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Writing Research and Specialized Communication Studies

Abstract

Many research strands have a focal interest in writing as an object. Still, many representatives of these strands are not aware of the others' existence, let alone their common ground. This paper shall serve to unveil some of the overlaps between two of the afore-mentioned research strands–or rather disciplines: Writing Research and Specialized Communication Studies. The authors outline some of the most prominent aspects concerning the evolution, the paradigms, the principles of modelling and main research lines of the disciplines, respectively, and compare them with each other. While Writing Research has been an acknowledged discipline for decades, this does not apply for Specialized Communication Studies: with its roots in LSP Studies and Translation Studies, from which it has evolved slowly but steadily, it has meanwhile become an own sphere of research, situated within the wider scope of Applied Linguistics. Today, one can claim that there is indeed the need for one independent discipline dealing with specialized communication in all its manifestations. On the basis of the afore-mentioned contrasting juxtaposition, the authors discuss what the common ground of Writing Research and Specialized Communication Studies is, where the disciplines differ, which approaches–if so–combine the two disciplines and how they may benefit from each other.

Keywords

Writing Research; Specialized Communication Studies; LSP Studies; Specialized Translation Studies; Technical Writing, text production

1. Two disciplines with a shared object

Writing is the common object of study of several disciplines. Among these, two appear to be of central importance. The first one, Writing Research, investigates both the process of producing a text and the text as product of this process, including but not limited to e.g. sociocultural and ideological aspects, writing competence etc. The other one, Specialized Communication Studies, researches communication in professional settings including written and oral communication between subject matter experts and laypeople as well as among experts, including but not either limited to the competence of specialized document production or translation competence. Neither of the two disciplines completely comprises the other. Rather, they view their shared object from different angles. In addition, they do not seem to be aware of each other to any considerable extent.

With the present article, our aim is to contribute towards bridging the gap between the disciplines. We therefore sketch the two disciplines but do not attempt at giving a full account of their history and present status. Rather, we review them in search of patches of common ground or links to the other discipline.

2. Writing Research

The discipline called *Writing Research* dates back approximately half a century. It has its roots primarily in Applied Linguistics. At the time when the interest in investigating writing emerged,

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Applied Linguistics was more or less identical with the intersection of Linguistics and Pedagogy. The realm of Applied Linguistics has since become much wider, first outside the English-speaking scholarly communities and somewhat more recently also within them (Knapp 2004/2011: xxi). In this vein, Writing Research received its initial impulse from a pedagogical interest and chose as its first objects of study essays and other assignments written by schoolchildren and university students (see Antos 2000: 105-108).

2.1. Text, writing and text production

As in other fields of Applied Linguistics the development of Writing Research is characterized by a slowly but steadily widening perspective on its object. While in the beginning, the focus was on texts as the products of writing, it later turned to the writing itself (Antos 2000: 105) and encompasses at present both product and process (see e.g. Knorr et al. 2014).

Apart from this, the discipline also widened its perspective with a view to another aspect of its object. In several of the common languages of publication, two terms are used in parallel: *writing* and *text production*. Some scholars take them as synonyms, while others distinguish them. *Writing* is the earlier term, used since the onset of this research interest, while *text production* was introduced in the 1980s (among others by de Beaugrande 1984). Summing up in our words the discussion on the two terms and the research interests connected with them (Antos 2000: 105-106), *writing* is the narrower term which designates mainly the activity of producing written text, including planning, writing proper and reviewing. *Text production* is wider, comprising beyond writing proper orality and mediality. With orality, many different situations of bringing about text are included, such as orally preparing a text to be written, drafting in writing a text to be spoken and others. With mediality, writing is embedded in a more complex process of creating texts for and in different traditional and digital media, with or without the use of software tools, etc.

Along with the distinction of a narrower and a wider object of study, it is not uncommon to speak of two separate research strands or even disciplines, Writing Research and Text Production Research. In his literature review, Antos (2000: 105-106) collects arguments for keeping them apart as distinct disciplines. In our view, scholarly disciplines are not contained in watertight compartments. Rather, a discipline can include another, more specialized, strand, or disciplines can overlap or view a shared object from different vantage points. In this sense, we take *text production* as a hyperonym under which *writing* can be subsumed, and we shall later discuss where the communicative acts of specialized communication fit in this picture (see section 4).[1]

2.2. Paradigms

According to Antos (2000: 105), the research in writing and text production developed (up to the time of his writing) in three major paradigms, viz. a didactic, a cognitive and a sociocognitive one. Our view of a widening perspective is in line with what Antos says about the transitions from one paradigm to the next.

Feilke and Augst (1989) view Writing Research in terms of one of the major paradigm shifts in linguistics, the cognitive turn. They define change processes as changes in knowledge within the cognitive system. The levels of the cognitive system and of communicative acting are interrelated with one another. Three types of knowledge are considered: conceptual knowledge (general conventions and world knowledge, i.e. experience-based knowledge), realization knowledge (the linguistic realization of conceptual knowledge) and routine knowledge (writing routine, planning processes for formulating and structuring) (Feilke/Augst 1989: 302; see Molitor-Lübbert 2008: 1011-1012). Feilke and Augst thus take into consideration external factors that influence the writer,

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1   Text production: we here follow Dam-Jensen and Heine (2013: 90) who investigate the common ground between Writing Research and Translation Process Research, defining *writing* and *translating* as hyponyms of *text production*.

whereby they adopt a pragmatic approach. Accordingly, Feilke (2000: 77) sees the emergence of Writing Research as part of the pragmatic turn in linguistics.

