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RESEARCHING THE TRANSFORMATION IN THE SCHOLARSHIP OF TEACHING AND LEARNING THROUGH TEACHING PORTFOLIOS AND CONFERENCE PAPERS

A REFLECTION AT THE INSTITUTIONAL LEVEL

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INTRODUCTION

Research on how scholarly teaching is developed in settings of institutional development is marked by complexity, since there is no obvious link between the way the development work is carried out and the effect on the quality of student learning. An important part of the development work at the Faculty of Engineering at Lund University is to encourage teachers to take a scholarly approach to their teaching practice and presumably raise the quality of student learning. But in what sense is the constitution of Scholarship of Teaching and Learning (SoTL) developed over time among the teachers of the faculty?

With the increasing demands for accountability in higher education there is an increased focus on the quality of teaching and learning (Gosling 2001). To make student learning visible is regarded as a main condition for the individual teacher to engage in their teaching practice in an academic manner (Trigwell, Martin, Benjamin & Prosser 2000) and a way to raise the quality of teaching. This can be regarded as a continuing scholarly process for short- as well as long-term development. To make student learning visible by systematically reflecting on it and documenting it is one way to bring focus to the quality of teaching activities in relation to student learning. In this study we investigate how teachers are making student learning visible in a setting of institutional development where taking a more scholarly approach to teaching is rewarded. We investigate changes in how teachers themselves, as a collective, express aspects of their teaching practice. By doing so, we hope to gain better knowledge of how SoTL is constituted on the teacher's level in the context of institutional development.

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The role of multiple scholarships in academic development

There is much more to scholarly teaching than what can be observed solely by looking at the teaching that takes place in the classroom (Kreber 2002; Olsson, Mårtensson & Roxå 2010). In this study we take a broad view on how teachers are dealing with student learning by investigating how teachers reflect in a scholarly way on their teaching practice and how the intention of sharing it in documents is carried out. This is a way to come closer to what Boyer (1990) aims for in his conceptualisation of 'scholarly activity' in the university. The scholarly activity will make the university better prepared for the future, he claims. He reminds us that university practice has changed, shifting its priority from teaching to research, and points out that this often has been detrimental to the students. Boyer stresses that the reward system of universities in general encourages research, primarily in the disciplines such as literature, physics, political science and theology. Educational programmes draw on knowledge from different disciplinary departments and therefore the curriculum is fragmented and students' knowledge formation is often experienced as lacking coherence. According to Boyer, the challenge for the future is to enrich university practice to stimulate creativity; research, teaching and service need to be matched in the university as a whole, and the reward system needs to adapt accordingly.

Thus, the most important obligations now confronting the nation's colleges and universities is to break out of the tired old teaching versus research debate and define, in more creative ways, what it means to be a scholar. It's time to recognize the full range of faculty talent and the great diversity of functions higher education must perform.

(Boyer 1990:xii)

There are a variety of functions to stimulate academic creativity. The challenge is to balance these functions in a fruitful way so that they do not come into conflict with each other and demoralise the academics in their faculty work. Scholarship thus needs to be redefined to respond more adequately to the realities that exist in the university context. The new vision of scholarship goes back to the original meanings of scholarship, referring to the ability to integrate thinking, communication and learning in the full scope of the variety and overlapping functions of academics' work. These functions are the scholarship of discovery; the scholarship of integration; the scholarship of application and the scholarship of teaching.

According to Boyer, SoTL is a way to support teachers in taking a creative, systematic and reflective academic approach to their teaching without differentiating between scholarly teaching and excellent teaching. A variety of models and theories of SoTL

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have subsequently been advocated to engage teachers in taking a more scholarly academic approach to their teaching practice (e.g. Barr & Tagg 1995; Kreber 2002; Trigwell *et al.* 2000; Trigwell & Shale 2004).

