

Scholarship of Teaching and Learning When Bridging Theory and Practice in Higher Education

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Abstract

This article reports the outcomes of a literature review and empirical data. The aim is to provide a rationale for why bridging the well documented theory-practice gap is critical for helping academics to develop as teachers in the scholarship of teaching. The question of how Boyer's concept of scholarship, with a special focus on the scholarship of application and the relation between theory and practice can be taken in consideration when arranging teaching and learning in higher education, is discussed. It is argued that an inclusive nature of relationships between theory and practice is a holistic necessity for professional development. This work builds on previous studies of professional development by Dreyfus and Dreyfus. The result suggests that a well organized *mentorship* in combination with *active participants* are two strategies to interweave theory with practice in teacher training in higher education in order to support the scholarship of teaching.

Keywords: academic development; practice; professional development; scholarship of teaching and learning; teacher training; theory.

Introduction and Aim

Over recent decades the expansion of higher education in Sweden and the UK has been immense, increasing the need for higher education teacher training (Trowler & Bamber, 2005; Walker, 2003). In Sweden, a ten-week course is compulsory for academics. As a course co-ordinator for this course at Växjö University in Sweden, I've observed a mismatch between the course management's preferences and several course participants' content expectations. A prevailing and widespread attitude among course participants is that the course should propose a collection of educational quick fix solutions not unlike recipes in cook books.

In order to study the mismatch systematically, some one hundred course participants were asked to document their expectations regarding the upcoming course. The results confirmed my observations and provided strong evidence for the assumption that course participants consider theory and practice as a dichotomy. The study can be summarized in the following three findings. Course participants:

- expect to gain access to a pre-defined pedagogical toolbox containing immense numbers of practical teaching tips,
- expect to reveal the yet undiscovered best way of teaching,
- make a distinction between theoretical/research versus practical/experienced knowledge and training.

The findings presented are supported by the following: (Kreber, 2002; see also Roche, 2001):

...it is essential that teachers understand the value of theories as 'general models' which need to be adapted to educators' specific context, rather than misconstrue them as situational or context-specific problem-solving strategies. (Kreber, 2002, p. 11)

The potential mismatch of interests between theory and practice is illustrated in Figure 1:

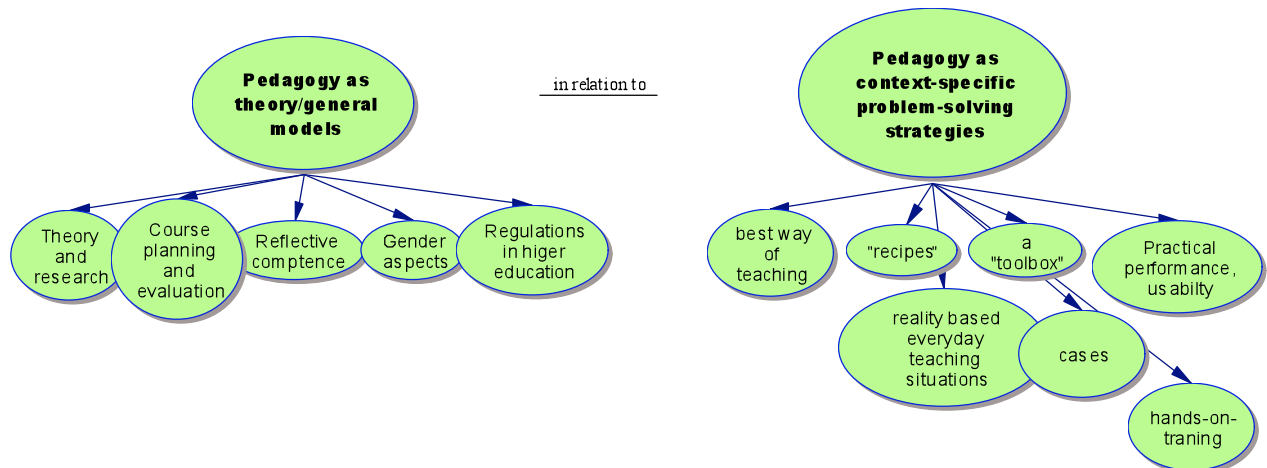


Figure 1. Expectations on the compulsory course in higher education

However, the course participants' expectations need to be challenged, because a dualistic viewpoint of theory and practice could inhibit professional development. What role then could the "...familiar and honorable term 'scholarship'..." (Boyer, 1990, p. 16) have in "...building bridges between theory and practice..." (ibid).

