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HELPING DOCTORAL STUDENTS TO FINISH THEIR THESES

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The central problem in the teaching of academic writing is that important tacit knowledge, silent and procedural in nature, has generally been left untaught. Boice (1993) presented the estimation, for instance, that of graduate students in the U.S. who qualify to write dissertations but never finish them is as high as 50 percent. Why is not more done to help these students? According to Boice, part of the problem is that university professors prefer demonstrations of brilliance far to its acquisition, and this preference denies many students the chance to become successful writers. One reason for this is that tacit knowledge is, by definition, hard to teach and difficult to find in written and substantive form.

Another problem is that writing is not seen as a form of learning, but rather, it merely serves as a tool of assessment (Björk & Räisänen, 1996; Hounsell, 1984). Students seldom have the chance truly to learn about the process of writing because the academic world prefers to concentrate on assessing their written products. There is an obvious need to let the students go through the whole process of writing without thinking only about its outcome.

The context of the present chapter is a competitive and high-achieving environment, namely, a medical school. The intention is to describe how process writing, previously applied at the Department of Psychology, is applied with Ph.D. candidates in medicine, psychology, and dentistry. In Finland, previous experience shows that process writing is a promising approach in the training of psychology students (Lonka & Ahola, 1995). But how would this technique work in medical school?

The aim is to reveal and then revise practices and ideas of writing that usually remain tacit. For this purpose, theoretical insights are presented by Bereiter and Scardamalia (1987), Scardamalia and Bereiter (1991); Olson (1994); Björk & Räisänen (1996); Boice (1993);

Tynjälä, Mason, & Lonka (2001), and Lonka & Ahola (1995). A writing course for doctoral students is described where different techniques are applied. The exercises are based on those introduced by Björk (1997), Boice (1990), Healy (1986), as well as Lonka and Ahola (1995).

Theoretical background

A tradition of studies from Vygotsky to Olson argues that the acquisition and use of writing are powerful factors in the development of thinking (Tynjälä, Mason, & Lonka, 2001). David R. Olson (1994) addressed the question of the impact of writing on thinking in his book, *The World on Paper: The Conceptual and Cognitive Implications of Writing and Reading*. The power of writing lies in bringing into consciousness those aspects of spoken language that turn language into an object of reflection, analysis, and design (Olson, 1994, p. 258). Without written language it would be impossible to deal with such concepts as “assumption“, “inference“, or “conclusion“.

Once a written expression has influenced our common thought (and spoken expressions) it is extremely difficult to unthink that model and see how someone not enculturated into the same way of thinking would perceive language and the world it describes. Writing forces us to think about our own thinking in terms of what is actually claimed and what is the evidence – the basic distinction in scientific thinking (Kuhn, 1989). Literacy is not only functionally oriented but, also, a social condition: “in reading and writing texts one participates in a ‘textual community’, a group of readers (and writers and auditors) who share a way of reading and interpreting a body of texts“ (Olson, 1994, p. 273).

Olson’s notion comes close to the movement of “New Literacy Studies“, which sees literacies as social practices with their own conventions. From the student point of view the dominant challenge is to switch practices between one setting and another, to deploy a repertoire of appropriate linguistic practices, and to handle the social meanings and identities that each evokes (Lea & Street, 1998).

When students take part in the practices of a scientific community, it is crucial that they learn the conventions and ways of thinking that are typical of that specific literary tradition. The idea

is to see the act of writing as a participation in the scientific culture, rather than as mere reporting of what one knows. It follows that conceptions of learning, knowledge, and philosophy of science cannot be avoided in the teaching of academic writing.

Thus, writing a thesis requires not only the ability to organise an extensive amount of content, but also knowledge about the discourse conventions of the academic community for whom the thesis is being directed (Torrance, Thomas, & Robinson, 1993). Olga Dysthe's (2000) theoretical framework of writing-to-learn is heavily based on Vygotsky and Bakhtin (1895-1975). She emphasises the sociocultural view, on which her four key tenets are based: First, knowledge and understanding are constructed in social interaction. Second, language is the key cultural tool, which mediates learning. Third, learning takes place in 'a community of practice', which also includes well functioning group processes. Fourth, because knowledge is always situated, motivation to learn is largely dependent on the learning culture, which is created in a particular classroom.

On Literate Expertise

Scardamalia and Bereiter (1991) presented a more cognitive account. They called "literate expertise" the academic skills connected with expertise in various domains, and they described two approaches to reading and writing: knowledge telling and knowledge transforming (see also Bereiter and Scardamalia, 1987). The former refers to an activity that minimises the cognitive load, whereas the latter engages the learner in effortful and reflective, dialectic processes. Research on skilled writers shows the critical importance of various cognitive strategies, such as building deep-level mental representation of the task, engaging in more active and reflective problem-solving, relating the nature of the task, the anticipated audience (e.g., Hildyard, 1996).

Literate expertise is related to domain expertise (see also Lea & Street, 1998). Scardamalia and Bereiter's (1991) conception of expertise in reading draws on the van Dijk and Kinstch's (1983) theory, which assumes two mental representations that are constructed during comprehension: a *textbase*, in which a coherent representation of the text is formed, and a *situation model*, in which the text content is integrated into the comprehender's knowledge system. The textbase reflects the coherent relations between the propositions in the text and

their organisation, whereas the situation model is a mental representation of the situation described by the text.