There are various reasons why institutional development aims to promote a scholarly approach to teaching: as a way to raise the status of teaching, as a way to assess the quality of teaching, and as a way to enhance student learning. These reasons have in common that there is a need to develop a more scholarly base in the teachers' activity, sharing new knowledge about the relationships between teaching and student learning and facilitating critique. This encompasses a systematic scholarly approach by teachers, not only in researching their subject matter but also in researching their teaching practice. A major concern is how student learning is made possible, transparent and visible in their teaching practice, an area focused on by Ramsden (1992), further developed by Trigwell *et al.* (2000) and by Booth and Anderberg (2005). This mainly concerns reflection, problematisation, delimitation, investigation, inquiry, analysis, theoretisation and documentation of the relationship between teaching and student learning. When taking such steps towards a scholarship of teaching, the act of communication is of core interest, as suggested by Shulman in his model of how to move towards a scholarly approach in teaching:

[S]cholarship entails an artefact, a product, some form of community property that can be shared, discussed, critiqued, exchanged, built upon. So, if pedagogy is to become an important part of scholarship, we have to provide it with this same kind of documentation and transformation.

(Shulman 1993:7)

Improving student learning needs to be part of a reflective and collaborative process, in the same way as traditional research is. It is a way to learn more about teaching and learning employing critical analysis and it is a core contribution in developing a scholarly approach to teaching. As Shulman (1993) comments: "[A]rtefacts of teaching must be created and preserved so that they can be judged by communities of peers beyond the office next door" (p. 7).

Two examples of community property that fit the model suggested by Shulman involve writing teaching portfolios and making presentations at conferences. In portfolios the texts are both personal and research based, while they are more research based in papers presented at conferences, articles and books. Both artefacts are about making student learning visible and transparent on the basis of a teacher's analysis of the relationship between teaching and learning.

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The Scholarship of Teaching and Learning and its relation to pedagogical competence

The focus in this study is the extent to which a scholarly approach to teaching and learning is evident in teachers' portfolios and their conference papers. Two models have been used as a basis for how we perceive SoTL and its relation to what we are terming pedagogical competence.

First, Figure 6.1 shows a schematic model of how theoretical knowledge and pedagogical practice are related to teaching skills and pedagogical competence, as suggested by Olsson *et al.* (2010). It shows pedagogical competence as a broader concept than teaching skills, which agrees with for example, Magin (1998). The model is inspired by Kolb's Learning Cycle (Kolb 1984) and can be seen as an upward spiral in that pedagogical practice, after going through each cycle, includes a higher and more developed quality.

FIGURE 6.1 Teaching skills in relation to pedagogical competence
(Source: Olsson *et al.* 2010)

Scholarly teaching includes teaching skills, but this is just one, though central, aspect of pedagogical competence, as demonstrated in the ability to teach in a way that actively supports student learning. Subject knowledge and knowledge about learning and teaching the subject, termed pedagogical content knowledge by Shulman are also important (Shulman 1986).

Theoretical competence in pedagogy for higher education and pedagogical content knowledge are of great importance for the teacher's perspective on teaching and learning. Pedagogical competence is underpinned by knowledge about teaching and

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learning so that theory and pedagogical practice together develop a pedagogical understanding that creates the prerequisites for continued development.

Second, the study is also inspired by a model that links pedagogical competence with teaching practice (Antman & Olsson 2007; Kreber 2002). The model was originally used to compare the complexity of pedagogical reasoning and understanding with the degree of reflective, scholarly practice. Although that comparison is not the focus here, it has been used to discuss the level of pedagogical competence that presupposes good, broad and deep knowledge of teaching and learning, together with deep knowledge of the subject matter.

Pedagogical competence and the concept of being a scholarly teacher includes making one's practice public by sharing it in various academic contexts. The teacher should use his or her own experiences as well as literature in the teaching and learning field to reflect on their practice. This is done in order to understand the practice and use this knowledge for the purpose of developing it.

Reflective scholarly writing as part of a transformative process

Writing a teaching portfolio or a conference paper offer two ways to take a more scholarly approach to teaching practice. A study by De Rijdt, Tiquet, Duchy and Devolder (2006) shows that the use of portfolios can lead to certain improvements in the quality of teaching. The respondents in the study explained that, due to the use of portfolios, they were stimulated to reflect on their own teaching, to actualise the content, to improve course materials, and to search for alternative teaching methods. If a portfolio is positively valued, most of the respondents expected improved quality of teaching or personal merits. These findings are in line with Wright, Knight and Pomerleau (1999), Barrett (2000), and also with Murray (1997) who claim that the use of teaching portfolios can improve the teaching quality both of the individual teachers and of the educational institution.