Scholarship of Teaching and Learning

The meaning of teaching scholarship is still ambiguous to the majority of faculty, according to Franklin and Theall (2001). Likewise Menges and Weimer (1996) argue that: "... the scholarship of teaching has become an amorphous term..." (p. xii). Thus it stands clear that the vague concept of scholarship of teaching and learning (SoTL) needs to be defined. At the Illinois State University, they define SoTL as "systematic reflection on teaching and learning made public" (Illinois State University, 2009). However, SoTL being a vague concept is not easily straightforwardly defined. Kreber (2002) claims that the invention of the term is attributed to Boyer and his colleagues at the Carnegie Foundation for the Advancement of Teaching (Glassick, Huber, & Maeroff, 1997). Hence it seems consistent to explore how Boyer defines the term scholarship.

Boyer gives scholarship a broad and capacious meaning, "...one that brings legitimacy to the full scope of academic work" (Boyer, 1990). Boyer present four areas included in academic work: the scholarship of: *discovery* – close to the old idea of research; *integration* – making connections across the disciplines; *application* – serving the interest of the larger community and in these activities, theory and practice vitally interact, *teaching* – building bridges between the teacher's understanding and the student's learning.

The most important conclusion that Boyer (ibid) points at is that we need a more inclusive view of what it means to be a scholar, i.e., the four scholarships are overlapping and tied inseparably to each other, forming an interdependent whole (ibid, p 25).

The consequence of Boyer's discussion, for this study, is to find out how the concept of scholarship, with a special focus on the scholarship of application and the relation between theory and practice, can be taken in consideration when arranging teaching and learning situations in higher education?

Aim

The aim of this paper is to provide a rationale for why bridging the well documented theory-practice gap is critical for helping academics to develop as teachers within the concept of scholarship of teaching and learning. The research question discussed is how institutional support for scholarship of teaching and learning can be arranged. It is argued that an inclusive nature of relationships between theory and practice is a holistic necessity for the scholarship of application and academic development. Theory, practice and teacher development are thus regarded as inclusively related phenomena giving this article a trifocal perspective.

Dreyfus's and Dreyfus's professional development theory (1986) is described and suggested for application as a framework to make academics in training aware of potential stage development interweaving theory and practice.

Literature Review and Framework Selection

In order to accomplish a systematic approach in the literature review, Creswell's (2002) five-step process was applied: "...identifying terms to typically use in your literature search; locating literature; reading and checking the relevance of the literature; organizing the literature you have selected; and writing a literature review". (p 86)

The search descriptors included in different combinations: *university teachers, academics, faculty, scholarship, theoretical-, practical knowledge, higher education, professional development*. The search for relevant works was carried out in ERIC, Google Scholar and Scirus. The articles found established starting points for checking the relevance (e.g. including the terms *scholarship, academic development or theory-practice*), consequently some were reviewed and others discarded. Most previous research has tended to focus exclusively on either the relation between theory and practice (eg Bengtsson, 1993; Field, 2004; Orlando-Barak et al., 2007) or teachers transitional stages of development (Allen et al., 1997; Edwards, et al., 2006; Fox, 1983; Harwood et al., 2006; Huberman, 1989; Park, et al 2007) while this article brings these dual aspects together integrated in the concept of SoTL.

The relation between educational theory and practice will initially be discussed in this section. Then two different descriptive theories on professional development by Kreber and Kugel are introduced. When it comes to explain what academics need in order to move on from one stage to another, we are served by making use of the previous research by Dreyfus and Dreyfus (1986). Thus their theory, a five-step-scheme, completes this section.

Theory and Practice in Support of Professional Development

Molander (1996) argues that there is a very obvious distinction between theoretical and practical knowledge. Theoretical knowledge, facts in terms of “know-that” is under constant change and thus unstable, it is not definitive and can never be absolutely right or wrong. What theories then are relevant to teachers at this time of growing diversity in student and staff population?

In contrast, practical knowledge according to Molander (ibid), is definitive and evident. “Know-how” is closely connected to taking action and to making judgments while performing. Polanyi (1983) claimed that “...we can know more than we can tell” (p. 4). This pre-logical phase he called tacit knowledge (unspoken, implicit). Know-how stands in the centre of tacit knowledge and is not distanced and therefore, not often documented, accordingly causing difficulties in making expert knowledge explicit. As a consequence, it seems awkward trying to unveil tacit knowledge through theory. A more reasonable strategy to uncover tacit knowledge is to observe how a proficient or an expert acts in various situations and through personal training (Kuhn, 1970).