2.3. Early models of writing

Quite early in the development of Writing Research, scholars began to devise models of the writing process. A preparatory step towards model-building is dividing up the writing process into writing proper and the other activities related to writing. Such a concept is contained in the tripartition *planning*, *writing*, *reviewing*. Describing the process in three phases of this kind is very common, although the authors use different labels. For example, De Beaugrande distinguishes the sub-processes of ideation, linearization and expression (de Beaugrande 1984; see Molitor-Lübbert 2008: 1009-1010).

The three-phase concept may derive from one of the first writing models, to which modern Writing Research owes very much. This is the classical writing process model of Hayes and Flower (1980/2017). Hayes and Flower describe the writing process as being embedded in a *task environment,* which is defined through the *writing assignment* (topic, audience, motivating cues) and the *text produced so far,* on which the text producer can fall back during the writing process. Other influencing factors are the writer's *long term memory* concerning relevant topics, the intended audience and stored writing plans. The writing process itself is seen as a process of problem-solving, consisting of the three steps of *planning* (generating, organizing, goal-setting), *translating* (transforming information into language) and *reviewing* (reading and editing), the three of which are considered to succeed one another (Hayes/Flower 1980/2017; see Göpferich 1998: 259-264; Heine 2010: 115-116), while a more flexible understanding is that "different writing activities *predominate* during different time periods in the process" (Perrin/Wildi 2010: 378, our emphasis).

In 1996, a revised version of the 1980 model was published by Hayes. He then divided the task environment into the social and the physical environment, where the social environment comprises the audience and collaborators and the physical environment comprises the text so far and the composing medium. Greater importance was now given to the writing medium, and the *individual* was mentioned explicitly as a separate factor. A central role for the individual is played by the *working memory,* and motivational and affective influences and cognitive processes are now explicitly involved (Hayes 1996; see Göpferich 1998: 264-270; Heine 2010: 116-120). In 2012, Hayes published yet another writing process model, which featured three levels: a control level, a process level and a resource level (Hayes 2012). The model was once again revised and modified in 2014 by Leijten, Van Waes, Schriver, and Hayes (2014).

Another writing model labelled as 'classical' by Heine (2010: 114) is Ludwig's 1983 model, which can be considered as an extension of Hayes/Flower (1980/2017). Ludwig describes the structure of the writing process and considers five different aspects: 1. *motivationale Basis* (motivational basis), 2. *konzeptionelle Prozesse* (conceptual processes), 3. *innersprachliche Prozesse* (intralinguistic processes), 4. *motorische Prozesse* (motoric processes), 5. *redigierende Aktivitäten* (revision activities) (Ludwig 1983: 49-69; our translations).

Besides the tripartition of the writing process, it is typical for the linguistically based writing models to consider the writing process as a sequence of five successive steps. According to this viewpoint, during a writing task, decisions are made in the following order: first pragmatic, then semantic, then syntactic and finally lexical decisions, which are then ultimately realized by means of strings of letters (Molitor-Lübbert 2008: 1005). The approach of problem-solving (of which Hayes' and Flower's approach is an example) enhances the interactivity of these processes and the formulation of goals and problems together with a corresponding problem-solving strategy to fit the goals and the analysis and assessment of problem-solving paths as a reaction to occurring problems (Molitor-Lübbert 2008: 1005).

Other models particularly deal with writing competence and/or writing competence acquisition (cf. e.g. Bereiter 1980/2017; de Beaugrande 1984). According to Bereiter (1980/2017), the acquisition of writing competence can be divided into different steps. The first step, *associative writing*, is based on processual competencies, such as a fluent production of written text and the targeted retrieval of ideas and concepts, although societal writing conventions need not be complied with. The acquisition of writing conventions leads to a stage called *performative writing*, which stands for a certain completion of writing competence on a mechanical level. With the aptitude of empathizing with others, the ability of *communicative writing* arises. If a writer is capable of assessing texts competently under logical and literary aspects, they feature what is known as the competence of *unified writing,* and if they are capable of self-reflection, they feature the competence of *epistemic writing* (de Beaugrande 1984; see Molitor-Lübbert 2008: 1010).

2.4. Specific research strands

Since the 1990s, Writing Process Research has primarily dealt with text production as a linguistic, communicative and socio-cultural action in the context of discourse communities (Antos 2000: 105; Heine 2010: 105). The research interest in students' writing developed into a separate strand, the study of academic writing (see Russell 1990/2001; Peck MacDonald 2010). As a result of this research, very many universities set up writing centres and writing tutoring programmes for students and staff. The didactic paradigm adopted a prescriptive approach (Antos 2000: 107), a crucial feature which we shall find in relevant strands of Specialized Communication Studies as well (see section 3). In several other strands, the spheres of activity considered moved away from the initial focus on writing at school and university. We shall briefly sketch four such directions in which connections to Specialized Communication Studies become visible.

The first of these strands is one of those that gave rise to the new term *text production* being preferred over the simple *writing*. This is the direction studying writing in electronic media and especially in hypertext. Research into these questions was undertaken by many scholars in the 1990s, when the World Wide Web made hypertext formats common. This development, like others, occurred in pace with an interest in hypertext in Applied and General Linguistics (e.g. Rothkegel 1997; Storrer 1997). One of the main features of hypertexts lies in the fact that the path a reader follows need not coincide with the path along which the parts of the text were written, or, in other words, the fact that the writer cannot know which parts of the overall text will be read by a specific reader nor in which order they will be read (Schubert 2007: 6 n. 7). While this may hold true for some types of traditional printed texts as well (such as reference works), it is inherent to any hyperlinked set of pages. This is a characteristic which is encountered in many documents from specialized communication, too, for instance in content management.

