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## **Personal knowledge management in the training of non-literary translators**

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### **ABSTRACT**

Even if the profession of translation as a whole is divided between those who do literary translation and those who do non-literary translation, as Newmark puts it in the very first issue of this journal (2004), all translators have many things in common. Among other things they share a number of problems. As Karl Popper states we may even say that a profession is a conglomerate of acknowledged problems and the disciplinary-internal resources with which to solve these problems (Popper 1979[1962]:108). The particular translation problem, which I will be discussing in this paper, was reintroduced to us by the German translation scholar Reiss back in the 1980s when she laconically stated that "you cannot translate what you do not understand" (Reiss 1986:26, my translation). In this article I will discuss one particular aspect of this problem, namely how students of non-literary translation are currently taught to reach the understanding of subject matter needed in order for them to translate non-literary texts in and for professional settings. The discussion ends with an introduction to a novel – and very pragmatic – way of integrating subject matter into translation curricula. It is my hope that I may contribute to laying the ground for rethinking how we deal with subject matter in the training of non-literary translators

### **KEYWORDS**

Translator training, translation curricula, subject matter competence, Personal Knowledge Management.

## **1. You cannot translate what you do not understand**

To be able to translate any non-literary text (be it from a technical, a legal or a business setting) a translator must have a thorough command of not just linguistic, rhetorical, communicative and translational knowledge and competences. The non-literary translator must also be in possession of considerable subject matter knowledge (e.g. Galinski & Budin 1993:209). In fact the ideal non-literary translator is often defined as a sort of a combination of the subject matter expert and the trained translator (e.g. Fluck 1992:221). For such a unity of translation and subject matter knowledge and competences to come into existence in one person, however, it seems that the non-literary translator would have to be a combination of the trained professional (e.g. the engineer) and the trained translator. In terms of feasibility, this would – in most countries – require a minimum of a five-year translation programme combined with a five-year programme in a subject matter field (e.g. engineering, law or business administration) making it an option for only the most dedicated of translators-to-be.

But even if this would seem to combine the best of two worlds, the question springs to mind whether we – with the same kind of straightforwardness –

would expect from translators who translate novels that they themselves be writers, or from translators translating newspaper articles that they be journalists? I do not think so; nor do I deem it necessary. What I am basically opposed to is the combinatory nature of the whole idea – enticing as it might be in its simplicity. For what kind of Chimera would it (ideally) take to translate a novel featuring for instance the specificity of maritime knowledge found in Kipling's *Captains Courageous* or the in-depth knowledge of bullfighting conveyed in the three consecutive instalments of *The Dangerous Summer*, which Hemingway published in *Life* in 1960? In the first case the translator would have to be a maritime historian, a sailor and a novelist; in the latter case a full matador would surely be a minimum requirement.

In other words, since we do not stipulate it as a prerequisite that the literary translator be a poet (or a sailor or a matador for that matter), why then do we still feel inclined to saying that the non-literary translator should (also) be an engineer, a lawyer or hold an MBA? Both notions are – from a pragmatic point of view – equally problematic.

The above discussion is not meant to advocate that domain-specific knowledge is not needed when translating domain-specific texts, because it most certainly is. What can be said, based on the discussion, is that the prevailing ideal of the Chimera (in the above sense) is an ideal that is highly problematic (for the above reasons). What I would like to propose in this article are two interdependent issues: a) a new ideal when it comes to the non-literary translator's knowledge of subject matter and b) a shift in educational focus when it comes to integrating domain-specific knowledge into translator curricula resulting from this new the ideal.

Needless to say, a translator must master a number of competences other than that of obtaining and being able to use domain-specific knowledge. According to Way, the translator's macro-competence is constituted by "[...] the set of skills, knowledge and attitudes which professional translators use in their daily translation tasks as experts [...]" (Way 2008:91). This macro-competence can be broken down into its subcompetences, which "[...] are interrelated and each is necessary for the overall macro-competence to function correctly." (Way 2008:91). I can only concur with both the array of competencies as well as their interdependencies, however, within the framework of this paper I will deal exclusively with the subcompetence referred to by Way as "subject area competence"<sup>1</sup>. And – narrowing the scope of this article even further – within this one subcompetence I will deal only with how it is taught.