The discussion about the ratio and significance between theory and practice in education has been ongoing for as long as organized teaching has been around. In spite of this long lasting discussion not much has come out of it, more than realizing the uselessness in attempting to recognize general rules and arguments for more or less of one or the other. However, it is necessary to challenge the mainstream academy’s refusal to see the value of training university teachers professionally. Schön (1983) emphasizes that knowing-in-action is achieved through training and cannot be taught. The point here is that within artistry, e.g. being a university teacher you learn through performing and as a result develop your scholarship of teaching.

A rather different standpoint, than to dualistically separate theory from practice, is to acknowledge the mutual value of both theory and practice and view them as interwoven, as Boyer suggests (1990), see Figure 2.

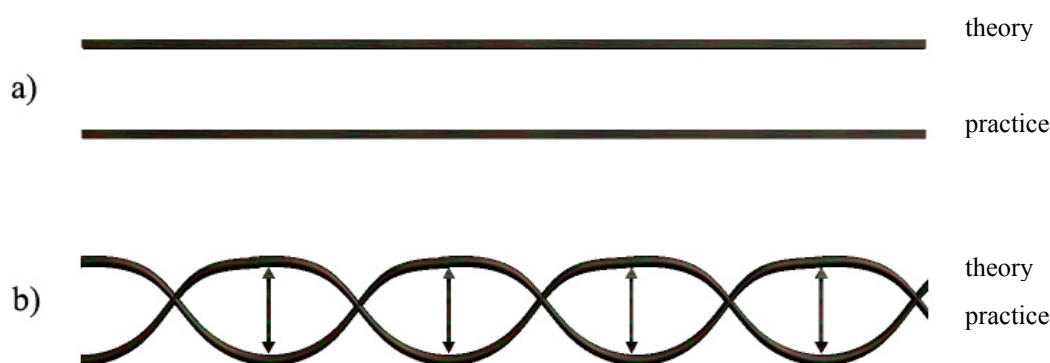


Figure 2. Theory and practical training, from segregation to integration

It is important for course planners to be aware of and realizing the strength of making use of previously existing and well-working theory. The goal of integrating theory and practice is reached when course participants describe the higher education teacher training as neither theoretical nor practical, but both at the same time. (For extensive reading on the relation between theory and practice, Schön, 1983 is recommended).

Previous Research on Professional Development in Stages

Åkerlind (2003) report's from a study of academic's conceptions of their own growth and development as university teachers. Her findings indicate that a broader understanding of teaching may precede a development as teacher. This broader understanding of teaching may include the relation between theory and practice, but it is not always the case (as we shall see in the examples below). As a teacher, you need to reflect upon whether the object of the verb teaching is the *subject* that is taught or if the objects of the verb teaching are *the people who are learning*.

Kember (1997) makes an admirable compilation of comparisons of different categories of conceptions of teaching. In Kember's article it is claimed that lecturers develop through stages corresponding to qualitatively changes in their conceptualisation of the process of teaching. One way of promoting conceptual change with teachers is by bringing the relation between theory and practice to attention.

According to Villegas-Reimers (2003) it is important to emphasize that stage models only are useful to a certain extent as each teacher enters with different characteristics and opportunities. McKenzie (1996) moves one step further and points out that that teachers do not necessarily progress through a set of conceptual stages at all.

However, teachers not at all being aware of the stage theory do not even have an opportunity to take it into consideration and stand the risk of remaining in an undesirable stage. Theories on progression through stages of professional development have previously been presented in other fields than education, e.g. in psychotherapy (Friedlander et al, 1984; Kember, 1997; Ralph, 1980; Rodenhauer, et al, 1989; Yogev, 1982). What can these theories contribute with to the field of higher education?

Kreber has a special research interest in teaching and learning. Despite numerous initiatives to provoke change in the disparity between teaching and research, she notes that: "Teaching continues to be undervalued...". (2002, p 5) Kreber puts forward three different ways in which higher education instructors can engage with teaching, namely: *teaching excellence, teaching expertise and the scholarship of teaching*. Kreber discusses how willing teachers are to construct pedagogical content knowledge and to make their pedagogical know-how public, e.g. in peer-reviewed media, through teaching portfolios, mentoring colleagues or participating in conferences on teaching and learning. Kreber's ideas are closely linked to Boyer's discussion in *Scholarship Reconsidered* (1990). Another researcher, Kugel (1993) has discussed how teaching abilities of college professors seem to develop in six stages, namely: self; subject; student; student as receptive; student as active and student as independent.

