

Writing and translation process research: Bridging the gap

Helle Dam-Jensen & Carmen Heine

Aarhus University | Denmark

Abstract: Writing and translation are traditionally addressed as two different objects of study. However, they also share many characteristics – as revealed by the research carried out in the two fields, which often uses the same methods to investigate both areas. In this introduction, it is suggested that writing and translation can be studied as types of text production. Different dimensions of text production are sketched as examples of research topics at the interface between writing and translation. The two articles that follow this introduction explore two such dimensions: competence and profiles.

Keywords: translation studies, writing competence, text production



Dam-Jensen, H. & Heine, C. (2013). Writing and translation process research: Bridging the gap. *Journal of Writing Research*, 5(1), 89-101. <http://dx.doi.org/10.17239/jowr-2013.05.01.4>

Contact: Helle Dam-Jensen, Aarhus University, School of Business and Social Sciences, Department of Business Communication, Jens Chr. Skous Vej 4, 8000 Aarhus | Denmark – hed@asb.dk

Copyright: Earli | This article is published under Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported license.

1. Introduction

Writing and translation are traditionally addressed as two different objects of study. However, when scrutinizing the research done in the two fields, it is obvious that they coincide in many ways. This introduction argues that writing and translation share a set of basic characteristics, which suggests that the forms of research carried out in the two areas could benefit from each other. At a very general level, they are both types of human activity. This, however, does not make it easier to pin down the precise relationship between the two disciplines, as human activity can be described at different levels of abstraction – making a precise definition difficult to achieve (Steiner 1988: 145).

In this introduction to this special section, we will take writing and translation to form part of a superordinate category of text production, which has adaptation as a third member. It should be emphasized that text production is defined as a process leading to a text. We will argue that the three categories share a set of fundamental characteristics on the basis of which they can be characterized as members of a set called ‘text production’, and that each member of this set varies with regard to a number of characteristics. We propose a general definition of text production. On this basis, we will suggest that the three types of text production behave differently with regard to various process dimensions because they relate in different ways to pre-existing texts. This assumption is exemplified here on the basis of the dimensions of phases, strategies, contextual features, creativity, competence and profiles (the latter two being central issues of the contributions of this special section).

2. The category of text production

There are different approaches to establishing category membership. According to the classical Aristotelian view, category membership is established according to sufficient and necessary conditions. However, not all phenomena allow a straightforward categorization according to a set of pre-established common features. A well-known example is Wittgenstein’s discussion of the resemblance between different types of games. Wittgenstein (1953, 1958, section 66) pointed out that the problem with games, when it comes to categorization, is that it is not possible to point out a property which is common to all types of games. To overcome this problem, he suggested the concept of family resemblance, according to which members of a category are interlinked by overlapping similarities, but without a common property. An example of a definition based on this idea is found in Zethsen (2009), who suggests a definition of translation according to which translation is a non-finite discipline which does not rely on necessary or sufficient conditions, but should be perceived as a *tertium comparationis* (Zethsen 2009: 800). This definition allows the inclusion of what in translation studies is known as intralingual translation¹. A definition along similar lines is Goel & Pirolli’s definition of design (1992: 401-402). On the basis of prototype theory², they define

design as a category with prototype effects in the sense of Rosch (1978). They suggest a list of 12 features which are proposed as a template of common features. Examples of these are temporal separation between specification and delivery, and independent functioning of the artifact. Next, they establish a template of characteristics as a basis for recognizing prototypical members. Prototypical members, or central members, meet the features of the template, whereas more peripheral members do not meet all these features (Goel & Pirolli 1992: 402).

In this special section, we put forward a broad definition of text production that assumes a core set of characteristics shared by its members. In this sense, we assume that it is in fact possible to establish a set of sufficient and necessary conditions for category membership, and our definition is therefore not to be understood as a template in the sense of prototype theory. The characteristics of the definition should be seen as a basic substrate to which additional characteristics are added, depending, horizontally, on the type of text production and, vertically, on the sub-type within each type of text production. Our definition of text production is as follows:

In text production, a set of acts are realized by one or more persons with the aim of producing a coherent written text for a target audience. Text production is an intricate process that implies an interaction between the mental state of the text producer and the situation in which it evolves. At a high level of abstraction, it can be defined as a design activity.