The second strand is the research into writing in specific domains, in professional settings or for particular audiences. *Writing at work* is a common heading (Anderson 1985; van der Geest 1996; Pogner 1999; Jakobs 2005). A seminal work is Gunnarsson's (1992). With a view to specialized communication, obviously the research on writing in professional settings is relevant. If the communicative situation or setting is to be considered, a pragmatic approach is ready at hand which can take account of external factors influencing the writer or the writing. However, speaking of the research prior to her own, van der Geest (1996: 7) diagnoses:

> It is important to note that factors external to the writer, such as the writing situation in which the text production took place, were only given attention in the form of the internal representation the writer had of these factors. This is logical and sound for an account of the cognition involved in writing, but for those who study writing processes in order to design and improve the writing environment and the professional practices taking place in it, this approach obscures the view on many external factors that influence the writing process.

This observation will become crucial, when we look at specialized communication in section 3.

The third strand to be discussed here is research into collaborative writing (Lehnen 2000). Again, for our objective the investigations concerning professional settings or specialized documents are most important. Collaborative writing in a professional team is a very common situation in specialized communication (e.g., articles in Lay/Karis (eds.) 1991; Risku 2003). This research therefore is directly relevant to Specialized Communication Studies – but van der Geest's caveat should not be forgotten. While most of the early Writing Research considered a solitary writer, collaborative writing involves a group or team. Accordingly, in these cases a sociolinguistic approach is suitable (Gunnarsson 1997).

The fourth strand is writing in a foreign language. As the need to do so is especially strong in professional settings, including technical documentation and specialized translation, there are considerable overlaps with Specialized Communication Studies (Rothkegel 2008).

3. Specialized Communication Studies

Specialized Communication Studies is a discipline of similarly fluctuating names, objects and research interests. Its object, specialized communication, is, to put it simply, the activity of communicating about topics from specialities. The discipline may not be confused with *Technical* Communication Studies. We are well aware that the English adjective "technical" can be understood to be ambiguous. It can both be used to denote concepts and ideas related to engineering and technology and, in a broader sense, to denote anything related to any speciality. For our contribution, we would like the adjective "technical" to be understood in its narrower sense (engineering-/technology-related) with the broader understanding to be labelled with the adjective "specialized" (see Schubert 2012: 111). Thus, for our contribution, we use the term *Specialized Communication Studies*.

As Schubert (2007: 210, 2012: 111) states, specialized communication is defined by the following fundamental features: it is made up of oral or written communicative acts, both monolingual or multilingual. These acts convey specialized content and are mostly of an informational kind. They are part of the speaker's or writer's professional activity and make use of optimized means of communication. Accordingly, Specialized Communication Studies as a discipline is here defined as dealing with all fields of specialized communication as such and the related professional fields; i.e. Technical Writing, Technical Translation, the management of documentation, as well as related and derived fields. Its object is the communication about topics from specialities. Specialized communication (or – as mostly German-speaking scholars are cited here – *Fachkommunikation* (see e.g. Kalverkämper 1996: 36-37; Schubert 2007: 141)) may be defined either with reference to the sphere of activities in which it is used (as by Hoffmann 1993: 614) or in terms of the content of the texts or utterances (as by Schubert 2007: 210). Specialized communication takes place among or towards lay or expert actors.

As the discipline deals with different branches and fields of Applied Linguistics (in the present, broader sense) which have hitherto been investigated separately, accordingly, the scholarly discipline mainly has its origins in two separate disciplines, viz. the Study of Languages for Special Purposes (LSP Studies) and (Specialized) Translation Studies. These have come about at different points in time and have developed for several decades without much contact with each other. The approach to consider the diverse fields to belong to one single discipline – the discipline of Specialized Communication Studies – is a fairly new one (cf. e.g. Göpferich 1996: 211; Roelcke 1999/2010: 16; Schmitt 1999/2006: 33; Schubert 2007: 139). And the idea is not yet commonplace. Nevertheless, we consider it worthwhile to regard it as such as this approach establishes promising opportunities for the scientific discourse (see Schubert 2009, 2016; Heidrich 2016).

In the following sections (3.1 and 3.2), we briefly outline the development and conjunction of both LSP Studies and Translation Studies to give an idea of the evolution of Specialized Communication Studies.

3.1. LSP Studies

The Study of Languages for Special Purposes has a long prescientific history that reaches back to antiquity. The early authors were mainly interested in words, especially in the terms of trades and crafts. They collected such terms often from vernacular languages and dialects, mainly for documentary purposes. The focus on the word level continued until the early Modern Age (von Hahn 1983: 7-12; Picht 1996: 28-29). Out of this term-collecting interest, there arose a scholarly discipline with a research focus on languages for special purposes. Today's researchers give different dates for the point in time at which this transition occurred, placing it at some point between the middle of the 19th (e.g. Arntz/Picht/Schmitz 2014: 3) and the middle of the 20th century (e.g. Roelcke 1999/2010: 14). In the course of the decades, the discipline has slowly but steadily widened its perspective. Continuing the collectors' activities from the prescientific period, the early LSP researchers focused on the word. It is in this framework that Terminology Studies came into being in the 1930s, with Eugen Wüster's dissertation as one of its most seminal founding works (Wüster 1931/1966). Terminology Studies as conceived by Wüster thoroughly systematizes the until then eclectic interest in terms and introduces a number of fundamental concepts for the analysis of specialized vocabulary and its functioning in the language system and in texts. As such, it can be seen as a sub-branch of LSP Studies. It is distinguished from this discipline, however, by an orientation towards application (viz. terminography and terminology work) as well as by a translingual approach that was absent from the general LSP Studies of those years.