We presume that there is a transformative potential at the individual level when teachers take a scholarly approach to teaching and learning. This approach means that teachers are introduced to and acquire a common language of teaching and learning, and they make their practice visible by describing it in a written form and sharing it with others. Describing and arguing in an academic context provides possibilities for critique and exchange of ideas. In such an interaction, teachers may come to enhance their teaching practice. We also assume, supported by a study by Olsson and Roxå (2008), that reflective scholarly writing has a significant transformative impact, not only on individual teachers, but also on the local culture of an academic institution.

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AIM OF THE STUDY

The aim of this study is to make a systematic analysis of significant parts of institutional development carried out at the Faculty of Engineering, Lund University (LTH). The study is not, however, an evaluation of the institutional development programme as a whole or even of how it can be claimed to develop scholarly teaching. Rather, changes in how teachers are making student learning visible when describing and communicating aspects of their teaching is investigated. As explicated above, this is seen as one of the major constituents of the development towards the Scholarship of Teaching and Learning. We have chosen two contexts in which teachers describe and communicate their teaching practice: teaching portfolios and conference papers. While the study could be seen as a feature in an evaluation, the primary aim of the study is to contribute to new knowledge about how scholarly teaching is constituted regarding how the individual teacher is making student learning visible. The results will be discussed in the light of earlier research and in relation to theories on scholarly teaching.

CONTEXT OF THE STUDY

The aim of the development work at LTH is to have teachers develop a more scholarly approach to teaching and learning. It involves many activities. We have chosen two of them: teaching portfolios written for application to the Pedagogical Academy, and papers submitted to the local campus conference on teaching and learning. Both are aimed to contribute to the transformative process of teachers becoming more scholarly.

The Pedagogical Academy

The Pedagogical Academy at LTH has developed over a period of ten years into its present form. The Academy rewards scholarly teachers by a raise in salary and additional funding to their departments. Applicants are rewarded on the basis of a teaching portfolio, an interview and a letter of recommendation from the head of the department, and they are given the title Excellent Teaching Practitioner (ETP) (Lund University 2005).

The teaching portfolio is an essential part of a teacher's application to the Pedagogical Academy. It is the document where the applicant should show teaching excellence as "documented achievement" (Magin 1998), and it allows for the applicant to link evidence with criteria (Chism 2006; Ramsden & Martin 1996). The portfolio should consist of a personal document closely integrated with examples from the applicant's teaching practice.

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In their teaching portfolio, applicants should describe, analyse, discuss and present information in relation to the following assessment criteria:

1. Focus on the students' learning process

- The applicant's teaching practices based on the learning perspective.
- The applicant's teaching and learning philosophy and teaching activities as an integrated whole.
- The applicant's practical teaching in relation to the students.

2. Clear development over time

- The applicant's efforts in his or her teaching, to consciously and systematically develop students' learning, and their ability to learn how to learn.
- The applicant's ideas and plans for continued development as a teacher.

3. A scholarly approach

- The applicant's reflections on his or her teaching activities using theories of higher education and knowledge of didactics relevant to his or her discipline.
- The applicant's search for and creation of knowledge concerning the students' learning process in his or her own teaching.
- The applicant's collaboration with others, the sharing of knowledge and experience in teaching and student learning through discussions, participation in conferences, publications, etc.

The personal document should provide insights into how the applicant sees the relation between teaching and learning in the context of the teaching he or she carries out, and it should also reflect how the applicants relate their experiences to educational theory. Applicants have to show that they "over a period of time, consciously and systematically, endeavoured to develop means of enhancing students' learning in their discipline, and how they have made their own experience in teaching available to others in the academic community" (Lund University 2005). The applicant's collaboration with others, the sharing of knowledge and experience in teaching and student learning through discussions, participation in conferences, publications etc. are seen as important aspects of the Scholarship of Teaching and Learning.

Thus, our assessment criteria focus on the student learning process and especially on a scholarly approach to teaching and learning, going beyond the criteria of many reward systems described in the investigations by Ramsden and Martin (1996) and Chism (2006).

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Campus Conference on Teaching and Learning

LTH's Campus Conference on Teaching and Learning is a biennial event. Each conference has a call for papers, and the submitted abstracts are peer-reviewed according to pre-formulated criteria along with the idea of SoTL. The conference attracts about 30-40 abstracts, resulting in 20-25 papers being presented to 80-100 participating academics. Each conference is documented with published proceedings.