In order for a collection of linguistic signs to be defined as a text, it must be coherent both formally and semantically. The process of creating coherence depends on the mental state of the text producer and the situation in which it is produced. The latter is a complex of various factors. At an overall level, any text is produced with a goal: to serve a given purpose with regard to the intended target audience. This can be defined as the *skopos*³ (Schjoldager 2010: 153-154). The *skopos* of the target text is related to the initiation of the text production. Most kinds of professional text production are initiated by an external instruction, known as a 'brief' in the terminology of translation studies. Other dimensions of the situation which affect the text production are the social interaction with collaborative networks, the physical environment, and the resources/tools at the text producer's disposal. In today's society, most types of text production are carried out by the means of a wide range of digital tools, as also noted by Ehrensberger-Dow and Massey (this volume), which affects the way in which the text producer works. This is a shared premise of the environment of most types of writing and translation.

As stated in our definition above, a text emerges as a result of an interaction between the situation in which the text evolves and the mental state of the text producer. The text producer orchestrates the process of producing a text through a whole complex of thoughts and decisions. The nature of these depends on a conglomerate of conditions, for example the text producer's level of competence, memory, knowledge and logical and creative skills.

According to the definition suggested here, text production is a design activity. This suggestion is based on Goel & Pirolli's distinction between design and non-design activities, according to which design activities can be differentiated from non-design activities in that they have two components: a logical component and a creative component (Alexander 1964; Archer 1969, quoted by Goel & Pirolli 1991: 397). In our view, the logical component of writing and translation can be defined as the process in which the text producer uses language systematically, according to the rules by which language is composed. The creative component can be defined as the ability to use divergent thinking (in the sense of Guilford 1971) in problem-solving. Both writers and translators need good linguistic skills to cope with the logical component of text production. However, writers and translators may be presented with problems that seem insoluble if they rely solely on logical skills. In line with Pommer (2008), we will argue that such problems require creativity for their solution: "Creativity is the key attribute to solving seemingly untranslatable problems arising during the translation process" (Pommer 2008: 364). Goel & Pirolli (1991: 401) mention architecture and engineering as prototypical examples of design activities, whereas writing is characterized as a more peripheral member because it does not imply a separation between the design specifications and the delivery of the design object (Goel & Pirolli 1991: 403). We claim, however, that this is not necessarily true in all cases, as the writer, or the translator for that matter, may choose to sketch a plan or the structure of the text-production task before the composition of the actual product is initiated.

In line with the above, we would like to point out that writing, adaptation and translation can each be ascribed additional characteristics, which turn them into three (partly) different types of text production. The overall difference between the three types of text production is that they relate to pre-existing texts in different ways. Translation depends directly on a source text, whereas writing relies in a more indirect way on pre-existing texts and on other kinds of sources. Adaptation can be seen as an 'intermediate type' as it depends on a source text (or more than one), as does translation, but involves a shift in text type by means of paraphrasing, revising or summarizing (Jakobsen 2005: 176)⁴. This overall difference between the three types of text production has a number of consequences for the nature of the process of writing, adaptation and translation. To exemplify, it affects the way the text producer interacts with the environment in which the text production takes place and the kinds of actions that the text producer carries out. The following section illustrates this by sketching how writing and translation behave with regard to different dimensions of the process.

3. Process dimensions

Numerous dimensions of text production could be outlined to show how the nature of text production differs according to type. This section describes some of those which are most prominently discussed in the literature of both fields: phases, strategies, contextual features, creativity, competence and profiles.

During text production, writers and translators go through different phases, as evidenced by numerous studies (see for example Flower & Hayes 1980; Göpferich 2002; Jakobsen 2003; Englund Dimitrova 2005; Hayes 2012). In models and descriptions of phases, the degree of elaborateness of the phases varies slightly from one study to another, but they all involve the following stages: planning, drafting and revision, which are not necessarily linear, but apply also in recursive loops. These stages apply to both writing and translation; what distinguishes them is, among other things, the phases that make up the stages, the strategies used in the phases, and the writing or translation styles (as explained in Carl & Dragsted: this volume).