To sum up, what Kreber and Kugel present are descriptive models on professional development, but even though they mention the need for reflection on teaching (practice) and research (theory), they do not thoroughly scrutinize how theory and practice can interplay in order to inspire academic development. Boyer (1990) argues that the scholarship of application is not a one-way street, implying that that knowledge is not first discovered and then applied. The relation between theory and practice is far more dynamic and one renews the other (ibid). However neither Boyer nor Kreber clearly describe how to make theory and practice interact in teaching and learning contexts.

In the following section, the five steps introduced by the Dreyfus brothers, are first introduced and then related to professional development of university teachers. Their five-step model offers a concrete proposal of how theory and practice are interlinked

and can contribute to academic development within the concept of scholarship of teaching and learning.

Dreyfus and Dreyfus: Five Steps from Novice to Expert

In *Mind over Machine* (1986), the Dreyfus brothers introduce their theory, a scheme of five steps from novice to expert. Their theory on skill-acquisition (see Figure 3) shows that a person generally passes through five stages of qualitatively different perceptions of his or her task. The steps are presented below from stage one to five, from novice, advanced beginner, competent, proficient to expert. According to the researchers, persons do not appear to leap suddenly from rule-guided "knowing that" to experienced-based "knowing-how", as professionals acquire a skill through instruction and experience.

Dreyfus and Dreyfus (1986) put science as theory in contrast to rules of thumb gained through practice and experience. Rules of thumb normally work according to the pattern: if you observe a certain phenomenon, you should act in a certain way. However:

...unforeseeable situations make the planning of systematic learning in accordance with the decided aims difficult. (Skovsgaard, 2004, p. 45)

Dreyfus and Dreyfus (1986) claim that theory and practice are mutually dependent of each other in a supportive process in which the course participant is developing his or her competence. Expertise is only achieved if both components are developed and appreciated.

