Subsequently they complete the gap-filling task based on the corpus analysis results of the linking devices. Finally, students complete a gap-filling task related to verbs utilized to explain one's study and, subsequently, should build example sentences with those verbs.	Handout	
4	Students are able to write an abstract.	Each student had to read a different physiotherapy study in preparation of this class. In class, students are prompted to write an abstract of the	Students need to bring a copy of their assigned study, a laptop with	In-class writing enables the usage of the

		respective study with the help of AntConc. The second half of the unit is used for peer feedback and corrections.	AntConc and the specialized corpus.	'teacher as a resource'.
--	--	---	-------------------------------------	--------------------------

Handout for Unit 1-4 – Abstract writing for physiotherapy master students

Unit 1

What do academic writers say...? (Based on a suggestion from Ädel 2010: 43)

What do academic writer say when they...?

- (a) state the aim of the study,
- (b) want to express uncertainty,
- (c) explain what has occurred throughout the study,
- (d) start their conclusion section?

Unit 2

Move analysis

The following overview was provided by Hyland (2000: 67). Though produced with regards to research article abstracts, its outcome is comparable to master thesis abstracts.

Move	Function
Introduction	Establishes context of the paper and motivates the research or discussion.
Purpose	Indicates purpose, thesis or hypothesis, outlines the intention behind the paper.
Method	Provides information on design, procedures, assumptions, approach, data, etc.
Product	States main findings or results, the argument, or what was accomplished
Conclusion	Interprets or extends results beyond scope of paper, draws inferences, points to applications or wider implications.

Well written abstract (no. 48):

Unilateral knee osteoarthritis (OA) often progresses to bilateral disease, yet studies focused on joint function during walking often test the symptomatic knee only. The thesis objectives were: i) identify whether co-contraction between the contra-lateral limb of an OA group (CONTRA) and asymptomatic controls (ASYMP) are different, ii) identify whether knee joint biomechanics were different between groups, and iii) quantify inter-limb co-contraction differences in a healthy control group.

Muscle activation was recorded in 20 individuals with moderate OA and 20 asymptomatic individuals for the gastrocnemii, hamstrings and quadriceps after 6 minutes of

walking. Co-contraction indices were calculated for loading response, midstance and terminal stance, as well as gait biomechanical variables in the sagittal and frontal planes. Co-contraction was not different in between groups, however gait biomechanics were. Results suggest from a co-contraction perspective, the contra-lateral knee in individuals with unilateral symptomatic moderate knee OA is behaving similar to a healthy limb.

Abstract in need of improvement (no. 55):

A single-blinded, randomized controlled study was conducted, enrolling thirty-six healthy adults who had not recently participated in forearm strengthening or occupations/hobbies involving repeated forceful wrist motion. A fatiguing wrist extension exercise protocol was completed to induce delayed onset muscle soreness (DOMS). Group one received no treatment. Group two received acupuncture (ACU). Group three received sham acupuncture (S-ACU) with non-penetrating needles. Outcomes included grip strength, visual analogue scale for pain (VAS) and pain pressure threshold (PPT). Skin conductance (SC), skin temperature (ST) and perfusion (BF) were recorded to quantify the sympathetic nervous system response to treatment. The ACU group showed a significant increase in ipsilateral BF and in bilateral SC. The ACU group showed a significant decrease in distal ST bilaterally. The ACU and S-ACU groups showed decreased ipsilateral proximal ST. The exercise protocol did not consistently produce DOMS. The sample size of 36 may not have yielded sufficient statistical power.

Unit 3

Conjunctive Adverbs

Conjunctive adverbs play an important role in academic writing as they improve the coherence of written texts. Therefore, it is important for aspiring academics to master this group of words.