Both writers and translators make use of strategies, a set of actions, as a steering force for handling challenges and problems, in order to meet goals effectively. The word 'strategy' is used in the literature of both writing and translation, but with different meanings, and in many cases without a proper definition. Moreover, it is in competition with other terms such as plan, tactic, procedure, technique, maxim, and sub-process (Gambier 2010: 412). In this introduction, we will use strategy at a general level as a term for actions carried out in text production with the aim of reaching a goal (see Jääskeläinen (2009) for a similar definition). In text production, the types and amount of strategies used may vary due to both internal and external conditions of the text producer. With regard to the former, the use of strategies is affected by mental conditions such as feelings, memory and the level of competence and of knowledge. With regard to external conditions, strategies depend for example on the length, complexity and type of text to be composed. Strategies are used in all the phases of the process. The planning phase of both writing and translation starts with the generation of ideas and the analysis of pre-existing texts. In translation, the text producer analyzes the meaning of the source text and, on that basis, tries to find equivalents that convey the meaning in the target language (with a view to the *skopos*). In most types of writing, the text producer analyzes 'other' texts and/or other kinds of external (re)sources with the aim of finding knowledge of the subject matter and background information, concepts and linguistic inspiration, for instance. In professional text production, a different source of information which affects the use of strategies is the end user's needs, which can be compared with the analysis of *skopos* in translation⁵. Because of these multiple sources that the writer draws from, the planning phase is more fuzzy and complex in writing than in translation. Strategies for idea generation can be assumed to loom larger with writers than with translators, as the latter are restricted by the source text, which determines the exposition of the subject matter of the text⁶. In the drafting phase, examples of strategies carried out by the text producer are: (a) reading during writing, where the text producer rereads the text that s/he has already produced, for example to evaluate correctness, or as a kind of visual stimulus to plan and produce new text (Van Waes, Leijten, & Quinlan 2009), (b) noting a tentative solution, and (c) consulting external sources, where the text producer consults dictionaries, reference books, or the Internet, for instance. These are strategies which can be used by both writers and translators, but it can be assumed that the translator's searches are more focused and

limited regarding collocations and terms, for instance. In the revision phase, the text producer rereads the text product and evaluates it with regard to word choice, syntax, structure, and meaning, for instance. The translator evaluates the text both in isolation and in comparison with the source text. The latter, presumably, does not generally apply to the writer.

At the level of the text, both writers and translators use so-called functional strategies. Translators carry out actions at the level of words, phrases and sentences, with the aim of transferring the message from the source text to the target text (Schjoldager 2010: 89). Writers also employ functional strategies, but these are not linked to linguistic expressions in the source text only, but to the meaning that the writer wishes to convey. It should also be mentioned that the use of strategies in adaptation depends on the degree of closeness to the source text(s); it is "a question of degree and motivation rather than of kind", as noted by Zethsen (2009: 809). Depending on the skopos, passages of the adapted text may depend only slightly on source text(s), and in this case the use of strategies may be said to resemble that of writing. When adaptation draws more closely on source text(s), translation strategies are used and it can be assumed that the translation micro-strategy of simplification⁷ is used frequently (Zethsen 2009: 808).

From the 1990s and onwards, research in writing and translation extends the focus to include the contexts in which texts are produced, the process sociology, thereby acknowledging that text production is the product not only of the mental processes of the text producer, but also of the situation in which s/he is located and which conditions the process (Bayerman 2007; Risku 2010; Schubert 2007). The context is made up of a variety of features, such as the physical environment, collaborative networks and technical tools, which since their arrival have led to drastic changes at the workplace of both writers and translators. In translation, technical tools such as machine-translation software, machine-aided translation and translation-memory systems (Dragsted 2004, 2006; O'Brien 2010; Christensen & Schjoldager 2010, 2011) largely determine the working conditions of translators. Google searches, dictionaries and electronic texts are indispensable tools of both fields, but translation differs from writing in that, in many cases, translation tasks are aided by translation-memory tools or carried out by machine-translation systems. Aids and tools such as the above affect the afore-mentioned phases and strategies as well as the creativity of the text producer.

When a text production task cannot be carried out relying on logical skills only, the text producer needs to use creativity. It can be assumed that writing, generally, requires a higher degree of creativity than translation, due to its more indirect relation to pre-existing texts, which implies a larger degree of freedom on the part of the text producer. The creativity of the translator, on the other hand, is restricted by the source text. Nevertheless, it should also be mentioned that the degree of creativity required of the text producer, in both writing and translation, also depends on the type of text at hand. Technical communication, for example, relates in a direct way to entities in the surrounding world, which restricts the level of independence of the text producer. In

the production of public relation texts, on the other hand, the text producer needs to find ways in which s/he can use language, in order to best persuade the recipient of the text.