Scardamalia and Bereiter (1991) pointed out that the construction of both the textbase and the situation model during reading depends on domain knowledge, but also a process is involved, similar to knowledge-transforming in writing. Problem solving during reading is typical of expert readers, whereas inexpert readers tend to reveal a process such as knowledge telling by interpreting each statement immediately and not in the light of subsequent information.

Scardamalia and Bereiter (1991) conclude that the textbase is a representation of the text as a particular case, whereas the situation model is part of domain knowledge relevant from the point of view of the text. They find that the textbase may be too much emphasised in instruction, at the cost of students' difficulties in applying information in real-world situations. Scientific thinking would be impossible without being able to go "beyond the information given" (Bruner, 1973), that is, to distance oneself with the actual text at hand and to look at the phenomenon described in the text or presented by the teacher. This calls for integrating new knowledge with previous knowledge, and the skill to differentiate between what is said and what is previously known.

The textbase and situation model may also be considered in the light of Olson's (1994) exciting redefinition of literacy: "Learning to read is a matter of learning to recognise the aspects represented graphically and to infer those aspects of meaning which are not represented graphically at all" (p. 272). Learning to read is therefore learning to cope with the unexpressed; using what is known as the illocutionary force of language. This force of language comes from the ability to form a situation model, to go beyond the text, and to differentiate between what is intended and what is actually written. This also calls for taking into account the point of view of both the potential reader and the scientific conventions, which often remain tacit.

Our own research on note-taking shows that it is quite difficult even for university applicants to write answers to questions that call for going beyond a given text, especially if the writer is too much attached to her literal notes. In order to be successful in tasks that call for building a situation model, it is useful to reformulate knowledge, for instance, by drawing concept maps or by writing notes by one's own words (Lonka et al, 1994; Lahtinen et al., 1997; Slotte &

Lonka, 1998; 1999ab; Slotte & Lonka, 2001). Any activity that increases the student's own constructive efforts may enhance learning from text.

The art of scientific writing obviously calls for various skills: domain expertise, attempts for knowledge transformation, and well-developed literate skills. These do not take place in a vacuum, but in the context of social practices and academic literacy. However, literate and cognitive reasons are not sufficient in explaining why writing may become difficult.

Maladaptive ideas of writing

There are many doctoral candidates with highly developed domain-specific and literate expertise who still fail to finish their thesis. This has a lot to do with teachers' and students' different ideas about what makes a good text (Lea & Street, 1998). However, Boice's (1993) review of the so called writing blocks sheds light to the question at the psychological level: why do people sometimes fail in written productivity, although there is nothing wrong with their intellectual capacity? Boice presents reasons that are mainly emotional and motivational. They are related to beliefs about oneself a writer.

Boice (1993) discusses the most often mentioned reasons for blocks: internal censors, fears of failure, perfectionism, early negative experiences, procrastination, and poor mental health. He concludes that blocking seldom has a single cause, and that many different maladaptive thoughts and emotions may be related. He points out that cognitions of writing are crucial in avoiding blocking. That is, ideas of writing are crucial in controlling related emotions. Writers need to engage in active metacognition about writing that will help them to talk about problems and strategies, in order to effectively monitor their writing, and to develop a variety of writing strategies.

It is quite likely that those students whose thoughts about writing are maladaptive in nature are likely to see writing as an act of simple knowledge telling. In previous research, surface approach to learning was related to anxiety in students (Entwistle & Ramsden, 1983). It is thus possible that this kind of approach to learning is related to anxious feelings and maladaptive thoughts about writing.

Boice (1993) ends up in a list of different methods aimed at curing the problem. First, oldest and best known are variations on *automaticity*, referring to writing with reduced awareness of what is being written. The most widely used strategy of the mildly dissociative strategies is free writing, where the writer lets the text flow without being critical. It has proven helpful for inducing temporary momentum in formerly blocked academic writers. Second, Boice gives the practical advice on regular writing, namely, *regimen*. This includes, for instance, constitutive strategies that help induce lasting changes in fluency. Writers who work in regimen of regular writing, regardless of readiness or mood, produce more writing and more creative ideas than do writers who wait for inspiration before beginning. Third, *cognitions of writing* are crucial in avoiding blocking. Writers need to engage in active metacognitions about writing that will help them to talk about problems and strategies, to effectively monitor their writing, and to develop a variety of writing strategies. This is closely related to the fourth treatment: need for external pressures and *social supports* to make writing efficient and effective.

Process-oriented instruction

In many cases, academic environment is far from optimal when it comes to social support. It only provides deadlines, but not tools to meet them. Many professors possess tacit knowledge that they are not able to share (Boice, 1993; Lea & Street, 1998). The act of writing remains a lonely journey, when it could be an act of participating in a scientific community.