The aim of the conference is to inspire scholarly discussions about teaching and learning, to give teachers an opportunity to document pedagogical experiences and to collect documented and reviewed comprehensive examples of teaching and learning practices. The submitted abstracts are assessed on the following criteria: The topic should be interesting for other teachers in engineering education, have a potential to create a serious discussion regarding teaching and learning, and be grounded in a pedagogical framework.

METHOD

The study is based on the investigation of two kinds of written documents: (1) teaching portfolios; and (2) papers presented at campus conferences. Since the aim is to investigate changes of how a scholarly approach is constituted at the teacher level, we have made qualitative analyses of documents from two points in time: 2003 and 2010. The aspects investigated in the document differ since there have been different criteria used in the assessment of the portfolios and of the conference papers. The aspects and the criteria will be described in relation to each empirical material.

We used a hermeneutic, interpretative approach when judging the written documents, as well as the use of quality criteria to establish trustworthiness in assessing the portfolios, as advocated by Tigelaar *et al.* (2005), and Alvesson and Sköldberg (2008).

The portfolios and conference papers were analysed in relation to quality dimensions that were noted and coded. We, as researchers, coded the data separately and then shared our findings. There followed a number of meetings, where in an iterative process the data and emerging patterns were discussed and defined.

How pedagogical practice is expressed in the teaching portfolio over a period of time

The aim of this part of the study is to highlight aspects of quality in teaching portfolios and to see if these aspects have changed over time. The empirical data consists of 19 portfolios written in 2003, of which five did not lead to acceptance to the academy, and 14 portfolios written in 2009 and 2010 of which one did not lead to acceptance to the academy.

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The teacher's ability to reflect on his or her own practice was of special interest. The portfolios were investigated on five quality aspects, inspired by assumptions of what makes a teacher scholarly (Kreber 2002).

- WHAT is taught.
- HOW the subject is taught.
- EFFECTS of teaching on student learning.
- LINKAGE and coherence between educational theory and practice.
- SHARING/DISSEMINATION of expertise and best practice.

The first three categories are practice related, while the fourth is concerned with the link between educational theories and the teaching practice. Sharing and dissemination is a crucial aspect of any scholarly work, which is the reason this fifth category was included in the investigation.

We draw on the presence of accounts regarding what is being taught and how the teaching activities are organised. In the iterative analysis process, a scheme for coding and assessing the level of reflection in the portfolio texts was developed with inspiration from the work of Kember *et al.* (2008) and Kreber (2002). The quality levels have been called Non-present, Descriptive and Reflective.

We also pay attention to whether the accounts being made are derived from a student learning perspective, as opposed to the perspectives of the subject or the teacher. We regard a scholarly teacher as an individual who is able to relate his or her own practice to theories of teaching and learning. Thus we also include an aspect that defines in which way teaching and learning theory is related to the individual's own teaching practice as expressed in the portfolio. A short description of each aspect follows below.

WHAT is taught (subject matter)

We look for how the text treats the subject being taught. If it is not present at all, the text does not include any note of a subject. If descriptive, the text describes the subject matter without acknowledging that there is a choice of what to include in a subject area, and what could be omitted in favour of something else.

In the reflective text, there is an explanation of why certain topics are chosen in favour of others. It can also include a discussion about what aspects of a subject are hard for some students, or what can be an obstacle for progress, and how such difficulties could be addressed. A reflective text can also show the teacher's awareness of how a specific course fits in the overall curriculum.

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HOW subject is taught (teaching and learning activities)

We look for how the text treats the form for the teaching and learning activity. If it is not present at all, the text does not include any note of what activities are taking place. If descriptive, the text describes the learning activities without acknowledging that there is a choice of teaching and learning activities, and why certain activities are chosen in favour of others.

In the reflective text, there is an explanation of why certain teaching and learning activities are chosen in favour of others and what is achieved by making this choice. It can include a discussion about the role of the teacher in relation to the students' learning process. A reflective text can also show an awareness of the fact that a student group is diverse, with diverse needs in the learning situation.