Two further dimensions of both writing and translation which are closely related to each other are the competence(s) of the text producer and translator or writer profiles. Following the seminal work of Bereiter (1980) (further elaborated by Kellogg (2008)), writing research has focused on the way in which writing as a skill develops over time and experience with the individual writer. Traditionally, a link has been established between writing development and text production (Becker Mrotzeck 1997; Pospiech 2005).

While writing research has been interested in how skills are acquired and developed, in translation studies (following in the footsteps of Holz-Mänttari's (1986) professionalization approach), interest has focused on the description of what makes a competent professional translator and how competences relate to the self-concept of the translators (Király 2000). Numerous competence models (Risku 1998; Göpferich 2008; PACTE 2000, 2005, 2009) in the field of translation studies reflect this tendency. Hence, competence is a well-defined concept in translation studies. The competence definitions depart from the assumption that the level of competence conditions the way text producers work, for example the differences between professionals and non-experienced text producers (Göpferich & Jääskeläinen 2009).

4. Research in text production

The dimensions described in the section above have been researched by both disciplines independently for many years⁸. Theoretical reflections and empirical studies of both the internal cognitive processes and the external processes have helped the disciplines to understand how writers and translators work and think, from the moment they receive the task till the final text product is reached. However, not much work has been carried out as yet aimed at comparing the results with a view to bridging the gap between the two fields.

In order to more profoundly and systematically investigate the interface between the three types of text production, the similarities and differences of the dimensions described and the methods used in the fields (for instance) need to be explored in depth. Below, we sum up some suggestions for research perspectives at the interface between the three kinds of text production.

4.1 Models of phases and strategies in text production

Studies of the phases and strategies of text production can take different perspectives. Writing research and translation research have developed different models of phases and strategies. A fundamental line of new research could be to theoretically compare and discuss these models⁹. To our knowledge, models for adaptation have not been developed, so an emergent line of research would be to discuss the extent to which the

models of writing and translation apply to adaptation, and the extent to which the concept of adaptation might constitute a suitable bridge between the fields. A different and potentially promising approach is to deductively test the models in comparable empirical studies in the three fields. The empirical line of research could also be extended to explore how the structure of phases and strategies used by text producers is affected by cognitive properties such as competence and memory (see Section 2).

4.2 The effect of context on text production

In the early years of process research, the focus of studies of writing and translation was on the cognition of the text producer. In recent years, however, the focus has changed to include contextual features as well. In a text-production perspective, different comparable studies of the text producer's interaction with context can be envisaged: (a) the text producer's interaction with technical tools, (b) the text producer's interaction with humans, (c) the text producer's interaction with the physical environment.

4.3 Research methods

In order to bring the research in the two fields together, the research methods themselves need to be discussed as well. Studies of writing and translation traditionally employ the same sets of methods. These range from verbalizations, retrospective interviews and observation, to electronic tools such as keystroke logging, eye-tracking and screen capture. These methods are used in (often small-scale) experiments and to a lesser degree in field studies. We have claimed (Dam-Jensen & Heine 2009) and empirically tested (Heine & Koch 2009; Dam-Jensen 2012) that they can be beneficially used in the text-production didactics of both fields. In the same line of argument, Massey & Ehrensberger-Dow (2011) suggest that the application of process tools in teaching may stimulate reflection and awareness on the part of the student and, furthermore, give translator trainers insights into both the individual and the collective translation behavior¹⁰ (see also Heine 2012 with a similar approach for writing). With regard to keystroke logging, it is symptomatic that each field has developed its own software program. In writing, Inputlog and Scriptlog are frequently used (Van Waes & Leijten 2006; Van Waes, Leijten, Wengelin & Lindgren 2012), whereas in Northern European translation studies, Translog (Jakobsen 1999, 2003, 2007) is the most commonly used tool. An interesting line of research involves an exploration of the advantages and disadvantages of the tools, both with regard to their applicability to experiments versus field studies and with regard to their use in triangulation with other (electronic) research tools.

4.4 Didactics of text production

A different and as yet largely unexplored line of research into the didactics of text production is how writers can benefit from translation skills and vice versa (Dam-Jensen, Heine & Schrijver (in prep.)). Possible hypotheses to investigate could be (a)

that due to the fact that the writer works with more freedom than the translator, writing training would teach the translation student to work more freely with the language without the contamination of a source language, and (b) that, due to the fact that the translator, unlike the writer, works under the direct restrictions of the source text, the teaching of translation would increase the writing student's ability to handle specific word-choice challenges, for instance.