## **2 Two prototypical approaches to introducing translator students to domain-specific knowledge**

My point of departure will be a discussion of two prototypical ways of integrating subject matter knowledge into curricula for educating non-literary

translators. Even if these two approaches have been summarised primarily on the basis of a limited Internet survey of continental European universities combined with a literature review of the equally limited literature available on this topic, I hypothesise that the findings of the survey are not limited by geography. Naturally, the survey cannot be seen as representative of the work being carried out at each and every one of the many translation schools in continental Europe. The survey does, however, point to a tendency. A tendency, which future studies would have to examine in much greater detail in order to make more valid claims. However, based on the literature review as well as said survey of translation schools in continental Europe (primarily Germany and Denmark) featuring information about their non-literary translation curricula on the Internet, it has nevertheless been possible to summarise two prototypical approaches to teaching subject matter: one deductive, the other inductive. These approaches are to be seen as two opposite poles on a continuum, leaving ample room for a wide range of hybrids to exist between the two poles. It is not my intention, though, to comment on these hybrids within the framework of this article.

### **2.1.1 The deductive approach to integrating domain-specific knowledge into translation curricula**

The triggering parameter for categorizing an approach as being deductive is that it leaves it up to the student to deduce from a very abstract introduction or exposure to subject matter the knowledge needed in order to complete a concrete translation assignment. A prototypical example of the deductive approach may be found at the *Fachhochschule Köln* (University of Applied Sciences of Cologne, Germany). The course in question is called: "*Einführung in die Technik*" ("Introduction to Technical Science", my translation). In the relevant course description it says "[...] In the course Introduction to Technical Science [...] the students are taught the domain-specific basics of technical and natural sciences, which are the prerequisites in the MA programme for understanding and translating technical texts. The two-semester course deals with topics from the "classical technical science" and "new technologies [...]" (my translation)<sup>2</sup>.

During these two semesters translation students receive two such lectures per week. According to the above description it is quite clear that the trainee translators are supposed to derive from the lectures the knowledge needed to understand and subsequently translate any given text within – in this case – the technical domain. The fundamental problem, to which this approach gives rise, is centred on the following question: What constitutes "classical technical science"? Should it be an introduction to the laws of physics or the periodic system? Even if one were to keep the content at a very rudimentary or abstract level, the list of possible basics would be almost infinite. A brief look at, for instance, "*How things work*" or any other technical encyclopaedia provides ample proof of this. If we look at the usefulness of technical science for the trainee translator then we may easily derive yet another problem. How can one expect that a student of *translation* should manage to bridge

the gap from such abstract or rudimentary basics to implementing them or – which would typically be the case – to implementing content derived from these basics in an actual translation? A prerequisite for this question to be relevant in the first place would of course be that the topic of the translation is in fact covered by the basics taught during the lectures, which may not necessarily be the case.

### **2.1.2 The inductive approach to integrating domain-specific knowledge into translator curricula**

One way of trying to eliminate these problems is to apply a more inductive approach to integrating domain-specific knowledge. Inductive in this sense refers to learning situations where the translation student is taught or exposed to a (usually) small number of selected domain-specific disciplines. Based on this knowledge of individual disciplines, the student is then obviously supposed to understand and subsequently translate any given text. In favour of the inductive approach is Horn-Helf when she states: “[...] that for all practical purposes there are no translation irrelevant disciplines. This abundance [of disciplines] cannot even remotely be dealt with in translator exercise classes [...], the array of texts and professional situations which would be relevant to the translator is quite simply too extensive [...]. A limitation with regards to the number of disciplines is therefore unavoidable. It would, however, be optimal also in this case to primarily focus on [such disciplines] which may count as prototypes (especially machinery, electronics, information science).” (Horn-Helf 1999:300, my translation)<sup>3</sup>.

Although it seems that this approach responds to what the deductive approach lacks in depth, it is at the expense of the holistic perspective of the former. For by choosing to expose the students to a catalogue of technical disciplines, one is immediately confronted with two issues that need further consideration, namely the selection of disciplines and the future practical value of such disciplinary knowledge. In the catalogue proposed, Horn-Helf (*ibid.*) advocates the selection of what she refers to as *prototypical disciplines*. It does, however, become clear that what she understands by a prototypical discipline is one from which translation services are requested *hic et nunc*, giving the selection a short term perspective at best. Another point being that what is (or was) prototypical in 1999 in Germany may not be prototypical in Germany of 2008 (or for that matter for any other country be it 1999 or 2008). But apart from that, the practical value of the inductive approach also raises questions. The students’ acquired technical knowledge could very well prove to be of a fragmentary – or even kaleidoscopic – nature.