Process-oriented approaches have little by little become quite popular in writing instruction (Applebee, 1986). Process-oriented teaching of writing is by far the most effective writing instruction available (Björk & Räisänen, 1996). This development is based on research, which has since 1970s and 1980s emphasised the thinking strategies underlying the writing process (e.g. Flower & Hayes, 1981; Bereiter & Scardamalia, 1987). Process-oriented writing instruction has been designed to help students think through and organise their ideas before writing and also, to revise, reflect and rethink during their writing (Healy, 1981). According to Applebee (1986), typical learning-by-writing activities include, for instance, brainstorming, journal writing, free writing, small-group activities, and emphasis on multiple drafts. He suggests that "properly implemented process approaches are more effective in fostering good writing and breadth of form, and also encouraging more reasoned and disciplined thinking about the topics themselves" (Applebee, 1986, p. 97).

Learning-by-writing activities have also been applied in many colleges and universities. For example, McGovern and Hogshead (1990) state the following goals: 1) to assess students, 2) to promote students' learning, 3) to develop students' writing skills, and 4) to facilitate analytic and creative thinking. They describe their own reconceptualisation of writing from thinking of writing as a noun towards thinking of writing as a verb. Thus, writing is not only a text produced by the student, but rather, "writing is an action, a process of thinking and learning, which is inextricably tied to our students' cognitive development in our particular courses and in their college careers in general" (McGovern & Hogshead, 1990, p. 5).

It is obvious that process-oriented instruction may be helpful in academic writing, because it lowers the threshold for writing and enhances automaticity, provides social support and regimen, and helps the writers to revise their cognitions and beliefs about writing. It may also relieve blocks, anxiety, and procrastination, which are, according to Boice (1993), so common among academic writers.

Activating instruction in training doctoral students

Lonka and Ahola (1995) presented the model of activating instruction in higher education. In writing, this approach has ambitious goals. The central idea is to enable students to view the act of writing as an aid to their learning, a tool to be used in acquiring mastery over new information, and a means of revealing their present understanding of a given subject (Healy, 1981). It is intended to support the process of writing with the help of peer groups. Second, our learning-by-writing exercises are based on the idea that not just any writing fosters study and thinking skills: exercises that are aimed at enhancing knowledge transforming (Bereiter & Scardamalia, 1987) are the means that may best help the development, when carried out in meaningful social interaction.

The framework of activating instruction is a synthesis of various theoretical ideas. It is based on three general principles that can be derived from the points presented above:

1) Diagnosing and activating: It is important to diagnose the quality and level of students' (mis)conceptions in the beginning of instruction. Some exercises that make diagnosing possible, like focused free-writing, also help students to activate their previous

knowledge. In training doctoral students, writing instructions starts by diagnosing their ideas of the writing process. After these ideas are made overt to reflection and discussion, student may start the process of revising their beliefs.

2) Fostering the learning process and reflective thinking: It is essential to make students' strategies and knowledge open to discussion and reflection during the course. Student's reflection and metacognition may be enhanced, for example, by using learning logs (or journals), small group discussions, and some special forms of focused free-writing. Peer groups are an excellent means for reflection of one's writing process.

3) Giving feedback and challenging misconceptions: It is important that students get feedback from both their peers and from the trainer. After the course is over, it is important to make clear what has been the basis of evaluation and how the student might enhance her writing habits and approaches in order to make the performance better in the future.

Lonka and Ahola (1995) reported a six-year follow-up study on activating instruction as compared to traditional teaching at the department of psychology. They found that those who participated in activating instruction curriculum proceeded in their studies more slowly in the beginning of their undergraduate years but had less problems in thesis writing and finishing their studies. The possibility was discussed that those who participated in activating instruction slowed up their pace in the beginning of the studies but enhanced their later studies, because the students had thoroughly internalised some important study skills. Those who survived the first college years with surface strategies scored high credit points in the beginning, but found thesis writing and final exam more difficult. On the basis of questionnaires and evaluation forms, students clearly appreciated activating instruction. They thought it made studying more interesting, fostered understanding, and developed study skills, especially literate skills. As in process-oriented instruction in general (Applebee, 1986), the effect of activating instruction was experienced more significantly in procedural than in declarative learning.

The most important lesson we can learn of the present small case study is that effects of instructional innovations may emerge after a long period of time. Had we looked at the follow-up data after a three year period, it would have been very discouraging. Only after five years we were able to see something about the quantitative and qualitative outcomes of the instructional procedures.

Complex skills of expertise take a long time to develop - what appears to be 'inefficient' within a short period of time, may be truly effective in the long run. Therefore, it is quite unlikely to expect straightforward outcomes of a one-term intervention such as the one reported here. However, the main criticism toward basic experimental “comparison group“ designs in academic writing have been that they tend to be theoretically naïve and to use simplistic outcome measures (Torrance, Thomas, & Robinson, 1993). I have tried to avoid these problems here.

The intention of this chapter is not to provide “objective“ outcomes of a course, but rather, to present one conceptualisation of writing that may prove helpful for doctoral students. I describe how activating instruction may be realised in the concrete setting of a one-semester course for doctoral candidates. The main idea of the course was to apply the theories and methods described above and to put those theories into action in a very demanding real- life situation.

Objectives of the intervention

The means of the course were activating instruction and process writing. The course was based on free-writing exercises, using multiple drafts, constructive feedback strategies, revealing the myths and revising mental models of writing (for instance, by sharing research evidence on writing), rearranging the writing environment and rearranging writing habits, analysing different text types and therefore increasing metalinguistic awareness, making tacit knowledge overt to discussion, and reflecting on the participants' own writing practices.