EFFECTS of teaching on student learning

We use the concept of teaching to signify all professional activity that provides support for student learning. The scholarly teacher should be able to observe the effects of teaching on student learning and, based on his or her pedagogical understanding, analyse, draw conclusions, and plan for continuous development. He or she should be able to show the ability to reflect upon and draw conclusions from student learning through reflective observation to systematic investigations and reflective analyses of student learning. This is what Kreber (2002) includes in her description of teaching excellence.

In this part of the evaluation, we look for how the text treats the effects of the pedagogical action on student learning. If it is not present at all, the text does not include anything concerning learning effects. If descriptive, the text describes the effects as good/bad and better/worse, without acknowledging that there is a connection between the teaching and learning activities and the effects on student learning.

In the reflective text, the connection between pedagogical action and student learning is acknowledged together with thoughts about what could be the reasons for a certain effect. These thoughts could be assumptions based on personal experience, but not collected in a systematic way. The reflective text could show evidence of the teacher making investigations – in some cases non-systematic, and in some cases systematic – with some kind of hypothesis in mind. It can also comprise a discussion regarding the effects in relations to learning outcomes.

LINKAGE and coherence between educational theory and practice

Pedagogical understanding includes the teacher's perspectives on teaching and learning where theoretical pedagogical competence is of vital importance. Teachers are required to have both a theoretical and a practical understanding of teaching and how students learn in order to make improvements in teaching and learning processes (Trigwell, Prosser & Ginns 2005). Moreover, the ability to relate experience of teaching practice to theoretical knowledge in the educational research field is an important aspect of being a scholarly teacher (Antman & Olsson 2007).

Here we look for evidence of reflecting on practice by using theories of teaching and learning and if the practical consequences of theoretical standpoints are treated in the text; in other words we are looking to see if there is a relation between the educational theories presented by the applicant and experiences from actual practice. We use a hierarchy to indicate to what extent the link is present or not present:

- Portfolio text includes educational theories, but not practice.
- Portfolio text includes practice, but no educational theories.
- Portfolio text includes educational theories and practice, but there is no link.
- Portfolio text includes links between educational theories and practice:
 - Teacher uses theories to describe practice.
 - Teacher uses theories to develop practice.
 - Teacher develops theories.

SHARING/DISSEMINATING expertise and best practice

An important aspect of scholarly activity is to share and make results available for others to access and review critically. It enables expertise to be shared and best practice to be disseminated. This could be done by presenting material at conferences with themes on teaching and learning, as well as by writing articles, reports and book chapters. Another way to take part in scholarly activities might be to engage in developmental work at the institutional level, for example by arranging seminars and other fora for pedagogical discussions among colleagues.

The shared discourse and communication of ideas is necessary in order to engage in the scholarship of teaching (Kreber 2002). As well as acting as a focus for continuing questions about teaching and learning, it is important to articulate values and describe practices to a wider audience (Carlile & Jordan 2005).

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In sum, we assessed the teaching portfolio on five qualities. Figure 6.2 shows the schema of the dimensions coded for.

FIGURE 6.2 The categorising scheme for the teaching portfolio texts

The aim of the analysis was to distinguish between a descriptive approach and a more reflecting approach in the way the teacher expressed his or her practice in the teaching portfolio. Assessment or coding of level of reflection was originally performed at a whole-paper level. However, within one single paper we found cases of high levels of reflection concerning one quality aspect, while at the same time lacking reflection in another (being solely descriptive). To accommodate this we distinguished a division between the didactical aspects – what is being taught and how it is taught – and a category concerning the impact on student learning as a result of a pedagogical action. The coding regarding the level of reflection was made for each of these.

How pedagogical practice is expressed in conference papers over a period of time

The aim of this part of the study is to highlight aspects of quality in conference papers and to see if these aspects have changed over time. The empirical data consists of 21 papers submitted to the faculty conference in 2003 and 21 papers submitted to the faculty conference in 2010.

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The choice of aspect to be investigated has been inspired by the multi-dimensional model of scholarship of teaching suggested by Trigwell *et al.* (2000). One key aspect of engaging in scholarly teaching is foremost if there is a focus on student learning or not.

In this part of the study we were interested in changes in how student learning is made transparent and visible in papers presented at the biennial campus conferences at the Faculty of Engineering between 2003 and 2010. Over the eight-year period the instructions and the criteria of the reviewing process of the papers have been almost the same. Teachers have presented studies of their practice in papers, which have been about 1 300 words in length. Two points in time were chosen: year 2003 (28 papers) and year 2010 (28 papers). If the paper was not focused on student learning, it was excluded from the analysis. The campus conference covers more than practice related studies, for example policies and administrative issues, and therefore some papers were excluded from our study.