Nord gives a concrete example of how an inductive integration could be implemented:

Subject matter and domain-specific knowledge is to be conveyed within the framework of subject matter or additional courses; here, however, the question poses itself as to the coordination or integration: Ideally the disciplinary knowledge, that is required in

order to complete a domain-specific translation assignment, should be acquired within the framework of the domain-specific education shortly before the knowledge is to be used. (Nord 1996:316, my translation)<sup>4</sup>.

From the above quotation it is quite obvious that the students in question will be given translation assignments, which correspond nicely to the kind of technical knowledge they have recently acquired. The main problem is how prepared students are for dealing with real-life translations later on based on this approach. What happens, for instance, when the student has to deal with cross-disciplinary issues or technical topics from disciplines that were not part of the selection? It is also – to say the least – very doubtful whether a translator may count on being primed, so to speak, for a translation beforehand when working in business and industry; more often than not the professional translator is left to his or her own devices. Although somewhat laconic, Teague's comment to this issue from the practitioner's point of view is quite illustrative:

Sci/tech translators may dream of serving one market sector, doing translations on a narrowing range of subjects (and hence progressively easier ones), becoming more and more valuable to fewer and fewer clients (and choosing, among those, the least vexing), and cocooning themselves in a blanket of job security. Those lemonade springs and peppermint trees remain just a dream for most. (Teague 1993:161)

## **2.2 The role of translator curricula in preparing translation students for their working life as professional translators**

By choosing to expose the students to either the abstract basics of technical science or to a limited number of specific disciplines, one is immediately confronted with two issues that need further consideration: The selection of disciplines and the future practical value of such disciplinary knowledge. What happens, for instance, when the students deal with, say, the domain of 'machinery' and 'composite building materials', during training, but then – after graduating – is faced with translating a text on the inner workings of a pen? Apart from the fact that the domain-specific knowledge, which the students have acquired, may be irrelevant to the work life, it may also have a short shelf life, or may even be obsolete by the time the student graduates.

As previously mentioned, the main problem with both of these approaches is how they prepare students for dealing with real-life translations later on; e.g. cross-disciplinary issues or domain-specific topics from disciplines that were not part of the selection. I find it very hard to concur with what I perceive to be the underlying idea of these two prototypical approaches, namely that some structural common ground should 'rub off' somehow or that trainee translators should – as an instance of 'incidental learning' – (through exposure to a pre-defined catalogue of disciplines or abstract science) gain knowledge enabling them to translate texts from disciplines not dealt with in class<sup>5</sup>.

For many a university degree, there may not necessarily exist an explicit link

between curriculum and what the student will be doing after graduation. This link, however, is and should indeed be present when it comes to the training of future non-literary translators. Since this may be considered quite a bold statement, a few words on the role of universities in post- or late modernity (Lyotard [1979] 1999) may be appropriate. I allow myself the freedom of stipulating that the Kantian ideal of a university as “the republic of the learned” and “free” (i.e. free from the constraints of ‘praxis’, as it were, including the surrounding society as a whole and business and industry in particular) is to a large extent no longer feasible. As Latour puts it science and society can no longer be separated (Latour 1998). First of all universities are becoming more and more dependent on the benevolence of the surrounding society, and as Nowotny *et al.* state “[...] society now ‘speaks back’ at science [...]” (2002:50). Neither favourable legislation nor adequate funding may be taken for granted but must be continuously re-negotiated – sometimes on a yearly basis. One of the probably most far-reaching consequences of this new role of universities is the general call for “mode 2 knowledge production” (Gibbons *et al.* 1994), i.e. knowledge production which “[...] is characterised by closer interaction between scientific, technological and industrial modes of knowledge production, by the weakening of disciplinary and institutional boundaries, by the emergence of more or less transient clusters of experts [...] and by the broadening of the criteria of quality control and by enhanced social accountability.” (p. 68). Something, which Leydesdorff (2006) takes as a point of departure for firmly embedding universities within the very fabric of the knowledge society; in as much as universities are an integral part of the “triple helix”. The triple helix which in turn makes up the infrastructure of the knowledge society and consists of the multilayered and multifunctional interdependencies between its three formative entities: government, business and industry, and universities. Scharmer (2007) takes the current role of universities one step further in as much as he does not merely advocate that universities open their doors, so to speak, to the surrounding society but rather that universities venture out into society at large – and business and industry in particular – in order to complete the integration process between society and science (Latour *ibid.*). Scharmer’s overall agenda in this respect may be summarised into what he calls the “scientification of praxis”. And a scientification of translator praxis is exactly the ‘praxis turn’ which I advocate, when claiming that translator curricula should be aligned with the requirements of what translators face upon graduating, and indeed foresee and prepare students for their future professional life in conjunction with the other two positions in Leydesdorff’s triple helix.