LSP Studies later widened their perspective to include the level of the language system, analysing the syntactic properties of specialized language. In European languages, there is hardly any difference between the grammar of the general language and that of specialized languages. However, at the level of language use, significant differences can be shown to exist, such as the frequency of use of various grammatical forms such as nominalization, active and passive verb forms, etc. (see Beneš 1971; Hoffmann 1976/1985; Beier 1979).

Advancing in a series of stages of an ever broadening perspective, LSP Studies followed the development of General Linguistics (Kalverkämper 1996: 36-37). When LSP Studies entered the text-linguistic stage, the topics covered and the methods applied did not show much difference from what was at issue in General Linguistics in those years. In hindsight, one can well think of LSP-specific questions that could have been addressed at the text-linguistic level, such as for instance a linguistic inquiry into the practice of information structuring which spread in the professional reality of technical writing at this time, but such research did not begin until in the next stage. This may be taken as an indication of a less direct contact than in later years between this supposedly applied discipline and the professional fields in which its application took place in reality.

The last stage so far in the development of LSP Studies is the cognitive-communicative stage, which is still ongoing. Whereas the discipline previously mainly looked at the linguistic utterance, the focus was now on the utterance in its situational context and the utterance as part of a wider interaction between persons. And when people are taken into consideration as actors in a constellation of persons, both sociolinguistic and, more generally, pragmatic factors become relevant for the analysis. Along with these extralinguistic factors, the research focus shifted from language only to linguistic, as well as all the other means of communication, such as multimedia and multichannel forms of communication, used in present-day professional and entertainment spheres (Schubert 2007: 152-160).[2]

As already stated above, LSP Studies is, to our understanding, the monolingual perspective of Specialized Communication Studies, as opposed to Specialized Translation Studies as the bilingual perspective. The next section briefly summarizes the evolution of Specialized Translation Studies as a further strand of the integrated discipline.

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2   Development of LSP Studies: see e.g. Fluck (1976/1996), Roelcke (1999/2010).

3.2. Specialized Translation Studies

The other discipline that is, among several other objects, concerned with specialized communication is Translation Studies. For our present contribution, it is important to note that, of course, Translation Studies is not only concerned with specialized texts. It falls into several strands, of which, in the context of this article, only those investigating specialized translation and specialized interpreting are relevant. In the following, when we talk about specialized translation or Specialized Translation Studies, related to our elaborations on *technical communication* in section 3, we are talking about translation in and about some speciality (as opposed to *technical translation* relating to engineering/technology) (cf. e.g. Byrne 2006: 3).

3.2.1. Paradigms

Translating and interpreting were the object of practitioners' reflection in a prescientific period which extends as far back as that of LSP Studies. From antiquity onwards, learned men have aired their opinion on the art and the problems of translation (see Luther 1530; Schleiermacher 1813/1816; von Humboldt 1816: III-XXXVII). These early statements mainly discuss or give advice on the translation of literary, philosophical and religious texts. It appears to be a consensus[3] among scholars today that Translation Studies as a discipline entered the scientific period when a linguistic research interest arose in addition to the theological and literary considerations of the past. This happened in the middle of the 20th century, with three initial impetuses triggering this transition. These were a new challenge, new methods and a new object (Schubert 2009: 18). The new challenge was the beginning of research and development in machine translation, starting in the late 1940s. The new methods were those of Structural Linguistics and the new object was specialized texts. The latter came into focus because machine translation worked on these text types right from its beginning (Gerzymisch-Arbogast 2002: 18; Schubert 2011: 749). Translation Studies developed along much the same lines as LSP Studies and as Linguistics at large. But by contrast to LSP Studies, there was no terminological stage, since the beginnings of Terminology Studies predate Translation Studies and since, as mentioned above, Terminology Studies was already concerned with the multilingual perspective. Translation Studies passed the stages of the language system and text linguistics and is today in the cognitive-communicative stage, including, but not limited to sociolinguistic aspects (see e.g. Horn-Helf 1999: 43; Chesterman 2004; Schubert 2007: 193). During these different stages of Translation Studies, several perceptions dominated the field. While up until the 1960s, translation was exclusively regarded as the act of creating equivalence between the source text and the target text with respect to content, since the 1980s translation invariance has become less and less important for the benefit of the *skopos* of a translation (Reiß/Vermeer 1984; see Horn-Helf 1999: 43). While in the 1960s and 1970s different viewpoints on equivalence were still considered to be the most important focus of Translation Studies (see Nida 1964; Koller 1979/2011), later on translation strategies gained more importance (see House 1977; Nord 1989). With Holz-Mänttäri's Theory of Translatorial Action (1984), the translator is probably for the first time regarded as a fully professional and individual actor within the translation process. Furthermore, Holz-Mänttäri regards the translation process not as an independent act, but as being embedded in a realistic working situation with several actors (Holz-Mänttäri 1984). The equivalence between the source text and the target text was no longer to be the focus criterion for assessment, but rather, the development of a translation and its embedding in communicative relations were considered and influences were defined (Holz-Mänttäri 1984; Stolze 1994/2008: 187-188; Kinnunen 2013: 71). The translator is now regarded as a "designer" of a "message", i.e. the target text, and as part of a cooperative network, where communication and cooperation between the actors are crucial for the success of a translation process (Holz-Mänttäri

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3   Beginning of Translation Studies: many, though not all, researchers agree on the mid-20th century being the starting date of Translation Studies. Other proposed dates are 1813, the year of Schleiermacher's academy lecture on translating (Schleiermacher 1813/1816; e.g. Wilhelm 2004: 768; Černý 2011: 162), or different dates in the 1970s and 1980s (e.g. Bassnett 1980/2002: 1; Kaindl 1997: 221).