The main objectives of the course were:

1. Analysing oneself as a writer: What are my ideas? Are they adaptive and positive?
2. Understanding the process of scientific writing: Knowledge telling and knowledge transforming. What is process writing?
3. Recognising obstacles for productive writing and tools for minimizing them.
4. Awareness of different text types: How to build an argument.
5. Collaborative learning: Using a peer group to enhance productivity. How to apply constructive feedback strategies.

Participants

A total of 11 medical, psychology, and dental doctoral candidates attended. They were all volunteers, at different phases of writing their Ph.D. theses. The form of the intended doctoral dissertation varied: most students were writing a summary of published articles, but a few monographies were also in progress. Some candidates were writing their first drafts, some others were already writing summaries of already published articles. The topics varied from natural scientific microbiology, bacteriology, and genetic domains to less clearly defined domains, such as child psychiatry and the psychology of learning.

Supervisors were also invited to attend, but only one of them finished the course. The main reasons for supervisors for not attending the course was that they a) “already knew what academic writing includes“, and b) “did not have time“ (this claim is based on oral communication with the supervisors and on the reports of the students).

Content, design, and materials

The main contents of the course are summarized in Table 1. However, the intention was not to simply deliver this knowledge, but to use experiential learning methods and different exercises in order to make this knowledge useful for the participants. Some minilectures were included, but the method mainly consisted of activating instruction (as defined above), free-writing exercises, and discussions.

Boice's (1990) practical guide to productive writing gives tools for putting his theory in action. He goes through the typical problems of academics and gives hints about how to avoid them. Typical obstacles and difficult situations were related to either getting started with writing (procrastination) or putting the end to the writing process (perfectionism). Boice's ideas were very useful in designing a course for doctoral students. His practical, almost “behaviorist“ advice for stimulus control for rearranging the writing environment and rearranging writing habits were explicitly dealt with (Boice, 1990, pp. 76-79). They were copied to and discussed with the participants.

It was also useful to identify various text types and on that basis increase the writer's awareness of different ways of building an argument (Björk, 1997). The participants were even introduced to eight typical misconceptions about writing scientific papers (Sternberg, 1988, see Table). Although these were originally intended for psychologists, it was fruitful to discuss how they would apply in medicine and natural sciences.

The materials that were collected during the course consisted of:

- a) The Writing Process Questionnaire (Lonka, 1996). This was used as a self-assessment instrument by the students. Everybody filled in the Writing Process questionnaire during the first introductory session and analyzed their results in their writing logs in terms of scales Blocks, Negative thoughts, Perfectionism, Procrastination, Creativity, Positive thoughts, Productivity, Knowledge telling, and Knowledge transforming.
- b) Writing logs, where the participants analysed their writing profiles (on the basis of their experiences and as they emerged in the questionnaire)
- c) Produced texts: Every student had to bring in a draft for an article, conference paper, or a chapter of his or her thesis. The intention was to work on this piece, essential for the student's thesis, and to finish it during the course.
- d) Assignments: These included small group exercises, such as constructive feedback strategies for commenting on each others' drafts. An interesting exercise to increase text-type awareness was to ask the participants to analyse a simple text written by an American high school student on "The Deers of Moraga" (Björk, 1997). This text demonstrated the so-called problem-solving text type, where the author intends to define a problem and to propose solutions for solving it. After the participants had analysed the structure of this text, they were given the assignment to write a popular text for a newspaper, which would convince the reader about the dangers of cholesterol.
- e) Feedback forms were filled in immediately after the course. Everybody answered three open-ended questions: What helped your learning? What hindered your learning? How would you develop this course?
- f) Four months after the course was completed, the students were e-mailed a short questionnaire about the outcomes of the course. They were asked: 1) How do you see yourself as a writer at the moment? Did the course change your conceptions – if yes, how? 2) Did the course provide concrete help for writing? If yes, what kind of help was it? 3)

What kind of support, encouragement, or training do you think you will need in the future?
 4) What was the use of peer feedback? 5) Have you still met with your small group? 6)
 What are the biggest challenges in writing for you at the moment? Can you meet them?
 7) What kinds of emotions do you relate to writing? Have they changed? (Eight participants
 replied to the questionnaire.)

The main intention was not, however, to collect research material, but to focus on materials that would enhance the writing process and the productivity of the participants.

The design of the course was as simple as possible. It was a one-term intervention (October – January) with four three-hour workshops, peer sessions, and written assignments (Table 2). The idea was to have few sessions together with the whole group, and to divide it into small groups of three to four participants. The plan was that all small groups would get together and comment on each other's drafts between the workshops.

Outcomes and some reflections

The participants found the Writing Process Questionnaire to be a useful tool for their self-assessment and reflection. For example, they analysed their scores on the Knowledge transforming scale:

“I got very high scores (21) on the scale Knowledge transforming. Therefore I am ready to get feedback and to revise my text. I think that should be self-evident for a novice like me, I shouldn't think that I know things as well as those who have been working in this area for years! Moreover, when I modify my text for several months, I may become blind to its fallacies. The text changes but one can't notice some obvious inconsistencies. I know what I want to say, but am I able to express it?”