A second aspect of core interest is how educational research and theories are treated. The use of educational literature has been a central part of the critique regarding how studies are described and presented by teachers. In this aspect we are interested in whether relevant educational literature is used. It is not enough to relate to the educational literature only on a general level. A focus on particularly relevant literature shows the quality of both intention and strategy.

A third aspect concerns how the papers particularly focused on teaching methods are motivated by student learning. The choice of this aspect was developed during the analysis of the papers. Papers on teaching methods show similarities and differences grouped into three levels: clearly motivated, partly motivated and not motivated. This is also to be regarded as a qualitative shift in both intention and strategy among teachers who develop a scholarly approach.

The last key aspect of interest is the coherence of the paper. This is emphasised by Shulman (1993), since the discussion and the scrutiny of the paper depends very much on how the papers are written. However, these aspects have to be regarded in relation to the fact that none of the teachers are scholars in education.

As mentioned above, all papers in the investigation are focused on student learning, which means that the study includes student learning activities concerning subject matter, skills and/or attitudes, not just student activities. The papers have been further categorised A to C as follows:

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(A) How papers concerning teaching methods are intentionally related to students' learning

The criteria used: To be categorised as clearly related to student learning, the suggested teaching methods must be related to what kind of learning the method aimed for, while to be categorised as partly related, some relation to student learning must be evident.

(B) Is relevant educational research involved?

The criteria used: The link between educational research and the investigation carried out must be attentive to educational research that belongs to the particular field/area of the study and to discipline knowledge. If more general educational research literature was used it has been categorised as not relevant.

(C) The coherence of the paper

The criteria used: How the paper is written, how the different parts are related to each other and to the paper as a whole. Papers categorised as having coherence on a general level are those where the parts have a general relationship compared to those papers that have a more specific and clearly defined relationship between background, delimitations, aim, method and results. Fragmented papers are ones in which the different parts of the paper are not properly linked.

RESULTS

Transformation of teaching portfolios

When the teaching portfolios from 2003 and 2009/10 are compared, differences are noted in the move from predominately descriptive accounts in 2003 to reflecting accounts in 2009/10 regarding the categories "What" and "How". Half the number of portfolios in 2003 do not include anything about the "What" in the teaching practice, i.e. what parts of the subject area were dealt with. The other half of the 2003 portfolios have descriptions of the subject, but more or less as a given subject matter. These are illustrated in Figures 6.3 and 6.4.

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FIGURE 6.3 Percentage of the number of portfolios not engaging/engaging in the discussion of What is being taught

FIGURE 6.4 Percentage of the number of portfolios not engaging/engaging in the discussion of How the subject is being taught

Generally, there are only short accounts regarding a personal teaching philosophy in the 2003 portfolios. There are also differences with regard to the way educational theories and the described practice is linked. Figure 6.5 shows that the proportion of portfolios that gave some attention to educational theories was relatively small in 2003. In those, which did give it attention, that attention was limited. In 2003, 15 out of 19 portfolios do not show a link between educational theories and the teaching practice at all, and the remaining five show a weak link between educational theories

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and the described practice. This is signified by two stand-alone parts in the text: one accounting for educational theory and one describing the practice. All of the 2009/10 portfolios show a link between educational theories and the teaching practice, and many of them use teaching and learning theories to develop their practice, something that we do not see in the 2003 portfolios at all. Half of the 2009/10 applicants use educational theories to develop their practice.

FIGURE 6.5 The relationship between practice and a educational theories, and the quality of a link (if it is detectable)

Regarding the effects of a pedagogical action (Figure 6.6), we note that more investigations concerning students' learning are carried out and reported in the 2009/10 portfolios. For example, accounts of a change in the teaching and learning activities are discussed in relation to the learning results. Writing about learning in relation to formal learning outcomes are rarely discussed, but we note a slight increase in 2009/10. No portfolios in 2003 have this topic.