1984: 42, 118-119; see Prunč 2007/2012: 167-172.; Van Vaerenbergh 2012; Kinnunen 2013). As Koller already stated in the late 1970s, the central task of Translation Studies as an empirical field of study is to analyse, describe, systematise and to problematize the solutions that translators offer in their translations (Koller 1979/2011: 18).

3.2.2. Early models of translation

Already in the 1960s, researchers such as Nida (1964) or Revzin and Rozencvejg (1964) describe the translation process as a succession of different stages. Nida takes the *transfer mechanism* as the central notion of his model. The translator, according to the model, does not only have to find *corresponding symbols* in the target language but primarily has to *organize* these symbols according to target-language and target-culture conventions. Consequently, the translation process is described as a message being *decoded* by a receptor, then *transferred* by the translator and again *encoded* by the translator in the target language (Nida 1964: 146). Nida above that also describes the *technical* (analysis of the concerned languages, thorough reception of the source text, determination of adequate equivalents in the target language) and *organizational procedures* (reevaluation of the draft, alignment with already existing translations, assessment of the communicative impact on potential target text recipients) which together form the basis of translating (Nida 1964: 241, 246-247). Along with Nida's model, different other researchers describe the translation process as a succession of separate steps: Revzin and Rozencvejg describe it as comprising two communicative acts (from sender to translator, from translator to recipient). They remarkably include the communication partners' *knowledge* into their considerations (Revzin/Rozencvejg 1964; see Schubert 2007: 225-226; Heine/Schubert 2013: 107).[4]

In modern research, translation is regarded as a decision-making process and as a sequence of communicative actions (see Krings 2005). The research subject of (Specialized) Translation Studies is the process as well as the product of translation(s), i.e. the description of translated texts and of the process of translating. Studies are being carried out on which types of translations exist and which decision-making strategies the translator uses in order to produce these translations under different circumstances. For instance, the research project PETRA in Spain analyses human behaviour during the translation task based on cognitive conclusions (Muñoz Martín 2009; PETRA 2011). The PACTE group from Barcelona focusses on translational competence and its acquisition (Hurtado Albir 2017) and the Centre for Research and Innovation in Translation and Translation Technology (CRITT) in Copenhagen aims at building up "new knowledge of translation and communication processes and provide a basis for technological innovation in this field" (Copenhagen Business School 2017). Besides, another task of Translation Studies is to identify different working strategies and decision-making strategies and the effects of different translation types on the audience and the respective culture (Chesterman 2004: 99).

Definitions of translating and interpreting are subject to much scholarly discussion. Avoiding the technicalities of this debate, one could put it in plain words by stating that it is the rendering of the content in a given source text into a written (translation) or oral (interpretation) target text in another language. At present, scholars are debating, among other issues, the question of what exactly should count as 'another language' in this sense. The question is whether, along with obvious cases such as the translation of a piece of literature or a technical documentation from German into English, also for instance the transformation of a Wikipedia article from ordinary into simplified English should be labelled translation. The issue of intralingual translation into simplified forms of natural language is increasingly being paid attention to, since, in part due to legal requirements, purposefully designed forms of natural languages are used for accessible information. These are, for instance, simplified, plain and easy-to-read languages. From a theoretical point of view (as well as for practical benefits), it is worthwhile considering these cases

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4 Dyadic translation process: see e.g. Kade (1968).

together with the controlled languages of technical documentation and even planned languages (Schubert/Heidrich 2017; Heidrich/Schubert 2017; Heidrich 2019).

Specialized Translation Studies[5] as the branch of Translation Studies we focus on here has derived from and draws its methodology from Translation Studies. Specialized Translation Studies as well as Specialized Translation Process Research as research strands of their own focus on similar aspects as Translation Studies. The researchers aim at modelling the specialized translation process while comprising the translator's cognition, controlling influences on the process and the product, the situatedness of the translator and the IT environment (in a broader sense) in their research discourse (recent elaborations on specialized translation: e.g. Heidrich 2016; Krüger 2016). Translation Process Research aims at tracing translators' decisions, hesitations, self-revisions, etc. Since these essentially are not directly observable, the discipline uses psychological methods to address the mental activity, and also observes the external process (with key-logging, eye-tracking and similar methods and techniques) to draw conclusions concerning the mental steps on the basis of observable acts.

3.3. Specialized Communication Studies as a discipline

As the remark in section 3.2 on intralingual translation suggests, translation need not always be a transfer between two completely different languages. And even if these cases are excluded from a definition of translation, there are, in all forms of translation, frequently situations in which the translators have to write a piece of text on their own, without a source text to work from. This need occurs for example in localization, a subfield of specialized translation, where the documentation of products or services is adapted to a new target market, country or culture, often along with an adaptation of the product itself. Similarly, specialized communication, for example in technical documentation, is often but by no means always a monolingual activity. Technical writers as one specific professional group of specialized communicators who create technical documents[6] work from sources such as development documentation that refers to the structure and functions of an engine, a software system or some other technical product. These source documents may be in a different language (or in different languages) than the target document.