Despite the fact that the above understanding of the role of late or post modern universities does hold promises (and/or threats according to one’s beliefs) with regard to other aspects of translator curricula than merely the integration of subject matter knowledge, these aspects (skills, competence etc.) are intentionally left out here (see section 1).

### **3 The formative elements of Personal Knowledge Management**

**(PKM)**

Before presenting the approach to integrating subject matter knowledge into translator curricula, which in effect is a result of the above discussions, a short rendering of the pedagogical meta-theory underlying this approach to curriculum development seems to be in order. As will become obvious, this approach has little to do with, say, Bloom's taxonomy (1956 et passim); and this is intentionally so. Whereas Bloom's taxonomy has found wide-spread acceptance and use one cannot overlook its underlying uniform understanding of how human beings learn. At least since Gardner introduced the notion of multiple intelligences (Gardner 2006 et passim) and perhaps most convincingly with the introduction of empirically grounded learning styles theories (e.g. Dunn and Griggs 2003) one can no longer overlook the naivety of such an understanding of learning and, consequently, of curriculum development. One may therefore consider the general idea conveyed in Kiraly (2000), namely to advocate that translator training is abstractly speaking about enabling students to learn how to learn (introduced by Argyris and Schön in 1978 as *deutero learning*), to be in line with the approach of this article. And indeed Kiraly may count as a point of departure at a more general level, but since it is not Kiraly's intention to work specifically with the teaching and learning of subject matter competence, it is necessary to supplement Kiraly with the works of other scholars such as von Glasersfeld and Smock (1974) and Heyd (1997) (see section 3.1).

Not wanting to avoid the Scylla of the deductive approach at the expense of running into the Charybdis of the inductive one, I propose a common denominator other than that of domain-specific disciplines or sciences as point of departure for integrating subject matter into translator curricula. The common denominator I propose is the basic building blocks of disciplines and their representation in texts, i.e. information<sup>6</sup>. What I advocate is not merely a shift in perspective but rather a shift in attitude towards teaching subject matter with a point of departure along the lines of Barrows when he states:

The acquisition of the skills of effective problem-solving, self-directed learning and team skill is probably more important than the content learned. (Barrows 1998:631)

Although no one is able to predict what students may be faced with in their professional lives, it is not a solution to teach in class all the technical matter, which the trainee translator will conceivably need to know in order to be able to work as a non-literary translator. This approach would invariably – and for the reasons stated previously – fail. The students, therefore, should consequently neither be taught nor exposed to 'the basics of domain-specific science' nor to a pre-selected number of (more or less relevant) disciplines. Instead what is proposed is a focus on teaching methods which enable the trainee translator to cope, in principle, with the content of any domain-specific text (hence "problem-solving skills and self-directed learning" in the above citation). In order to make such a change, it will not suffice to merely



make adjustments with regard to the curriculum; the adjustments will first have to be made with regard to one's perception of what a curriculum is. Driver and Oldham state the fundamental shift in this way:

[...] the curriculum is seen not as *a body of knowledge or skills* but the *programme of activities* from which such knowledge or skills can possibly be acquired or constructed, though we acknowledge that the selection of possible learning experiences is guided by the knowledge of experts. (Driver & Oldham 1986:112)<sup>7</sup>

Compared with the two approaches discussed in the previous sections with their focus on the "body of knowledge", the focus of attention in this approach has shifted to "the programme of activities from which such knowledge or skills can possibly be acquired". The model applied is centred on two partially overlapping dimensions. The first dimension sees personal knowledge management as a dynamic tool for informational problem solving. Here, the students are not taught or exposed to, say, the discipline of 'machinery'. Instead they are trained intensively and systematically in how to recognise what specific information needs they have with regard to a given translation assignment and how to fulfil that need. The second dimension addresses the results of the first dimension; in effect the relationship between the dimensions will often be a dialectical one. The second dimension contains the following three phases:

- Document information
  - Every student at the Department of Modern Languages and Communication at the Aarhus School of Business, University of Aarhus has a personal home page (as well as an e-mail account) free of charge on the university web. The second dimension of the personal knowledge management approach therefore takes on the shape of a personal web portal with links to relevant external knowledge carriers, to the student's personal full text corpora, his or her own terminological databases, etc.
- Edit / revise / optimise information
  - Whenever additional information is required and/or new translation assignments demand it, the electronically stored information is easily revised, expanded or altered.
- Retrieve information

In order to do this, the student designs an interface or system of interfaces tailor-made to suit his or her needs for easy access to any piece of information. Typically, this interface is designed as an interactive map on a website (for an in-depth account of the mapping procedures and the types of maps used in PKM see Kastberg and Ditlevsen 2007).

Three theories or schools of thought were formative in the theoretical

framing of PKM (see Kastberg 2004 as well as Kastberg et al. 2007 for in-depth accounts): Library science (e.g. Kuhltau 2004), constructivist learning theories (e.g. Dunn & Griggs 2003), and Knowledge Management (e.g. Davenport and Prusak 1998). From library science came insights as to the design of personal information retrieval systems, strategies for information seeking, models of decision making with respect to information retrieval and processing. From constructivist learning theories came the general insights that subject matter knowledge cannot be conveyed but must be constructed by the individual learner and that motivation is the pivotal point of all learning. And finally from Knowledge Management came ideas for how to structure and systematise knowledge construction in particular and knowledge work in general.

In the next section I will show, albeit briefly, how PKM has been integrated into a translation curriculum, in which the focus is not on memorisation of encyclopedic knowledge stemming from specific subject areas, but rather on the development of problem-solving strategies and self-directed learning.

### 3.1. PKM in class

From radical constructivism – used as a means to construct subject matter knowledge (von Glasersfeld & Smock 1974 and Heyd 1997) – we know that knowledge cannot be taught but must be constructed by the learner. This gives us two important insights into the teaching of subject matter knowledge. The first is that no matter what subject matter is taught and no matter how skilful and pedagogically it is presented, the students may not learn what they are intended to learn. The second insight – arising out of the first – is that knowledge cannot be seen as something detached from the knower. Thus, in PKM on the basis of the translation assignment the student is trained to identify, reflect on and sort out his or her *personal* knowledge deficit – the deficit is seen solely in relation to the specific translation assignment at hand. On the basis of the specific knowledge deficit, the student seeks out relevant knowledge carriers, activates relevant personal and professional networks etc., enabling him or her to fill knowledge gaps. On the basis of such information compilation, information processing may begin; the student performs an analysis with regard to authenticity and authority of the knowledge carriers etc. chosen. The refined information may then be strategically applied, i.e. inserted into the assignment at hand according to the skopos, translation brief or the like. Whenever needed, these tasks are recursive, adding to the mere combinatory nature of the chronology a cyclic and, in turn, dynamic quality.

In my PKM approach I have turned the above ideas into the below six rudimentary phases:

Phase	Task	Actions

1.	Identify	Acknowledge, recognise and identify your personal information deficit with respect to the assignment at hand
2.	Acquire	Acquire potential information carriers based on your recognised personal information deficit
3.	Evaluate	Evaluate and select the information carriers which are relevant to you with regard to this particular assignment
4.	Organise	Organise and catalogue your information carriers
5.	Apply	Extract and use the information needed according to the skopos, target culture, genre, addressee, translation brief etc. of your assignment
6.	Optimise	Your Personal Knowledge Management is never done, revise and optimise with every new assignment

The chronology of the phases is meant as a pedagogical 'start up aid' only. As mentioned above each student has his or her own knowledge deficit and his or her own way of constructing the knowledge needed. For some students an assignment may require little or no PKM work, for other students it may be relevant to go through some of the phases while leaving out others etc.

In combination, the two dimensions give the student a systematic method with which to deal not only with the technical content of a translation assignment pre-selected for educational purposes, but, due to its very nature, also with (in principle) any subject matter. In terms of output the student ends up with two different ones. A knowledge map (i.e. an interactive map) tailor-made to suit his or her own needs when it comes to the subject area at hand. But – and this is infinitely more important and interesting – the student also ends up with the skills required to do PKM work and hence design and establish knowledge maps for all other subject areas as well. Referring back once again to the previously discussed approaches to integrating subject matter knowledge into translator curricula it is important to mention that PKM is not taught as a separate and/or additional course but as an integrated part of the course in translation theory and the corresponding exercise classes. In fact, PKM work is a crucial part of every translation assignment. Today, PKM is an integrated part of the MA programme in translation at the Aarhus School of Business, University of Aarhus, Denmark. PKM has also been taught in translation programmes in Greece (Ionian University), Italy (University of Bologna, Forli Campus), and Norway (University of Oslo, Halden Campus). This has, among other things, lead to the fact that central aspects of PKM are currently being considered for implementation in these programmes.