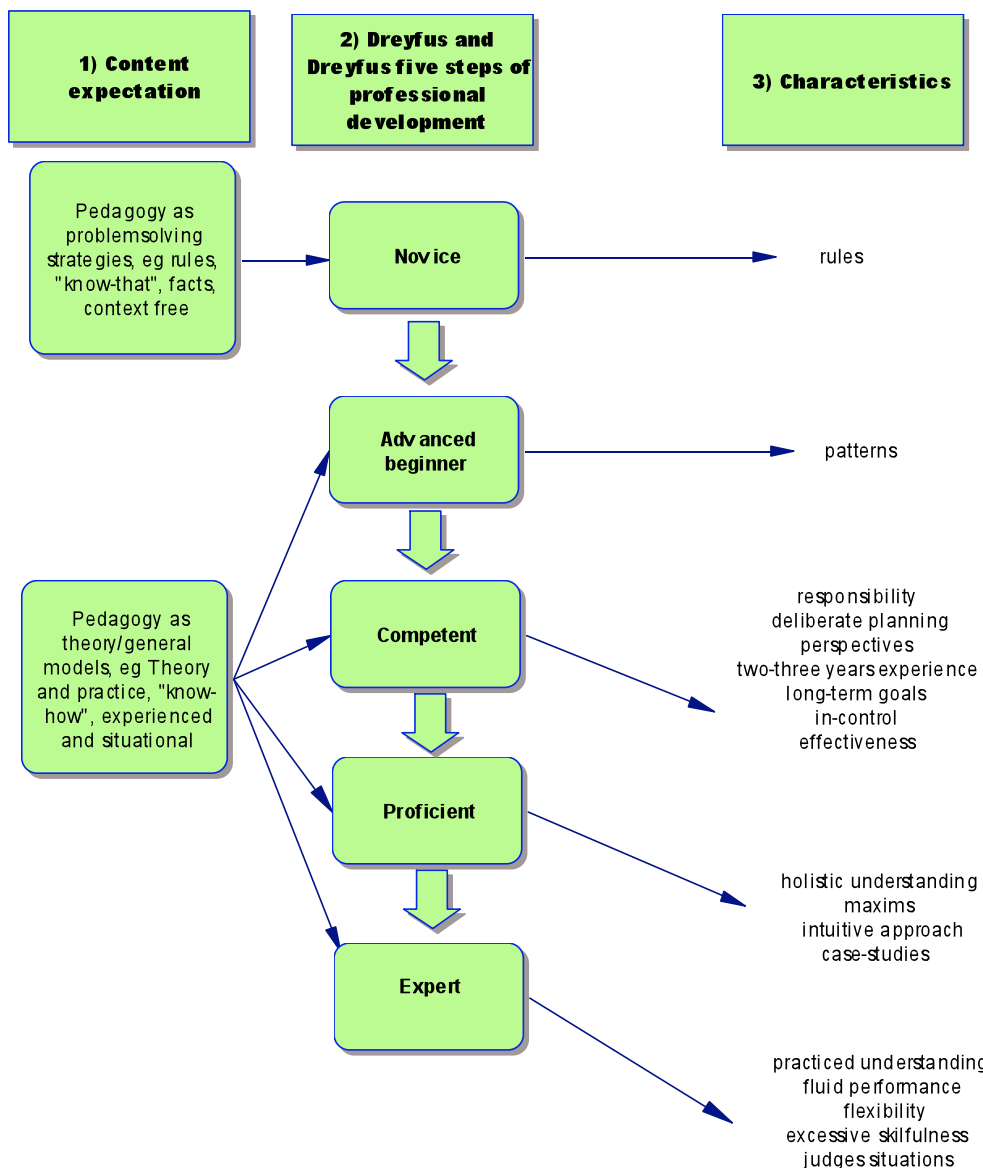


Figure 3. Content expectations and characteristics in relation to Dreyfus and Dreyfus's five steps from novice to expert

Dreyfus and Dreyfus' skill model offer the possibility for professionals in different fields to become aware of potential stages in a teaching career, thus inspiring a discussion about the relation between theory and practice. This discussion is closely connected to Boyer's discussion on the necessity to move beyond the tiered old teaching versus research debate or the deadlock debate between theory and practice (Boyer, 1990). The following text is mainly inspired by the work of the Dreyfus brothers (1986) as well as the work by Benner (1984) and Benner, Tanner and Chesla (1996).

Stage 1: Novice

The novice learns to recognize objective facts and features and rules for determining actions. Thus beginners primarily need to identify routines and no experience from situations they plan to be active within is necessary (Benner, 1984). The novice possesses a set of rules, which he or she applies regardless of the situation. The novice is teacher-centred.

Teachers at this stage would apply a number of rules no matter what the teaching situation would be in order to solve different problems. There would be no or little reflection on the didactical questions: why, what and how. Teachers at this stage would thoughtlessly push through their teaching plans. The central theme is that the inexperienced teacher first and foremost needs practical personal experience, i.e. distinct teaching skills in order to take action as a teacher. However, merely obtaining instructions *about* various teacher tools e.g. as how to use the overhead, how to arrange the blackboard, prepare a well-structured class etc. is no guarantee for good quality teaching. Consequently, guidance by rules can be counterproductive to successful performances, as the rules are context-free not telling the novice what information is relevant in a given situation. An inexperienced teacher therefore has as limited help of a de-contextualized collection of quick fix teaching solutions.

Stage 2: Advanced Beginner

In stage two, experience is more important than any form of facts or rules. Through practical training in concrete situations the advanced beginner starts to develop an intuitive sensitivity for meaningful elements, which influence the situation. The meaningful elements are called "situational" and are different from context-free elements. For example, to be able to assess a certain teaching situation, the teacher depends on experience from similar teaching situations (Benner, 1984). Advanced beginners do not feel a sense of autonomy and accordingly do not take full responsibility for their actions (Huberman, 1989).

In the process of professional development, the advanced beginner would have to consider perceived similarity with prior examples. This leads to a need for practice and support in different learning situations in order to achieve patterns. The patterns are personally developed and thus complicated to express. Neither the novice nor the advanced beginner understands an entire teaching- and learning situation. Quite the opposite, they have to concentrate on memorizing the rules they learned.

Stage 3: Competent

A difference between the novice and advanced beginner in comparison to the competent performer is that of responsibility. The competent performer does not act automatically but instead chooses and acts according to a plan. Thus the competent performer can no longer be regarded as acting objectively. The competent performer accordingly develops the ability to pay attention to only a few of the immense number of factors, which affect a teaching and learning situation. Derived from the plan that the competent performer decides to use is also a perspective, based on considerable awareness of the problem in front of him or her. Competence is typically developed after performing similar tasks for two to three years using long-term goals.