Just as the gap between the professional fields of technical communicators and specialized translators is narrowing, it has been observed, roughly since the beginning of the present century, that LSP Studies and the specialized-translation strand of Translation Studies are merging more and more (cf. e.g. Schubert 2007; Heidrich 2016). The emerging discipline of Specialized Communication Studies has its own distinctive research object – specialized texts and documents as well as the related communicative acts with the four research dimensions of specialized content, linguistic expression, technical medium and working processes (Schubert 2007: 348). As the existence of a distinctive discipline highly depends on the stage of the scientific reflexion on its object (Schubert 2007: 347), the thorough consideration of the afore-mentioned within the community is another indication for an independent discipline. Specialized Communication Studies presents us with proper higher education programmes (tekom 2018b), professional associations (cf. e.g. tekom Europe 2018), scientific journals (cf. tekom 2018a) and so forth. All of these are a strong evidence of the existence of a proper discipline. Hence, in our opinion, specialized communication's development has passed the interdisciplinary stage, so that today an integrated discipline of Specialized Communication Studies that comprises the monolingual

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5 Specialized Translation Studies: see e.g. Stolze (1999), Göpferich (1998), Byrne (2006).

6 Document: specialized communication calls its workpieces *documents*. This term denotes the text plus its appearance (typography, lay-out, web design etc.) and including all non-linguistic components (images, figures, diagrams, tables and, in digital documents, video sequences, computer programs, etc.). It is open to discussion whether the text is a required element, that is whether image-only user instructions or utility films (instruction films without any text in voice or writing) count as documents in this sense. A set of documents concerning the same product, service or purpose are called a *documentation*. As all these components need to be included, it is common to say that a document is *created*, rather than written.

and the bi- and multilingual perspectives is emerging (see Schubert 2007: 345-349). Like Writing Research, Specialized Communication Studies is concerned with the process of transforming thoughts and concepts into text. In the following sections, we look into shared elements and differences and sketch a few research tasks that may lie ahead.

4.   Common ground

What is the common ground of Writing Research and Specialized Communication Studies? What are the differences? And are there already research strands or methods that combine the two disciplines? And how can the one maybe benefit from the other?

While Writing Research mainly focuses on the written utterance, Specialized Communication Studies includes orality as one of its research interests (see section 3). Specialized Communication Studies adopts the bi- or multilingual perspective, as occupied by Translation Studies and its specialized sub-disciplines (Specialized Translation Studies) (see sections 3, 3.2), while Writing Research mainly focuses on the monolingual perspective of text production (see section 2).

While these are some of the differences, there are striking common features as well. As elaborated above, both Writing Research and Specialized Communication Studies regard the products of the respective text production processes as well as the underlying processes themselves (see sections 2.1, 3.2). Here, we can already identify obvious overlaps between the two disciplines.

Moreover, both, Writing Research and the monolingual perspective of Specialized Communication Studies, LSP Research, experienced a change of paradigm with the so-called pragmatic turn. The so-called cognitive-communicative stage in LSP Studies as well as the current state of Writing Research regard the utterance in its situational context, as part of a wider interaction between persons, in which sociolinguistic as well as pragmatic factors are of crucial importance (see sections 2.2, 3.1).

Both the writing process and the translation process (the latter as the bilingual perspective of specialized communication) are regarded as parted into several substeps (thus the term 'process'). Writing Process Researchers partition the process into the steps of planning, writing, reviewing (Hayes/Flower 1980/2017) or ideation, linearization, expression (de Beaugrande 1984), respectively. Translation Process Research as the bilingual perspective of Specialized Communication Studies basically divide the process into the two communicative acts between the source text sender and the translator and the translator and the target text recipient (see section 3.2). While this is true for most earlier models of translation processes, recent contributions tend to have a much more detailed view on the process and include many more steps or phases that define the (specialized) translation process (see e.g. Schubert 2007; Heidrich 2016). The classic tripartition in Writing Research parallels the three-phase model which is very common in Translation Studies and in machine translation, viz. *analysis*, *transfer*, *synthesis*, in which transfer is the translation proper, i.e. the transition from the source language into the target language, while analysis and synthesis are monolingual steps carried out in the source or the target language, respectively (Nida/Taber 1969/1982: 33; see Schubert 2007: 168–186). The phase model from Translation Studies predates that from Writing Research by one or two decades.

Hayes and Flower (1980/2017) already describe the writing process as embedded in a task environment. Here again, strong references to Specialized Communication Studies can be drawn. The specialized translation process happens in a professional working situation with several actors and the translator is regarded as a professional actor (see section 3.2). Recent researchers model the specialized translation process comprising the actors' cognition, the controlling influences on the process and the product, the situatedness of the translation task and the IT environment (see section 3.2). The present cognitive-communicative stage of Specialized Communication Studies is characterized by a research focus on the utterance as a mental and cognitive activity, as well as on the utterance as an element in a network of other, non-communicative, acts and on the utterance as carried out by an actor as a member of various communities. Against this backdrop,

a communicative act such as creating a document can be described as consisting of an internal and an external process (Schubert 2007: 157; Göpferich 2008: 1). The internal process is the cognitive activity, while the external process is everything that can be witnessed by an external observer. The internal process takes place in a single person's mind, whereas the external process can involve interaction between several actors. Roughly, the external process can be equated with the workflow. Accordingly, the writing process as well as the specialized translation process are regarded as problem-solving processes. The respective text production strategies and cognitive processes are of crucial importance. Competence and competence acquisition are another focal factor of both Writing Research and Specialized Communication Studies (especially in Translation Studies). The didactic paradigm makes both research strands include a prescriptive approach (see sections 2.2, 3.2).