Torrance, Thomas, & Robinson (1993) differentiated three approaches to training in thesis writing: a product-centred course which taught grammatic and stylistic rules; a cognitive strategies course which provided heuristics for generating and organising thesis content; and a generative writing and shared revision course which entailed the production of a draft followed by extensive revision on the basis of reviewing by the peers. All these courses were short, lasting for only two days, and they were well received by the students.

The aims of the course were mainly rhetorical and psychological, and it was a combination of approaches introduced by Torrance, Thomas, & Robinson (1993). Unlike the short courses they described, the intention of the present course was to provide a one-term process with working on true pieces of a doctoral dissertation. The approach was a combination of courses in cognitive strategies with generative writing and shared revision, whereas practical advice on stylistic rules and grammar were not emphasised. The approach was close to that of “academic literacies” (Lea & Street, 1998) which views student writing and learning as issues of social practices, epistemologies, and identities. The academic literacies perspective takes into account study skills but includes them in the broader context of the acculturation process.

Not all participants were at ease with the psychological and philosophical approach of the course. Epistemological differences reflecting conceptions of scientific knowledge as well as approaches to academic writing emerged between medicine and psychology, similar to those reported by Lonka and Lindblom-Ylänne (1996). We have previously shown that constructivist conceptions of learning and knowledge (Lonka, Joram, & Bryson, 1996) are related to ideas of writing resembling transforming (Lonka, Heikkilä, & Maury, 1997). Therefore, changing an approach to writing may call for changing the whole framework about what learning and writing are. Moreover, it may call for changing the writer’s whole lifestyle (Boice, 1990).

Academic teachers represent their own community of practice, and have their own domain-specific views about what constitutes a good piece of writing. Lea and Street (1998, p. 162) even suggest that “what makes a piece of student writing ‘appropriate’ has more to do with issues of epistemology than with the surface features of form to which staff often recourse when describing their students’ writing. That is to say, underlying, often disciplinary assumptions about the nature of knowledge affected the meaning given to the terms ‘structure’ and ‘argument’.” Therefore it is extremely important to make these tacit assumptions open to discussion.

In the beginning of our course some medical doctors found the rhetorical goals of the course extraordinary, almost bizarre. This was because they originally appeared very fact-oriented, and were hesitant to transform their text by taking into account the point of view of the reader. This approach resembled misconceptions 4 and 5 (Sternberg, 1988, see Table 1), very deeply rooted in their thinking: “our purpose is to present the facts, not to convince the reader“. This

position obviously reflects the culture of the Faculty of Medicine in general (Lindblom-Ylänne & Lonka, 1999). However, the writing logs revealed that the conceptions of the participants changed during the course:

“This course has been truly interesting. During this course I have understood writing in a new way, and I have seen the rhetorical power of the writer in much greater extent than I did originally. Fortunately I have never found writing *per se* to be very difficult, but this course taught me many valuable hints for later use, for instance, how to have an impact on the reader, or how to make a difference in one’s own writing“.

Learning to write texts for non-specialist audiences may be very difficult in the context of academic writing. One aim of the course was to report one’s own research in an understandable way. For instance, one participant finished her doctoral dissertation on a very exciting topic, which newspapers would headline “the killer bacteria“. The title of her abstract was, however, in Latin, and the press would not have understood it. After the Deers of Moraga exercise (Björk, 1997) the author realised that she might want to write her abstract differently:

“The exercise Deers of Moraga totally opened my eyes about how and on what kind of writing strategy might affect the reader. It became perfectly clear! After that I wrote the assignment of Dangers of Cholesterol text, and consciously applied the same strategy... I was very happy about the feedback my small group gave to me“.

Later this doctoral candidate wrote a draft for a press-release, and revised it according to the advice she was given at the course. She replaced all Latin terms with understandable expressions and wrote a short popular text about her results. The outcome was that she managed to get her research well known. At the time when her orals took place, her picture was in the newspapers, and she was interviewed in the national television. This rarely happens for those who publish a study in bacteriology.

The immediate course feedback was quite positive (Table 3). Almost everybody (10/11) found the interaction between peer writers to be the most rewarding aspect of the course. Reflecting on one’s own writing was mentioned to be important by more than half of the participants

(6/11). Very few negative aspects were mentioned. Interestingly, such issues as heterogeneous group, the loose structure of the course, and its time frame were sometimes mentioned as positive, sometimes as negative aspects of the course. Surprisingly, these extremely busy professionals wanted a more dense schedule, more structure, more exercises, more discipline, and even more workshop sessions. Positive atmosphere, encouragement and inspiration were not marginal outcomes of the course but essential in its objectives. Self-confident is crucial in writing.

After four months, almost all the participants still emphasised the usefulness of peer feedback in their e-mail responses. One participant mentioned, for instance: "It is an excellent idea! If I ever start a research group of my own, I will apply it." The main use of the groups was typically to relieve anxiety: "It was very comforting to notice that also other people have to start with very primitive drafts! For once I could observe the anxiety-driven process that is not observable in the final text." Despite the positive attitudes, none of the original groups continued meetings after the course was over.

Three participants had finished their doctoral dissertations before the final e-mail inquiry. They were those whose ideas of writing were positive from the beginning, and who also gave the best feedback of the course. Their current feelings towards their own writing were very positive. But they felt the course came too late: "I wish this course had taken place earlier. I will recommend it to all colleagues who are writing their thesis. Not too early, though. Those who attend should have some experience in writing".