Hostmeyer (2013: 99) provides the following summary:

Type of Relationship	Conjunctive Adverbs
Addition	Besides, finally, furthermore, moreover
Comparison	Also, likewise, similarly
Contrast	Even though, however, instead, nevertheless, otherwise, though
Cause and Effect	Therefore, hence, consequently, subsequently
Sequence	Afterward, eventually, meanwhile

Chicken Chicken Chicken: Chicken Chicken

Doug Zongker

Department of Computer Science and Engineering
University of Washington

Chicken chicken chicken chicken chicken chicken chicken
chicken chicken chicken chicken chicken chicken chicken
chicken chicken chicken. Chicken chicken chicken
chicken chicken chicken chicken chicken. Chicken,
chicken chicken chicken, chicken chicken, chicken
chicken chicken "chicken chicken" chicken "chicken
chicken" chicken. Chicken, chicken chicken chicken
chicken chicken chicken (chicken chicken) chicken
chicken chicken chicken chicken, chicken chicken chicken
chicken chicken chicken chicken chicken chicken chicken
chicken chicken chicken. Chicken chicken chicken
chicken chicken chicken chicken chicken chicken, chicken
chicken chicken, chicken chicken chicken chicken chicken
chicken chicken.

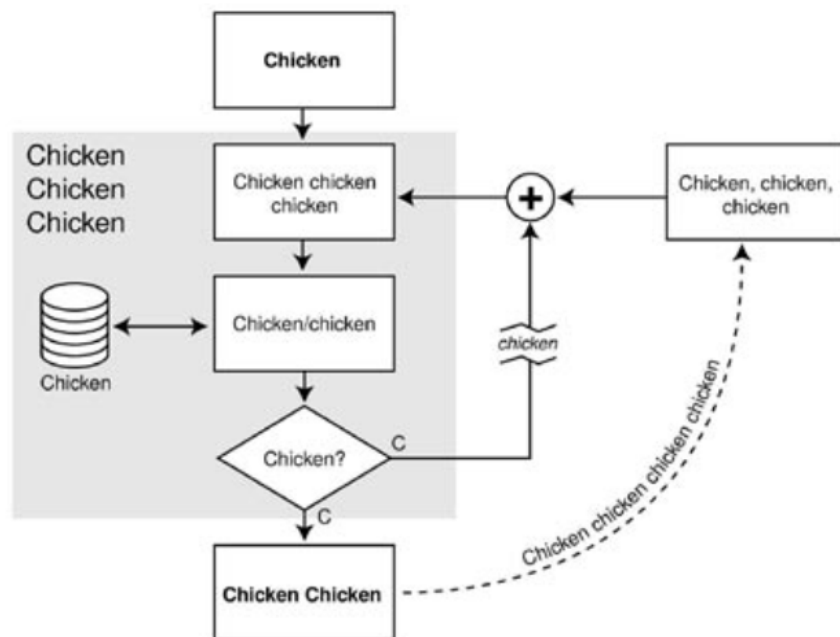
1. Chicken

Chicken chicken, chicken, chicken chicken chicken
chicken, chicken chicken chicken chicken chicken

chicken.¹ Chicken chicken chicken chicken, chicken
chicken chicken: chicken chicken chicken chicken chicken
chicken chicken chicken chicken. (chicken chicken
chicken chicken chicken chicken, chicken chicken chicken
chicken chicken chicken chicken!)

Chicken, chicken-chicken chicken chicken -- chicken
chicken, chicken chicken 95% chicken chicken-chicken
chicken, chicken chicken chicken chicken -- chicken
chicken chicken chicken. Chicken, chicken chicken,
chicken chicken chicken 1987. Chicken chicken chicken
chicken chicken chicken-chicken-chicken chicken chicken
chicken chicken chicken chicken, chicken chicken
chicken chicken chicken chicken chicken. Chicken
chicken, chicken chicken chicken chicken chicken chicken
chicken (chicken chicken chicken chicken chicken,
chicken chicken chicken chicken chicken chicken chicken
chicken).

Chicken chicken chicken chicken chicken chicken,



Chicken 1. Chicken chicken chicken. Chicken chicken, chicken chicken (chicken-chicken chicken)
chicken chicken-chicken.

Fill in the gap. The following conjunctive adverbs need to be filled into the gaps in the abstracts: consequently, finally, furthermore, however (3), similarly, subsequently, therefore, though.

Abstract 14. This internal process, _____, is likely in turn influenced somewhat by societal ideals, again outlining the profound influence of society. _____ the answer to the question 'What factors determine whether an individual will participate or not participate in physical activity and sport following a SCI?' appears to be complex, involving both internal and external factors.