Specialized Translation Process Research as the multilingual perspective of Specialized Communication Studies is a sub-discipline with an obvious overlap with Writing Research, regarding both the research objectives and the methods applied. With this parallel in mind, it almost suggests itself to extend process research to not only address translation but also to include other types of text production, such as in technical writing or technical communication. With this step, another field of overlap between Writing Research and Specialized Communication Studies can be established.

While the research focus of Writing Research partly also includes writing in specific domains, in professional settings or for particular audiences (see section 2), it is especially those aspects that are the main focus of Specialized Communication Studies (see section 3). Nevertheless, per definitionem of specialized communication, it is not only described as communication with a specialized content but also within professional contexts (as by Hoffmann 1993: 614, see section 3.1). Here again, references between Specialized Communication Studies and Writing Research can be drawn, as Writing Research does explicitly not exclude writing processes within professional spheres of activities from its research portfolio. Particular audiences as target groups of communicative acts are a further overlap between the disciplines. While *writing at work* with its pre-defined particular audiences is one particular emphasis of Writing Research, the specific audiences are even a constitutive aspect in Specialized Communication Studies. Expert-lay communication is a prominent point of research in Specialized Communication Studies as is the translation into designed varieties of a standard language for audiences with special needs in Translation Studies (see sections 3, 3.2).

5. New horizons

With the fairly new professional field of technical writing as the (mostly) monolingual, written perspective of specialized communication arising even in the scientific discourse, a new field evolves from that which we here call Technical Writing Process Research[7]. However, research in this new field is as yet rare. A major work in this field originates from Göpferich (2002). Her pedagogically oriented writing process model adopts the cognitive approach to writing (Heine/ Schubert 2013: 108). The object of this model is text production in technical communication, thus a primarily monolingual activity, but with a view to translation. Göpferich analyses the internal process in the text producer, taking into account the writing environment. Special emphasis is laid on three new aspects of the professional writing workflow: text production tools, draft versions and collaboration. Göpferich follows the distinction of writing environment and individual from the Hayes models. She develops new aspects of knowledge, specifying nine knowledge aspects of the long-term memory. Another new element in her model is the sub-classification of text

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7   Technical Writing Process Research: we here refer to the German term *Redaktionsprozessforschung* as the research on processes of technical writing or technical editing. As the English term *Technical Writing* might or might not also include technical translation (as an act of *writing technical content*), we consider it necessary to emphasize here that in our understanding and in the context of this contribution Technical Writing Process Research in its narrower sense only considers the monolingual perspective.

production into knowledge activation, knowledge selection, knowledge linearization and wording[8] as components of the exteriorization phase.[9] The text producer iteratively passes through the phases of exteriorization and planning (Göpferich 2002: 250 fig. 5.21; see Heine 2010: 148-151; Heine/Schubert 2013: 108–109).

Another model based on the concept of knowledge is Rothkegel's writing process model of 2005. Rothkegel explicitly refers to the writing tasks within the field of specialized communication and to specialized fields of knowledge. She considers three fields of knowledge: expert knowledge (specialized, everyday and usage knowledge), textual knowledge (linguistic processes) and documentation knowledge (work environment), where textual knowledge forms the heart of the writing task, and expert knowledge forms the knowledge background (Rothkegel 2005; our translations; see Heine 2010: 151-156; Heine/Schubert 2013: 110-111). In her 2010 model, Rothkegel models text production in relation to work situations and considers text production as an iterative process in which a certain state of the text is again the starting point for activities which lead to the next state of the text (Rothkegel 2010: 195). She divides the text production process into different modules where each production or modification stage is preceded by a preparation phase. Module I describes the preparation stage, during which decisions on the text parameters are made. In this module, the textual work is managed, i.e. a basic idea for the project is developed, the single work stages are defined, and the text or document type is determined. The definition comprises, for example, knowledge, textual features, the semiotic system, the communicative situation, formal stipulations, language and culture, the medium, etc. (Rothkegel 2010: 202). In Module II, the text is produced "from scratch", where text production is in turn divided into five stages: knowledge work and expert competence, transforming knowledge into topics, sequencing, formulating, presenting (Rothkegel 2010: 203-217; our translations). Module III represents text modification, "from old to new". Module IV serves to optimize the text quality, where comprehensibility is one of the requirements that a text has to satisfy. Comprehensibility, according to Rothkegel, is achieved by means of cohesion, coherence, a linear order, cross-references and structure-indicating means of reader guidance (Rothkegel 2010: 230). In Module V, the texts produced are managed, i.e. indexed, classified, annotated, etc. (Rothkegel 2010: 195-241).

Göpferich's model follows the tradition of Writing Research quite closely and further develops it, while keeping the particulars of specialized communication in mind. Rothkegel's model appears to have been conceived directly out of the tradition of Specialized Communication Studies capitalizing on a thorough expertise in Writing Research. A number of more recent studies take these approaches further, applying them at greater depth to more restricted object fields (e.g. Heine 2010; Zehrer 2014).

We consider the still evolving young sub-discipline of Technical Writing Process Research to be the most obvious and prominent overlap between Writing Research and Specialized Communication Studies. In our view, interesting overlapping factors are the dichotomy of the internal vs. the external process and, linked to it, the importance of control in the process.