The comments presented above may be just right, because those participants who were just starting their dissertation were the least likely to benefit from the course in terms of productivity. They felt they needed a more rigorous course, because they became the most confused. They did not want to face the ill-defined and creative nature of the writing process, but rather, expressed needs for a more product-oriented approach.

Five participants finished that part of their theses which they had chosen to be the product of the course. They were pleased, but somewhat less euphoric than those who had graduated. Typical comments were, "Gradually I have started to approach writing as a job that rewards

for effort and persistence. The course helped me to work through my ideas about writing and also to analyse my ways of doing things.“

Those four participants who did not finish the intended part of their dissertation before the e-mail inquiry were mainly part-time students who also worked as clinicians: “Because of the lack of time I am not writing at the moment. But I find writing easier, the threshold to start is much lower.“ These students planned to write more in the future, and were optimistic about doing this.

Blending doctoral candidates at different points of their work may not be a bad idea after all. Vygotsky’s (1978) idea of the *zone of proximal development* indicates that those in the beginning of their thesis writing may develop their own writing by sharing the writing process with more advanced students. Further, fusing psychology, medicine, and dentistry may serve the same purpose. Mixed feelings about heterogeneous groups may reflect the participants’ different stages of development and the constructive frictions that may follow, when different points of view challenge each other (Lindblom-Ylänne & Lonka, 1999). Dysthe (2000) points out that new meaning, new insight, and understanding are dependent on the tension between different voices, viewpoints, and perspectives.

Finally, the conceptual change that took place in the participants’ minds may be conceptualised into five main paradoxes of writing that emerged in the workshop discussions:

1. *Chaos and structure* are not as far from each other as we might think. Well-structured texts may be produced by a chaotic process, that is the creative process of knowledge transforming.
2. *Process and product* are intertwined. But if we are too keen on the product and outcomes, the process of writing may suffer.
3. *Confusion and confidence* are both needed. The participants found the course confusing, but the process of writing may itself be confusing. Confidence was needed to survive confusion and to keep up determination and positive mood to survive the process. Social support was essential to keep up confidence.
4. *Participation vs. acquisition*: Most participants expected concrete advice and rules about how to produce a perfect piece of work. They also expected the teacher to comment on everybody’s work. However, the participation in small group sessions and the dialogue

with peers emerged to become more important than the teacher transmitting a list of facts about writing.

5. *Group work shapes the individual mind.* This paradox has its roots in Vygotsky's (1978) thinking: it is difficult to become an independent writer without internalising the view of the others. It is very important to get new insights about the reader's point of view as well as the shared literal conventions. These things may be easiest to learn in a group.

There is an obvious need to develop new ways to support doctoral candidates. Not enough has been done to help them so far. This pilot course was encouraging and rewarding for the teacher. It evoked many new insights for all parties who were involved in the process. The workload for the teacher was not too heavy. If such a small investment of time and effort from the part of the Faculty may help, procedures like this might be worth serious consideration.

References

- Applebee, A.N. (1986). Problems in process approaches: toward a reconceptualization of process instruction. In A. R. Petrowsky & D. Bartholomae (Eds.), *The teaching of writing. Eighty-fifth yearbook of the National Society for the Study of Education. Part II* (pp. 95-113). Chicago, IL: The University of Chicago Press.
- Bereiter, C. , & Scardamalia, M. (1987). *The psychology of written composition*. Hillsdale, NJ: Erlbaum.
- Biggs, J.B. (1988). Approaches to learning and to essay writing. In R.R. Schmeck (Ed.), *Learning strategies and learning styles* (pp. 185-228). New York: Plenum Press.
- Björk, L. & Räisänen, C. (1996). *Academic Writing. A university writing course*. Lund, Sweden: Studentlitteratur.
- Björk, L. (1997, August). *Text-type awareness and academic writing*. A workshop at 7th European Conference of EARLI (European Association of Research on Learning and Instruction). Athens, Greece, August 26 to 30, 1997.
- Boice, R. (1990) *Professors as writers. A self-help guide to productive writing*. Stillwater, Oklahoma: New Forums Press.