The discussion of and suggestions for research topics sketched here is by no means exhaustive, but should rather be understood as an attempt to stimulate research into the boundaries of an overall research field of text production, thereby stimulating interdisciplinary research, in line with one of the mandates of the *Journal of Writing Research* (JoWR).

5. Preview of this special section

This special section is a first attempt to address some of the research issues sketched above. The two articles which follow this introduction address two dimensions of text production: competence and profiles.

In "Indicators of translation competence: Translators' self-concepts and the translation of titles" in this special section, Ehrensberger-Dow and Massey apply a multi-method approach to the translation and translation-process analysis of the translation of titles. The methods used comprise keystroke logging, screenshot recording, eye-tracking, retrospection and interviews, methods which are also used in writing research. The application of this method-mix ensures rich data for the comparison of title translations by beginners, MA students and professional translators. The self-concept data of the participants is evaluated and sheds light on competence in general and on the way experience is gained.

Traditionally, writing research has suggested that writers embody one or more elements of different writer types (Boehm 1993; Opendacker, et al. 2009; Scheuermann 2012), often ranging from broad planner types to patchwork writers. Thus far, studies of translation strategies have shown that translators also display different ways of carrying out production tasks; but formalized translation types (like the afore-mentioned writer types) are not recognized in translation studies yet. The contribution by Carl and Dragsted, "Towards a classification of translator profiles based on eye-tracking and key-logging data", in this special section, is a first attempt to systematically analyze translation profiles on the basis of the similarity assumption. Carl and Dragsted compare translation based on eye-tracking and key-logging data of students and professionals with the aim of identifying translator profiles. It is hypothesized that different translation styles exist which are independent of the difficulty of the translation task, and they also construct groups consisting of locally-oriented and globally-oriented profiles and compare these groups with known profiles from writing research.

Notes

1. Translation studies uses the term intralingual translation in accordance with Jakobson (1959, 2000). It is defined as the translation from one code to another within the same language (Zethsen 2009: 808). It can be assumed to have overlaps with what in other areas is known as adaptation.
2. It should be mentioned that prototype theory is not the same as family resemblance, but that the two approaches resemble each other, for example in that they do not adhere to the traditional 'necessary and sufficient conditions' definition of categorization.
3. It should be mentioned that the skopos approach to translation is the result of a paradigmatic shift from an equivalence-based framework to translation to a functionalist framework (the skopos concept is based on the seminal work of Reiss and Vermeer (1984) and Nord (1997)). The skopos approach has recently also been used to explain the connection between technical translation and technical communication (Van Vaerenbergh 2012).
4. See also references to Gile (1995) and Immonen & Mäkisalo (2010) in Carl & Dragsted (this volume) on differences between writing and translation due to links to pre-existing texts.
5. This, presumably, does not apply to many types of literary texts.
6. This applies regardless of whether the macro-strategy is source-text oriented or target-text oriented, in the sense of Schjoldager (2010: 71-81).
7. Simplification is an example of a micro-strategy in translation analysis. The strategies are termed differently in translation studies, and a multitude of taxonomies is available (see for example Vinay & Darbelnet 1958; Zethsen 2006; Schjoldager 2010).
8. In the area of adaptation, process research is still incipient.
9. Which to our knowledge has not been done extensively yet, although attempts have been made to look into the similarities and differences between the models (Heine and Schubert (forthcoming)).
10. This is also noted by Gile (1995) and Kelly (2005).

References

- Alexander, C. (1964). *Notes on the synthesis of form*. Cambridge, MA: Harvard University Press.
- Archer, L.B. (1969). The structure of the design process. In G. Broadbent & A. Ward (Eds.), *Design methods of architecture*. New York: Wittenborn.
- Bayerman, C. (Ed.) (2007). *Handbook of research on writing. History, society, school, individual, text*. New York: Taylor & Francis Group.
- Becker-Mrotzek, M. (1997). *Schreibentwicklung und Textproduktion* [Writing development and text production]. Opladen: Westdeutscher Verlag.
- Bereiter, C. (1980). Development in Writing. In L.W. Gregg & E.R. Steinberg (Eds.), *Cognitive Processes in Writing* (pp. 73-93). Hillsdale: Erlbaum.