Another characteristic of competence is being in control of the situation and being able to cope with unforeseen situations. The competent performer acknowledges the fact that there are innumerable possible scenarios and thus realizes the impossibility to exactly identify and predict how to act in a particular situation. The competent performer shows a great deal of awareness and deliberate planning. Competence is revealed by way of increased effectiveness. When it comes to professional development of university teachers one could ask what is characteristic for the competent teacher? In line with what has been argued above, one critical feature is that of responsibility. It is no longer possible to blame a given set of rules for failure or success, the competent teacher looks for explanations within himself or herself.

Stage 4: Proficiency

The proficient performer understands situations holistically. A proficient performer holds an intuitive apprehension about a situation based on experienced based knowledge. The proficient performer regards a situation as an entirety in contrast to

having a list over things to complete. Dreyfus and Dreyfus also emphasize the importance of intuition for the proficient performer. According to Benner et al. (1996) proficiency seems to develop, if, and only if, experience is assimilated in an un-theoretical way where intuition replaces rational responding.

Proficient university teachers, are best taught through case studies in which their ability to understand a situation becomes visible and is valued. If the proficient performer is given the opportunity to retell experience he or she improves even further. In a certain situation the proficient performer is given the opportunity to contribute with his or her way of understanding the situation. When the proficient performer finally comes to a loss of words, an opening is reached where new knowledge is needed.

Stage 5: Expertise

The expert does not depend on analytical principles such as rules or guidelines in order to link his or her practical understanding with suitable measures. Quite the opposite the expert usually knows what to do based on practiced understanding (Dreyfus & Dreyfus, 1986). Based on vast experience, the expert intuitively can understand each situation and thus react suitably without wasting time on choosing between a large number of alternatives (Benner, 1984). This developed ability and sharpness to distinguish and interpret different situations from each other is what differentiates the expert from the proficient performer. The expert tries to avoid "tunnel vision", through considering several different perspectives and conferring with others who represent deviant opinions. With expertise comes also the "...ability to discriminate an immense number of situations" (Dreyfus & Dreyfus, 1986, p 32). The expert is student-centred.

One of the problems for experts is being able to communicate their know-how to others. Individual experience (tacit knowledge) resists verbal description and thus is very difficult to share with peers. This fleeting knowledge regularly causes experts not to be acknowledged by standard criteria. Experts within a field can thus act as mentors for colleagues in the process of developing their performance. The expert holds an extensive understanding based on situational experience and expertise is considered to be a combination of practical and theoretical knowledge. The expert university teacher would comprise holistic perspectives carrying out a fluid and flexible teaching performance, i.e. teaching based on intuition rather than specific plans.

In the section below, suggestions are discussed on how higher education teacher training can be arranged, in order to stimulate academics' stage development through linking up theory with practice.

Conclusions

What then are the implications of this review with a focus on institutional support for SoTL and academic development? What lessons have been learned when institutions arrange higher education teaching training courses in order to support SoTL? A major task for administrators of higher education is to arrange learning environments which integrates the diverse paradigms of theory and practice:

...neither group *telling* the other what it wants or needs or serving as a *subject* for the other will bring about a satisfactory conclusion (Green, 2000, p 109).

Another central conclusion is the importance of arranging teacher training classes with representatives from different subjects as well as with a mixture of practical teaching experience. This perception is encouraged by Lueddeke who claims that:

...the main variables that influence approaches to the scholarship of teaching tend to be one's discipline and teaching conceptualization (2003, p 221, see also Lee, 2007).

In order to stimulate pedagogical renewal, course takers should be acquainted with teachers from all different subjects. The benefit of arranging mixed subject-teacher courses is also reinforced by numerous evaluations by earlier participants in teacher training, underlining the learning potential from experienced university teachers sharing their knowledge with less experienced ones. Below it is suggested that the integration process between theory and practice is, on an institutional basis, facilitated through: *mentorship* and through *active participation*.

Mentorship

To overcome the gap between theory and practice, *mentorship* with supervisors articulating their implicit knowledge, making it visible for learners in combination with continuous reflection from both course taker and supervisor is needed (Boyer, 1990; Jarvis 1999).