- Boice, R. (1993). Writing blocks and tacit knowledge. *Journal of Higher Education*, 64, 19-54.
- Bruner, J.S. (1973) Beyond the information given. Cambridge, MA: Harvard University Press.
- Dysthe, O. (1993, September) "Giving them the tools they need to succeed". A high school teacher's use of writing-and-talking-to-learn in a literature class. A paper presented at EARLI SIG-Writing Conference, Verona, Italy, September 4-7, 2000.
- Flower, L. & Hayes, J.R. (1981) Plans that guide the composing process. In: C.H. Fredriksen & J.F. Dominic (Eds.) *Writing: The nature, development, and teaching of written communication. Vol 2. Writing: Process, development and communication*. Hillsdale, NJ: Erlbaum.
- Entwistle, N., & Ramsden, P. (1983). *Understanding student learning*. London: Croom Helm.
- Healy, M.K. (1981) Purpose in learning to write: An approach to writing in three curriculum areas. In: C.H. Fredriksen & J.F. Dominic (Eds.) *Writing: The nature, development, and teaching of written communication. Vol 2. Writing: Process, development and communication*. Hillsdale, NJ: Erlbaum.
- Healy, M.K. (1986, August). *Jyväskylä writing project summer seminar*. University of Jyväskylä. Chair: Pirjo Linnakylä. August 5-8, 1986, Jyväskylä, Finland.
- Hounsell, D. (1984). Learning and essay-writing. In F. Marton, D.J. Hounsell, & N.J. Entwistle (Eds.), *The experience of learning* (pp. 103-123). Edinburgh, UK: Scottish Academic Press.
- Kuhn, D. (1989) Children and adults are intuitive scientists. *Psychological Review*, 96, 674-689.
- Lahtinen, V., Lonka, K. & Lindblom-Ylänne, S. (1997) Spontaneous study strategies and the quality of knowledge construction. *British Journal of Educational Psychology*, 67, 13-24.
- Lea, M.R. & Street, B.V. (1998) Student writing in higher education: an academic literacies approach. *Studies in Higher Education*, 23, 157-172.
- Lindblom-Ylänne, S. & Lonka, K (1999): Individual ways of interacting with the learning environment - Are they related to study success? *Learning and Instruction*, 9, 1-18.

- Lonka, K. (1996). The writing process questionnaire. Department of Psychology, University of Helsinki.
- Lonka, K. & Ahola, K. (1995). Activating instruction: How to foster study and thinking skills in higher education. *European Journal of Psychology of Education, 4*, 351-368.
- Lonka, K., Lindblom-Ylänne, S. & Maury, S. (1994) The effect of study strategies on learning from text. *Learning and Instruction, 4*, 253-271.
- Lonka, K. & Lindblom-Ylänne, S. (1996) Epistemologies, conceptions of learning, and study practices in medicine and psychology. *Higher Education, 31*, 5-24.
- Lonka, K., Joram, E. & Bryson, M. (1996) Conceptions of learning and knowledge – does training make a difference? *Contemporary Educational Psychology, 21*, 240-260.
- Lonka, K., Maury, S., & Heikkilä, A. (1997, August) *How do students' thoughts of their writing process relate to their conceptions of learning and knowledge*. A paper presented at 7th European Conference of EARLI (European Association of Research on Learning and Instruction). Athens, Greece, August 26 to 30, 1997.
- Marton, F., & Säljö, R. (1976). On qualitative differences in learning - I. Process and outcome. *British Journal of Educational Psychology, 46*, 4-11.
- McGovern, T.V. & Hogshead, D.L. (1990) Learning about writing, thinking about teaching. *Teaching of Psychology, 17*, 5-10.
- Olson, D. (1994). *The World on Paper. The conceptual and cognitive implications of writing and reading*. Cambridge, MA: Cambridge University Press.
- Scardamalia, M., & Bereiter, C. (1991). Literate expertise. In K.A. Ericsson & J. Smith (Eds.), *Toward a general theory of expertise. Prospects and limits* (pp. 172-194). Cambridge, MA: Cambridge University Press.
- Slotte, V. & Lonka, K. (1998). Using notes during essay-writing: Is it always helpful? *Educational Psychology, 18*, 445-459.
- Slotte, V. & Lonka, K. (1999a). Review and process effects of spontaneous note-taking on text comprehension. *Contemporary Educational Psychology, 24*, 1-20.
- Slotte, V. & Lonka, K. (1999b). Spontaneous concept maps aiding the understanding of scientific concepts. *International Journal of Science Education, 21*, 515-531.
- Slotte, V. & Lonka, K. (2001). Note-taking and essay-writing In: G. Rijlaarsdam (Series ed.)

- & P.Tynjälä, L. Mason, & K. Lonka (Volume eds.) *Studies in Writing. Volume 7. Writing as a Learning Tool: Integrating theory and practice.* (pp. 131 – 143). Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Sternberg, R. J. (1988) *The psychologist's companion. A guide to scientific writing for students and researchers.* Cambridge, MA: Cambridge University Press.
- Torrance, M., Thomas, G.V., & Robinson, E.J. (1993). Training in thesis writing: an evaluation of three conceptual orientations. *British Journal of Educational Psychology*, 63, 170-184.
- Tynjälä, P. Mason, L., & Lonka, K. (2001). Writing as a learning tool: An Introduction. In: G. Rijlaarsdam (Series Ed.) & P.Tynjälä, L. Mason, & K. Lonka (Eds.) *Writing as a Learning Tool: Integrating theory and practice.* (pp. 7 - 22). Dordrecht, The Netherlands: Kluwer Academic Publishers.
- van Dijk, T.A., & Kintsch, W. (1983). *Strategies for discourse comprehension.* New York: Academic Press.
- Vygotsky, L.S. (1962). *Thought and language.* Cambridge, MA: Harvard University Press.
- Vygotsky, L.S. (1978). *Mind in society. The development of higher psychological processes.* Cambridge, MA: Harvard University Press.

TABLE 1. Some central theoretical ideas introduced at the course.

Maladaptive Thoughts of Writing (Boice, 1993)

- Blocks - the feeling that I am not able to write
- Negative Thoughts - writing is not enjoyable, I do not feel good about it
- Procrastination - I cannot get started!
- Perfectionism - I cannot stop revising!