- Boehm, D.C. (1993). Mozartians, Beethovians, and the teaching of writing. *The Quarterly*, 15(2), 15-18.
- Christensen, T.P., & Schjoldager, A. (2010). Translation-Memory (TM) Research: What Do We Know and How Do We Know It? *Hermes*, 44, 89-101. Retrieved from <http://download2.hermes.asb.dk/archive> on 09.04.2012.
- Christensen, T.P., & Schjoldager, A. (2011). The Impact of Translation Memory (TM) Technology on Cognitive Processes: Student-Translators' Retrospective Comments in an Online Questionnaire. In B. Sharp, M. Zock, M. Carl & A.L. Jakobsen (Eds.), *Human-machine Interaction in Translation* (Copenhagen Studies in Language 41, pp. 119-130). Copenhagen: Samfundslitteratur.
- Dam-Jensen, H. (2012). Decision-making in Translation – A Pilot Study of Students' Translation Processes. *Fachsprache*, XXXIV(3-4), 146-164.
- Dam-Jensen, H. & Heine, C. (2009). Process Research Methods and Their Application in the Didactics of Text Production and Translation. Shedding Light on the Use of Research Methods in the University Classroom. *Trans-kom Zeitschrift für Translationswissenschaft und Fachkommunikation*, 2(1), 1-25.
- Dam-Jensen, H., Heine, C., & Schrijver, I. (in prep.). An interdisciplinarity approach to text production: Talking about terms of the trade(s) first.
- Dragsted, B. (2004). *Segmentation in Translation and Translation Memory Systems – An Empirical Investigation of Cognitive Segmentation and Effects of Integrating a TM System into the Translation Process*. PhD dissertation. (Copenhagen Working Papers in LSP). Copenhagen: Samfundslitteratur.
- Dragsted, B. (2006). Computer-aided Translation as a Distributed Cognitive Task. *Pragmatics & Cognition*, 14(2), 443-464. doi: 10.1075/pc.14.2.17dra
- Englund Dimitrova, B. (2005). *Expertise and Explicitation in the Translation Process*. Amsterdam, Philadelphia: John Benjamins. doi: 10.1075/btl.64
- Flower, L. & Hayes, J.R. (1980). Identifying the Organization of Writing Processes. In L.W. Gregg & E.R. Steinberg (Eds.), *Cognitive Processes in Writing* (pp. 3-30). Hillsdale: Erlbaum.
- Gambier, Y. (2010). Translation strategies and tactics. In Y. Gambier, & L. van Doorslaer (Eds.), *Handbook of Translation Studies* (vol. 1). Amsterdam/Philadelphia: John Benjamins Publishing Company, 412-418. doi: 10.1075/hts.1.tra7
- Gile, D. (2004). Integrated Problem and Decision Reporting as a Translator Training Tool. *The Journal of Specialised Translation* 2, 2-20. Retrieved from <http://www.jostrans.org> on 23-02-2009.
- Goel, V., & Pirolli, P. (1992). The Structure of Design Problem Spaces. *Cognitive Science*, 16, 395-429. doi: 10.1207/s15516709cog1603_3
- Göpferich, S. (2002). *Textproduktion im Zeitalter der Globalisierung. Entwicklung einer Didaktik des Wissenstransfers* [Textproduction in the age of globalization. Development of a didactic of knowledge transfer]. Tübingen: Stauffenburg Verlag.
- Göpferich, S. (2008). *Translationsprozessforschung* [Translation process research]. Tübingen: Narr Francke Attempo.
- Göpferich, S., & Jääskeläinen, R. (2009). Process research into the development of translation competence: Where are we, and where do we need to go? *Across Languages and Cultures*, 10(2), 169-191. doi: 10.1556/Acr.10.2009.2.1
- Guilford, J.P. (1971). *The Nature of Human Intelligence*. London: McGraw-Hill.
- Hayes, J.R. (2012). Modeling and Remodeling Writing. *Written communication* 29(3), 369-388. doi: 10.1177/0741088312451260
- Heine, C. (2012). Prozessansatz im traditionell produktorientierten "Academic Writing" Textproduktionsunterricht [Process approach in the traditionally product-oriented academic writing training]. In D. Knorr & A. Verhein-Jarren (Eds.), *Schreiben unter den Bedingungen von Mehrsprachigkeit* [Writing in a multilingual context] (pp. 99-116). Frankfurt a.M. u. a.: Lang, 99-116.