Abstract 26. High within-session reliability was calculated for both scapular position tests and four of the five scapular strength test positions. Between-session reliability data, _____, was more varied. _____, the Modified DeVita's static scapular position test, one scapular retraction and two scapular protraction strength test positions were chosen for the comparative study.

Abstract 72. In conclusion, this thesis provides new and robust insight about how balance, as measured by the BBS, relates to the ability to live in the community. _____, it provides a perspective on whether a measured change in BBS is meaningful or not. _____, the research provides normative data on the BBS, to guide its appropriate implementation and interpretation of scores when applied to the elderly.

Abstract 77. Mature age students performed better than their younger counterparts in several first year units, _____ this was reversed later in course with school leavers outperforming older students in some third year units and the final year Complex Cases unit.

Abstract 88. Medical guidelines encourage women to exercise during pregnancy but not to overheat. _____ many pregnant women choose to exercise in water. _____, the temperature of the water may affect body temperature response to exercise.

Abstract 131. To date, there have been no studies to demonstrate this effect in the field of cardiorespiratory physiotherapy. _____, there has been scant literature to guide the design and development of a physiotherapy HFS programme in a hospital setting.

Verbs in context

The following verbs have to be filled in correctly in the abstracts' gaps. Subsequently, try to come up with one sentence per verb yourself which would be applicable in a physiotherapy abstract.

(analyzed, conducted (2), compared, demonstrated, determine, investigate, support)

Abstract no. 5

Lastly, preliminary findings of the clinical trial (based on a case study) _____ the effectiveness of mCIMT to improve UE function acutely post-stroke. Post-treatment, the subject receiving mCIMT _____ clinically significant improvements in UE function and activity, and maintained these changes at the 6-month follow-up.

Abstract no. 70

Data collection and analysis was _____ concurrently following the grounded theory method of constant comparative analysis. Two focus groups and eight in-depth interviews were _____ with eleven parents over a ten month period. Data was _____ using systematic grounded theory methods including coding, memoing, sorting and diagramming. A conceptual model was developed to explain parents' experiences. The final conceptual model was _____ and contrasted with relevant literature, enabling identification of how the study findings contributed to current understandings of health care service delivery for children with cerebral palsy and their families.

Abstract no. 118

Aims: The aims of this study were to _____ the incidence and cause of musculoskeletal injury in a New Zealand (NZ) military population over a 12 month period, and to _____ the ability of the FMS™ to predict musculoskeletal injury within this selected cohort of NZ military personnel.

References:

- Hostmeyer, Phyllis. 2013. *Tools students need to be skillful writers building better sentences*. Thousand Oaks: Corwin.
- Zongker, Doug. "Chicken chicken chicken: chicken chicken". *Annals of Improbable Research* September-October, 16-21.

Comments about the handout:

Unit 1

What do academic writers say...? (Based on a suggestion from Ädel 2010: 43)

The teacher tries to elicit “linguistic features to locates such actions” but has already prepared well-functioning search words in order to support the students (Ädel 2010: 43).

For (a) aim, objective, purpose.

For (b) hedges (may, might, could), it has been (argued, agreed, suggested), possibly.

For (c) *ed

For (d) concl*, Conclusion: (click case)

Unit 2

Critique of the well written abstract: Although the abstract is rather short (150 words) the reader is provided with all necessary information to understand the gist of the study. The abstract includes all obligatory and the core move and, additionally, establishes the research gap.

Critique of the abstract in need of improvement: the abstract has no introduction and no purpose section, and the conclusion is insufficient. It is unclear till the end what the consequence of a production of DOMS would be.

Unit 3

Conjunctive adverbs

Abstract no. 14 (however, consequently)

Abstract no. 26 (however, subsequently)

Abstract no. 72 (furthermore, finally)

Abstract no. 77 (though)

Abstract no. 88 (therefore, however)

Abstract no. 131 (similarly)

Verbs in context

Abstract no. 5 (support, demonstrated)

Abstract no. 70 (conducted, conducted, analysed, compared)

Abstract no. 118 (determine, investigate)