#### **4. Conclusion**

Summing up, I would like to point to three of the issues raised in the course of this article. First of all the deliberate shift in ideal from 'subject matter expert' to 'personal knowledge manager', in the sense that – as we have

seen – it is not primarily important what and how much subject matter is taught; of primary importance is the student's ability to cope with any given subject matter. Secondly, another important proposal has been made, namely that personal knowledge management form a link between translator training and working as a real-life translator, in the sense that the professional translator will be forced to manage new and changing subject matter each and every day of his or her professional life. Thirdly, I would like to point to the appealing long-term effect of this approach; in the sense that it mirrors – albeit in a practicable and down-to-earth manner – the very essence of 'life-long learning'.

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## Biography

Peter Kastberg is a state certified translator and he holds a Ph.D. in applied linguistics (technical communication). He is director of the ASB Research Area for Knowledge Communication, Aarhus School of Business, University of Aarhus, Denmark ([www.asb.dk/knowledge](http://www.asb.dk/knowledge)). His current research interests include mediation of specialised knowledge across knowledge asymmetries, the ontogenesis of knowledge, and public understanding of science.

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<sup>1</sup> Beeby et al. (2008:106) talk about "extra-linguistic subcompetence", Nord (2005: 211) refers to it as "research competence" and Snell-Hornby (1992:17) as "subject area expertise".

<sup>2</sup> The German original reads: "[...] Im Fach Einführung in die Technik [...] werden den Studierenden fachliche Grundlagen von Technik und Naturwissenschaft vermittelt, die im Hauptstudium Voraussetzung sind für das inhaltliche Verstehen sowie das Übersetzen technischer Fachtexte. Die zweisemestrige Lehrveranstaltung behandelt Themen aus den Bereichen "klassische Technik" und "neue Technologien"[...]" (<http://www.f03.fh-koeln.de/imperia/md/content/pdfs/studienordnung.pdf>).

<sup>3</sup> The German original reads: „[...] daß es in der Praxis kaum übersetzungsirrelevante Fachgebiete gibt. Diese Vielfalt kann in Übersetzungsübungen auch nicht annähernd behandelt werden [...], „dafür ist das Spektrum der an übersetzungspraktisch einschlägigen Texten und Berufssituationen einfach zu groß“ [...]. Die Beschränkung auf einige ist daher unausweichlich. Es wäre allerdings wünschenswert, auch hier vorrangig die zu berücksichtigen, die als Prototypen gelten können (insbesondere Maschinenbau, Elektrotechnik, Informatik)". (Horn-Helf 1999: 300).

<sup>4</sup> The German original reads: „Sach- und Fachwissen wird im Rahmen der Sach- oder Ergänzungsfächer ermittelt; hier erhebt sich allerdings weithin die Frage der Koordinierung bzw. Verzahnung: Im Idealfall sollte das Fachwissen, das für die Ausfertigung einer Fachübersetzung erforderlich ist, auch tatsächlich im Rahmen der Sachfachausbildung kurz vor der Anwendung erworben worden sein.“ (Nord 1996: 316).

<sup>5</sup> Even if incidental learning is not considered optimal for translation students, its usefulness has been explored in other settings with more positive results; especially within the field of organisational or workplace learning. See for instance Marsick, V. J., and Watkins 1990 for a relatively recent overview. The concept as such, by the way, may be traced back to Dewey 1938.

<sup>6</sup> Folkart is thinking along similar lines when she talks about reducing "[...] technical texts to their underlying referents" (1984: 229). Due to the fact that my formative inspiration – in this case – does not come from semiotics but from knowledge management, constructivist learning theories and library science (see following paragraphs) I will not be using semiotic concepts.

<sup>7</sup> Since I have dealt with curricular development in translator training (Kastberg 2001) and

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tertiary education in general elsewhere (Kastberg and Nielsen 2004), I will refrain from commenting on the more general aspects of the concept here.