- Heine, C., & Koch, W. (2009). Prozess- und Produktoptimierung bei der Textproduktion. Translog als didaktisches Instrument? Pilotstudie mit Studierenden der Wirtschaftsuniversität Aarhus, Dänemark. [Process and product optimization in text production. Translog as a didactic tool? Pilot study with students of the Aarhus School of Business, Denmark]. In F. Lenz (Ed.), *Schlüsselqualifikation Sprache: Anforderungen - Standards - Vermittlung* [Key qualification language. Requirements - Standards - Didactics]. (Forum Angewandte Linguistik 50, pp. 176-204). Frankfurt am Main u. a.: Lang.
- Heine, C. & Schubert, K. (forthcoming). Modellierung in der Fachkommunikation. *Fachsprache*, Vol. XXXIVI [Modelling in specialized discourse communication. *Fachsprache*]. (n.p.n.).
- Holz-Mänttari, J. (1986). Translatorisches Handeln – theoretisch fundierte Berufsprofile [Translational action - theoretically based professional job profiles]. In M. Snell-Hornby (Ed.), *Übersetzungswissenschaft – Eine Neuorientierung. Zur Integrierung von Theorie und Praxis* [Translation studies - New perspectives. Integrating theory and praxis]. (UTB 1415, pp. 348-374). Tübingen/Basel: Francke.
- Immonen, S. & Mäkisalo, J. (2010). Pauses reflecting the processing of syntactic units in monolingual text production and translation. *Hermes – Journal of Language and Communication Studies*, 44, 45-61.
- Jääskeläinen, R. (2009). Looking for a working definition of ‘translation strategies’. In I.M. Mees, F. Alves & S. Göpferich (Eds.), *Methodology, Technology and Innovation in Translation Process Research: A Tribute to Arnt Lykke Jakobsen* (pp. 375-387). Copenhagen: Copenhagen Studies in Language.
- Jakobsen, A.L. (1999). Translog Documentation. In G. Hansen (Ed.), *Probing the process in translation: methods and results* (Copenhagen Studies in Language 24, pp. 149-184). Copenhagen: Samfundslitteratur.
- Jakobsen, A.L. (2003). Effects of Think Aloud on Translation Speed, Revision and Segmentation. In F. Alves (Ed.), *Triangulating Translation* (pp. 69-95). Amsterdam: Benjamins. doi: 10.1075/btl.45.08jak
- Jakobsen, A.L. (2005). Investigating expert translators – processing knowledge. In H.V. Dam, J. Engberg & H. Gerzymisch-Arbogast (Eds.), *Knowledge Systems and Translation* (Text, Translation, Computational Processing, pp. 173-189). Berlin: Mouton de Gruyter.
- Jakobsen, A.L. (2006). Research Methods in Translation – Translog. In E. Lindgren & K. Sullivan (Eds.), *Computer Key Stroke Logging and Writing. Methods and Applications* (Studies in Writing, pp. 95-105). Oxford: Pergamon Press.
- Kiraly, D. (2000). *A Social Constructivist Approach to Translator Education. Empowerment from Theory to Practice*. Manchester: St. Jerome Publishing.
- Kellogg, R.T. (2008). Training writing skills: A cognitive developmental perspective. *Journal of Writing Research*, 1(1), 1-26.
- Kelly, D. (2005). *A Handbook for Translator Trainers. A Guide to Reflective Practice*. Manchester, UK & Northampton MA: St. Jerome Publishing.
- Massey, G., & Ehrensberger-Dow, M. (2011). Commenting on translation: Implications for translator training. *The Journal of Specialised Translation*, 16, 26-41.
- Nord, C. (1997). *Translating as a Purposeful Activity* (Translation Theories Explained). Manchester: St Jerome.
- O'Brien, S. (2010). Eye tracking in translation process research: methodological challenges and solutions. In I. Mees, F. Alves, & S. Göpferich (eds.), *Methodology, Technology and Innovation in Translation* (Copenhagen Studies In Language 38, pp. 251-266). Copenhagen: Samfundslitteratur.
- Opendacker, L., Stassen, I., Vaes, S., Van Waes, L., & Jacobs, L. (2009). *Quadem: Manual for the Quality Assessment of Digital Educational Material*. Antwerp: University of Antwerp. Retrieved 09-04-2013 from http://www.scribani.org/quadem/material_Q/handbook/Handbook.pdf.
- PACTE (2000). Acquiring translation competence: Hypotheses and methodological problems in a research project. In A. Beeby, D. Ensinger & M. Presas. *Investigating Translation*. Papers from