Adaptive Thoughts of Writing

- Productivity - the feeling that I am able to produce
- Positive Thoughts - writing is enjoyable, I feel good about it!
- Creativity - I see writing as an act of creation

How to cure blocks? (Boice, 1990)

- **Automatisation** - getting rid of the “internal critics“, setting the threshold lower for writing.
- **Regimen** - constant writing regardless of mood, time, and space
- **Social support** - peer groups etc.
- **Adaptive cognitions about writing** - useful beliefs about oneself and writing.

Eight misconceptions about writing a psychology paper (Sternberg, 1988)

1. Writing the paper is the most routine, least creative aspect of the scientific enterprise, requiring much time but little imagination.
2. The important thing is what you say, not how you say it.
3. Longer papers are better papers, and more papers is better yet.
4. The main purpose of a paper is the presentation of facts, whether newly established or well-established.
5. The distinction between scientific writing on the one hand and advertising and propaganda on the other is that the purpose of scientific writing is to inform whereas the purpose of advertising or propaganda is to persuade.
6. A good way to gain acceptance of your theory is by refuting someone else's theory.
7. Negative results that fail to support the researcher's hypothesis are every bit as valuable as positive results that do support the researcher's hypothesis.
8. The logical development of ideas in a paper reflects the historical development of ideas in the researcher's head.

Constructive feedback strategies (Healy, 1984)

- start with careful reading and listening: what the author wants to say?
- present strong and positive aspects about the text
- present specific questions about the text, e.g. "what do you mean by saying x on page 5?"
- do not comment on the writer or writer's abilities
- the author is not supposed to answer orally; but to underline the strong points of the text and to write down the questions – it is her task to think through the comments and decide what to take into account.

Two modes of thinking about writing (Bereiter & Scardamalia, 1987)

- KNOWLEDGE TELLING: Writing is simply listing what you already know - minimising the cognitive load.
- KNOWLEDGE TRANSFORMING: Writing is an effortful and reflective problem-solving process

Some Text types (Björk & Räisänen, 1996; Björk, 1997)

■ **Causal Analysis**

- to analyse the causes of something

■ **Problem Solving**

- to identify a problem and to propose solutions to the problem

■ **Argumentation (pure)**

- argumentation for and against; to take a position on an issue

Genres (Björk & Räisänen, 1996; Björk, 1997)

■ **Academic papers, articles, or books**

- in psychology, linguistics, literature, philosophy, physics, architecture, mathematics etc.

TABLE 2. The structure of the course.

1ST SESSION (OCTOBER 8, 1999, 3 hours)

- **CONTENTS:** Self-assessment: My own ideas about writing? The Writing Process Questionnaire. Forming peer groups. The idea of a writing log. A feedback exercise. Knowledge telling vs. transforming. Writing blocks.
- **ASSIGNMENTS:** Setting up peer group meetings. Choosing a text to be worked on. Practicing constructive feedback. Analysing a given text. The writing log: Analyse yourself as a writer. E-mail feedback to the trainer.

2ND SESSION (OCTOBER 22, 1999, 3 hours)

- **CONTENTS:** Self-assessment. 8 misconceptions about academic writing. How are the peer groups functioning? The writing log? An exercise: The Deers of Moraga text - what did the writer do? Text types and genres. Discussion.
- **ASSIGNMENTS:** Write a convincing text about the dangers of cholesterol. Writing log. Working on your own text. Peer meetings.

3RD SESSION (DECEMBER 3, 1999, 3 hours)

- **CONTENTS:** How is my text handled in the peer group? Writing logs. Analysing the exercise: the cholesterol text. Feedback strategies - discussion. How to prevent burn-out in the academic world.
- **ASSIGNMENTS:** Peer group meetings. Working on one's own text. Writing log. E-mail feedback.

4TH SESSION (JANUARY 28, 2000, 3 hours)

- **CONTENTS:** What has happened? How to write a grant proposal. Specific features of writing in natural sciences. What helped me during the course?
 - **ASSIGNMENTS:** The future of the peer groups? Scheduling my own writing & rearranging my writing habits. Feedback after the course is over. peer meetings, assignments, e-mail feedback, working on one's own text
- **WHAT HAS HAPPENED? E-mail inquiry in May, 2000**

Table 3. Students' feedback about the course.

WHAT HELPED YOUR LEARNING? (n = 11)

- Interaction with peer writers (10)
- Self-reflection on writing (6)
- Exercises (3), inspiring teacher (3)
- Heterogeneous group (2)
- atmosphere, practical advice, starting/understanding the writing process, new ideas, loose organisation, course materials, concrete examples (each comment mentioned by one participant)

WHAT HINDERED YOUR LEARNING? (n = 11)

- I was not able to organise my own schedule (2)
- My peer group was too heterogeneous, we had problems with time schedule, more sessions needed, repetition needed (the loose structure of the course), my own writing process was in a desperate phase (each comment mentioned by one participant)

HOW WOULD YOU DEVELOP THE COURSE? (n = 11)

- The time frame should be more dense (n = 3)
- More structure! (n = 3)
- More exercises! (n = 3)
- More sessions! More information! More courses per student! (each mentioned by one participant)