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FIGURE 6.6 Accounts in the portfolio text regarding effects of pedagogical actions, for example change of teaching method or of examination forms

With regard to the sharing/dissemination criteria, we see an engagement of working with teaching and learning issues at the departmental level 2003, but not in a wider context such as the university or the national level. Some of the writers of the portfolios have presented work at a locally arranged conference on teaching and learning (see section on campus conference papers). However, there are not references to publications in journals or books and very few contributions on the national level.

Since 2003, more arenas have become available for sharing and disseminating scholarly reflections of teaching practice. This is clearly reflected in the 2009/2010 portfolios. Besides the local conferences on teaching and learning, there are now national as well as a growing number of international conferences. In the 2009/2010 portfolios we can see a substantial increase in conference contributions and also note that several teachers have refereed publications in international journals.

There is a distinct difference between 2003 and 2009/2010 in regard to how issues of teaching and learning in higher education are communicated to an audience outside the Faculty of Engineering.

Transformation of conference papers

Papers presented at the campus conference in the years 2003 and 2010 were the focus in the second part of empirical material. Only papers related to student learning were considered in this investigation. Comparisons are made between the two years to investigate possible qualitative differences.

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In both 2003 and 2010, 22 out of 28 papers focused on student learning, which means that the study includes student learning activities concerning subject matter, skills and/or attitudes. The 22 selected papers have then been further investigated in more detail in terms of categories A to C, illustrated in Figure 6.7.

(A) *How papers concerning teaching methods are focused on students' learning*

FIGURE 6.7 How papers concerning teaching methods are focused on student learning – the total number of papers were 21 in 2003 and 12 in 2009/10

The difference between the sets of conference papers is that there are a lot more papers on teaching methods presented at the conference year 2003 (21 of 22 papers) than at the conference 2010 (12 of 22 papers), as seen in Figure 6.7. On the other hand, most of the papers presented in 2010 are clearly focused on student learning while that is not the case for 2003, indicating that there is a change during the period from 2003 to 2010 concerning a greater focus on student learning.

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FIGURE 6.8 Papers with relevant educational research involved in 2003 and 2010

The difference in the papers from 2003 and 2010 indicates that teaching is linked to research in a more focused way in 2010. The linkage between research and teaching is a core feature for judging the scholarship of teaching. It presupposes that the teacher has a good knowledge of the educational literature and has made a relevant delimitation of referenced literature in relation to the particular field of educational research in focus.

(C) The coherence of the paper

FIGURE 6.9 The coherence of the paper

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The differences between the sets of papers from the two years indicate a qualitative change in how the papers were written in terms of the quality of the paper as a coherent whole. However, even if this is a more general aspect of a scholarly approach, the result of the analysis indicates a shift from the use of a more general jargon, using sweeping statements, in 2003 to papers using more precisely defined terms and concepts in 2010.

DISCUSSION AND CONCLUSION

In this section we first discuss and make comments on the results of the investigation, followed by conclusions regarding educational development and the notion of SoTL.

Kreber and Cranton (2000) show that teachers who commit to SoTL engage in three different kinds of reflection: relating to (1) questions of instructional design; (2) pedagogy (teaching and learning in the subject); and (3) the broader curriculum. This is also the case for the portfolios studied in this investigation. We detect a transformation of the way teachers express their pedagogical practices in their teaching portfolios in that questions regarding what is taught and how the subject is taught is problematised to a greater extent. Moreover, there is a higher degree of coherence regarding the link between educational theories and the teaching practice and the sharing of scholarly work is greater. Changes of intention and strategy in making student learning transparent and visible is noticed in the conference papers with the regard to using educational research, the coherence of the paper and how the papers that concern studies on teaching methods are motivated by consideration of student learning. Together these changes show an increased scholarly approach among teachers.

According to Ashwin and Trigwell (2004) there are three levels of SoTL that could be identified. The different levels are validated in different contexts:

1. On a personal level: Reflecting on teaching for one's own needs.
2. On a local institutional level: Reflecting on teaching to inform colleagues on a local level.
3. On a national and international level: Reflecting on teaching to contribute to knowledge to a broader audience.

The campus conference is an arena for scholarly discussions about teaching and learning, aiming for the second level suggested by Ashwell and Trigwell. However, a paper is not automatically scholarly because it is submitted to a conference. We looked closely at the quality of the submitted papers and we found an improvement in quality concerning the focus on issues of student learning. A growing number

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of conference papers involve relevant educational research. As one possible consequence of the biennial conferences, there is anecdotal evidence that teachers from Lund University are among the most represented group at national conferences on teaching and learning.