- the 4th International Congress on Translation, Barcelona, 1998, pp. 99-106. Amsterdam/Philadelphia: John Benjamins.
- PACTE (2005). Investigating translation competence: Conceptual and methodological issues. *Meta, Translators' Journal*, 50(2), 609-619.
- PACTE (2009). Results of the validation of the PACTE translation competence model: acceptability and decision making. *Across Languages and Cultures*, 10(2), 207-230. doi: 10.1556/Acr.10.2009.2.3
- Pommer, S.E. (2008). No creativity in legal translation? *Babel*, 54(4), 355-368. doi: 10.1075/babel.54.4.04pom
- Pospiech, U. (2005). *Schreibend schreiben lernen. Über die Schreibhandlung zum Text als Sprachwerk* [Learning writing while writing. Reaching a crafted language text product via writing action] (Theorie und Vermittlung der Sprache 39) Frankfurt am Main u.a.: Lang.
- Reiss, K. & Vermeer, H.J. (1984). *Grundlegung einer allgemeinen Translationstheorie* [Setting the grounds for a general translation theory]. Tübingen: Niemeyer. doi: 10.1515/9783111351919
- Risku, H. (1998). *Translatorische Kompetenz: Kognitive Grundlagen des Übersetzens als Expertentätigkeit* [Translation competence: cognitive grounds of translation as an expert activity]. Tübingen: Narr.
- Risku, H. (2010). A cognitive scientific view on technical communication and translation: Do embodiment and situatedness really make a difference? *Target*, 22(1), 94-111. doi: 10.1075/target.22.1.06ris
- Rosch, E. (1978). Principles of Categorization. In E. Rosch, & B.B. Lloyd (Eds.), *Cognition and Categorization*. Hillsdale, NJ: Erlbaum.
- Scheuermann U. (2012). *Schreibdenken. Schreiben als Denk- und Lernwerkzeug nutzen und vermitteln* [Think-writing. Using and teaching writing as a thinking and learning tool]. Opladen: Verlag Barbara Budrich.
- Schjoldager, A. (2010). *Understanding Translation*. Aarhus: Academica.
- Schubert, K. (2007). *Wissen, Sprache, Medium, Arbeit. Ein integratives Modell der ein- und mehrsprachigen Fachkommunikation* [Knowledge, Language, Medium, Production. An integrative model of monolingual and multilingual specialized discourse communication] (Forum für Fachsprachenforschung 76). Tübingen: Narr.
- Steiner, E. (1988). Describing language as an activity: an application to child language. In P. Fawcett, & D. Young (Eds.), *New developments in systemic linguistics. Vol. 2: Theory and application* (pp. 144-173). London and New York: Pinter Publishers.
- Van Vaerenbergh, L. (2012): Funktionalistische Translationstheorie und technische Kommunikation. *trans-kom*, 5(2), 274-292.
- Van Waes, L. & Leijten, M. (2006). Logging Writing Processes with Inputlog. In L. Van Waes, M. Leijten & C.M. Neuwirth (Eds), *Writing and Digital Media*. (Studies in Writing 17, pp. 158-165). Oxford: Elsevier.
- Van Waes, L., Leijten, M. & Quinlan, T. (2009). Reading during sentence composing and error correction: a multilevel analysis of the influence of task complexity. *Reading and Writing. An Interdisciplinary Journal*, 23(7), 803-834.
- Van Waes, L., Leijten, M., Wengelin, Å., & Lindgren, E. (2012). Logging tools to study digital writing processes. In V. W. Berninger (Ed.), *Past, present, and future contributions of cognitive writing research to cognitive psychology* (pp. 507-533). New York/Sussex: Taylor & Francis. doi: 10.1007/s11145-009-9190-x
- Vinay, J.-P., & Darbelnet, J. (1958). *Stylistique comparée du français et de l'anglais* [Comparative stylistics, from French to English]. Paris: Didier.
- Wittgenstein, L. (1953/1958). *Philosophical Investigations*. Oxford: Blackwell.
- Zethsen, K.K. (2006). The translator as cultural mediator. In I. Askehave, & B. Norlyk (Eds.), *Meanings and Messages. Intercultural business communication* (pp. 97-114). Aarhus: Academica.
- Zethsen, K.K. (2009). Intralingual Translation: An Attempt at Description. *Meta, Translators' Journal*, 54(4), 795-812.