According to Schön (1983), it is important that reflection takes place before and during action, reflecting-in-action (p 59), allowing for improvisation, making the reflective practitioner able to handle even unexpected situations. To be able to think like a university teacher you have to hold a repertoire of examples, pictures, interpretations and ways of acting, contributing to the professional teacher's a holistic view of understanding. The repertoire is derived from individually experienced cases forming a wholeness, rather than rules and guidelines. Also after action has been taken, e.g. in a teaching and learning situation, reflection is needed, Schön labels this, reflection-on-action. Skovsgaard (2004) concludes that students do not seem to be able to reflect alone without the support of an instructor. Skovsgaard (2004) has identified student statements about how they consider they learn in three steps:

- a) "observing the instructor demonstrating and explaining specific actions,
- b) practicing specific actions observed by the instructor, who evaluate the actions,
- c) dialogue and reflection afterwards with the instructor" (p 46).

A way to start a mentorship is to let course takers articulate and document their strengths and weaknesses as teachers and supervisors and then reflect upon those, first on their own and then in support of a mentor. Mentoring relationships can be career long, even life long, but when it comes to educational development programs it is more realistic to regard it as a over the time period of the course. How then can mentors be chosen, does discipline matter? According to Ferman (2002) the most effective means of mentoring and of fruitful peer discussion are often those that are least formal. However, to prevent destructive group-think, heterogeneity between mentor and mentees (e.g. research discipline, age, sex) could be argued for. On the other hand shared knowledge in a discipline could facilitate the understanding of complexity of teaching and learning problems. Mutual trust and respect and commitment to the mentorship project, seem to be important for the choice of mentor (Balint et al, 1994).

One way of supporting university teachers in their professional development is to

let previous course takers act as tutors for less experienced participants in higher education teacher training. This has earlier been tried in Australia in so called Dedicated Education Units (DEU) in an attempt to merge theory and practice (Edgecombe et al, 1999). Boyer argues in a similar way, claiming there is a long tradition, within the concept of scholarship, that faculty hold the understanding that young scholars eventually will be educational mentors both in the classroom and beyond (1990). This tutoring support could be based on assignments prepared by the course takers in a way that makes the linking of theory and practice inevitable. The assignments being personally formed is a way of individualizing the course outline, still accepting heterogeneity as a fundamental idea of integrating participants from quite different subjects and with dissimilar teaching experience.

Mentorship is thus not about unreflected imitation; it is rather about the course taker having an open mind for possible ways of action and a wish for developing know-how and so make progress within the scholarship of teaching and learning. Mentorship is also an attempt to arrange higher education teaching training courses from the ground up rather than vice versa, i.e. top-down.

Active Participation

With the purpose of activating course takers in teacher training classes through the synthesis of theory and practice, three proposals are presented in this section. Firstly it is possible to activate course takers letting them document and then orally present two sorts of case studies based on their experience as teachers or students (Stigmar, 2008). The first one being situations where the participant felt success and their performance made a difference, but also situations where the participant felt dissatisfied with the outcome of their performance causing conflict or confusion.

Secondly course takers can be set to search for, choose and present previously published pedagogical articles in connection to their own subject matter. What pros and cons can be identified in the articles from a didactical perspective?

Thirdly, a key issue when organizing educational settings is the course assessment. Accordingly, the assessment must consent to assignments closely bringing together the course takers subject matter with pedagogical development, e.g. in forms of an essay with a didactical perspective. An assignment like this could result in a proposal for an article or a poster which are intended for future publication. In order to inspire motivation, it is essential that the chosen problem emerges from the course takers' ordinary practice.

A different assignment is for course takers to compose a pedagogical research application. The application could if appropriate, have a starting point in the course takers' own subject in connection to pedagogical development. Active participation invites:

...the practitioner to develop context-rich theories of their practice and then use these theories to effect change (Hirsch, 2000, p 102).

All proposals presented above could preferably be completed in smaller groups of participants (maximum ten persons). A small group makes a tolerant atmosphere possible. Tolerance in turn allows for documentation on film and opportunities for oral presentations and critical feed back to the participants. To promote change within the scholarship of teaching and learning, it is suggested to let course takers:

- Be included in mentorship teams (inexperienced-experienced teachers and previous course takers),
- present case studies,
- search for subject-specific-articles,
- initiate an article or poster with a didactic perspective,
- compose an outline for a pedagogical research application.

To sum up, a well organized *mentorship* in combination with *active participants* are two strategies to interweave theory with practice in teacher training in higher education in order to give institutional support for the scholarship of teaching and learning.

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