Such observed changes as these gradually generate a more scholarly-based community of teachers. This, we presume, in turn will give opportunities to more scholarly-based discussions, critique and exchange of ideas on the relationships between teaching and student learning. Moreover, the practice of the faculty ought to be enriched by academics that take a more scholarly approach to their teaching. According to Boyer (1990) this gives the faculty possibilities to be better prepared for the future. At the campus conference in 2003 there was a great interest on studies focusing on teaching methods, while this was not the case 2010. A possible reason could be that 2003 was the first conference that was held and that perhaps there has been an accumulated interest in teaching methods. Another reason could be that during that period problem-based learning (PBL) was of particular interest at some departments of the faculty and that this in turn gave rise to studies focused on this method.

In the teaching portfolios we notice an evident development regarding how the teaching practice is perceived: in 2003 primarily as a personal matter, where in 2009/2010 as something to share with colleagues locally, or something to share with a greater community, as Ashwin and Trigwell name the third level of scholarship. In the 2009/10 portfolios we see a greater participation on a national and international level regarding sharing of scholarly work in the area of teaching and learning.

This could be seen as ways to constitute a more fully scholarly university practice. How this process is related to a “strategic shift” at the faculty level is hard to say. However, we could see that changes that have educational developmental characteristics and are in line with the strategic educational plans at LTH can be traced to the individual level. We could also see in the data material that the process is not rapid but is spread throughout the faculty based on the wide representation from the different departments.

Some factors that may have contributed to the change/development are:

- Strong support and engagement from the dean and the faculty leadership. This has resulted in the status of teaching being raised in some departments.
- Workshops for teachers preparing their teaching portfolio and instructions for applying to the academy. This has provided strong guidance about what a portfolio should contain and should look like.

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- Provision of campus conferences. This has provided an arena for sharing and disseminating teachers' own investigations in the area of teaching and learning.
- Teachers' participation in teacher training courses has increased. This has led to more discussion about student learning among teachers in the departments.

CONCLUSION

In the investigations reported in this chapter, we have identified that features of Scholarship of Teaching and Learning have become more pronounced over time in an environment that is slowly transforming to take greater account of student learning on the one hand and educational research that can support understanding of student learning on the other hand. By making a systematic review of teaching portfolios and conference papers, we have also taken an initiative to develop a method to assess written texts in relation to what the SoTL literature present as constituents of SoTL.

However, the main questions still remain: What is the relation between good quality in reflective texts regarding teaching and learning, and good quality of the actual teaching practice? What do these studies tell us about the relation between thought and action in the actual teaching situation? Teaching practice is complex and there are no clear relations between teaching methods and student learning, or between qualities in teachers' ways of reasoning and teachers' activities. Thus, it is not possible to draw any conclusions about how the changes we found also encompass changes of scholarly teaching activities. However, research has shown that the ways teachers think and reason about teaching influences students' approaches to learning (Kreber 2002; Trigwell & Shale 2004). As Trigwell and Shale (2004), we see teaching as a scholarly process aimed at making learning possible (Ramsden 1992), and SoTL as being "about making transparent, for public scrutiny, how learning has been made possible" (Trigwell & Shale 2004). In both the conference papers and the teaching portfolios we see informed discussions about teaching with a focus on student learning.

The Pedagogical Academy and the campus conference at LTH have definitively had a transformative power and potential for teachers to become more scholarly when they analyse and theorise about their teaching practice. The theoretical awareness has become more salient and the link between educational theory and the teaching practice is more consistent and based on informed discussions. We see a clear development towards a scholarly approach in the investigated texts produced by the teachers. Going public enables a critical review by others, thereby developing conditions for a more scholarly view on teaching and learning.

Boyer developed the notion of scholarship in a broader context, seeing the need of academic competence that includes teaching, discovery, application and integration.

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The practice of scholarship at LTH has developed with regard to SoTL. The question of how teaching affects student learning has become a more central issue in teachers' written texts about their practice. This will impact on what is seen as a research-led institution to also be a teaching-led institution. In line with Boyer, we believe that the university will in this way be better prepared for future challenges, and we claim that this chapter offers evidence for such a belief.

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