Writing Research began with an interest in the cognitive activities involved in the writing process, whereby it focused on the internal process. With its original interest in a writing assignment in a school or higher-education setting, it had an underlying, rarely explicit, idea of a single person receiving a single impulse in the form of the assignment and carrying out the task from that point onwards, mainly on their own. This approach implied a research focus on the internal, cognitive process, which it tried to grasp in abstract categories such as sub-processes, modules or the like, and which it then modelled accordingly. The idea of control, understood

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8 Knowledge: Göpferich's terms are Wissensaktivierung, Wissensselektion, Wissenslinearisierung and Phrasengene-rierung. Some of her terms mirror other researchers' wordings, some of them in English (Göpferich 2002: 254-255).

9 Exteriorization: we understand the term *Exteriorisierung*, rather uncommon in German, as an obvious reflex of Hoffmann's definition of specialized communication as interiorization and exteriorization of knowledge systems and cognitive processes (Hoffmann 1993: 614).

as factors influencing and steering the writing itself, was not prominent in the earlier periods of Writing Research, the only major controlling influence being the writing assignment. Even when the communicative situation or environment was taken into account, the general idea was still that of an individual working in an educational setting. However, another type of control was at the background of the relevant research approaches: the pedagogical intention to find out how to better teach schoolchildren, students or academics how to write texts.

Specialized Communication Studies is much more explicitly concerned with the setting of professional writing, as in the workplaces of technical communicators, specialized translators and related professions. The basic idea is that of a trained professional carrying out a document-creating task at the request of a customer within or outside their own organization. In this setting, the writing process is not the task of an individual receiving a single impulse in the beginning. Rather, the specialized-communication environment entails a professional working alone or in a team on the same workpiece[10] and probably with other colleagues carrying out secondary processes. When the primary process involves, for instance, creating technical documentation, a typical secondary process could be the terminology work.[11] The person in focus interacts with other actors inside and outside the organization. Among these are individuals who directly interact with the technical communicators or specialized translators by acting as subject matter experts in a research interview or by answering queries on the telephone or in e-mails. In addition to these, we also include as informants the authors of books, articles, websites and other materials from libraries, archives or the internet consulted by the communicators. Other actors who, knowingly or unknowingly, influence the communicators' work are the authors of handbooks, guidelines, style guides, corporate-identity handbooks, the authors of standards and the originators of legislation at all levels (including, where applicable, European Union directives). Influencing actors are also the teachers at higher-education institutes with degree courses in specialized communication or some of its subfields and ultimately everyone active in the field who contributes to what is called Best Practice in a certain industry.

We accommodate the concept of control in our describing of the communicative situation in specialized communication in terms of acting individuals. All the actors mentioned exert controlling influences on the communicator in the middle of the picture. Specialized communication may thus be said to be a field in which writing, or rather document creation, takes place in a collaborative environment with a larger number of actors controlling the communicative activity directly or indirectly.

Both Writing Research and Specialized Communication Studies are application-oriented disciplines. Both may be subsumed under Applied Linguistics, but both are also concerned with non-linguistic features of communication for which they draw on other disciplines such as Communication Studies or Cognitive Science. With the pedagogical bias in Writing Research and the standardizing and optimizing tendency which is quite strong in Specialized Communication, both disciplines deviate from the descriptive stance favoured in General Linguistics during the last one hundred years or so. Both disciplines discussed here are concerned with an explicit element of prescriptivity. But prescriptivity is, so to speak, distributed inversely. The writing studied in Writing Research is mostly a rather free activity with only an initial controlling influence. The prescriptive aspect lies in the fact that the scholarly discipline is (or was at the beginning) aimed at defining teachable, thus prescriptive, standards for carrying out the writing task. The writing (or document creation) investigated in Specialized Communication Studies is a professional activity subjected to a highly prescriptive set of controlling influences and rules. The scholarly discipline

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10 Workpiece: we use the term *workpiece* for the text or document created or edited by the professionals, because in specialized communication the content of the documents often deals with technical devices, machinery, software systems etc., for which we reserve the term *product*.

11 Primary and secondary processes: we define as primary processes all activities that create or edit parts of the same workpiece. Activities in which a different workpiece is handled are labelled as secondary. The terms are not meant to assign higher or lower importance.

takes on a more observing, descriptive attitude. On closer examination, however, things are not quite as schematic as sketched. The more Writing Research takes an interest in specialized and other forms of professional communication, the more it gets involved with prescriptive settings in the observed reality. And the more Specialized Communication Studies is interested in its application fields, practice-oriented objectives such as setting up rules or guidelines for document comprehensibility, and thus using the scholarly findings for developing prescriptive rules.

Regarding the applied methods, one should not forget that all three, the Writing Process Research, the Specialized Translation Process Research and the Technical Writing Process Research, are concerned with text production processes. Differences may be found among others in the text types, the contents, the professional surrounding, the underlying text basis (source text or not...), and the languages involved. Nevertheless, that does not mean that the research methods differ considerably from one another (be it eye-tracking, screen-capturing, thinking aloud, process observation...). In other words, methods and findings of Writing Research on the one hand and those of Specialized Communication Studies on the other hand can be fruitfully combined and make use of one another. In particular, the newly arising research strand of Technical Writing Process Research as the monolingual perspective of Specialized Communication Studies may benefit from experiences and successes of Writing Research in its future evolution. Vice versa, Writing Research might well profit from new findings and methodological developments in Technical Writing Process Research.

Are Writing Research and Specialized Communication Studies getting closer to each other? In our view, they can fruitfully make use of the other's experiences and methods, especially for their new developments. Writing Research and Specialized Communication Studies should not fail to learn and profit from each other.

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