

Developing the Scholarship of Teaching Through Transformative Learning

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Abstract: *Following a cognitive-developmental perspective, the Scholarship of Teaching & Learning is understood as a process of knowledge construction whereby knowledge claims are validated through reflection on teaching experience and educational theory. These reflective processes can be documented and peer reviewed. Teaching portfolios allow for the documentation of indicators of reflection. Indicators can be developed for each of three domains of teaching knowledge: (1) what we consider to be meaningful goals and purposes of higher education; (2) what we know about student learning and development in relation to these goals; and (3) what we know about the teaching and instructional design processes needed to bring about academic learning and development. Keywords: Learning about teaching, transformative learning, reflection, professionalism and citizenship, scholarship, documentation and peer review*

I. Introduction: The scholarship of teaching as professionalism guided by citizenship

“We develop a scholarship of teaching when our work as teachers becomes public, peer-reviewed and critiqued. And exchanged with members of our professional communities so they, in turn, can build on our work” (Shulman, 2000).

Far from having remained “an amorphous term, equated more with commitment to teaching than with any concrete, substantive sense of definition or consensus as to how this scholarship can be recognized” (Menges & Weimer, 1996, p.xii), the scholarship of teaching and learning has gained much clearer contours and recognition in recent years (Kreber, 2003). Often linked to the notion of *professionalism in university teaching*, the scholarship of teaching and learning is progressively associated with a form of knowledge about teaching and student learning that can be rationally verified through disciplined inquiry. “Professional knowledge” thus construed is knowledge oriented towards “*best practices*”. While the question of what constitutes “best practices”, ultimately, is a philosophical one, there remains little doubt that we can observe a trend in the educational policy arena to equate the idea of “best practices” increasingly with notions of effectiveness and efficiency. Applied to the scholarship of teaching and learning, professional practices (or “best practices”), then, are identified by exploring the question “which teaching innovations produce the best results (i.e., more learning, better/deeper learning, or a closer fit of learning outcomes with those required by the job market, etc)?”. No one would dispute that this is a significant question to delve into; however, it is just one question that the scholarship of teaching is (or should be) concerned with.

A second way of exploring university teaching in a scholarly (or if you will professional) way is to turn to its moral and civic purposes. Thus construed, the *scholarship of teaching (and*

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learning), or *professionalism in teaching*, is more appropriately associated with the notion of *citizenship* rather than with “*effectiveness or efficiency*”. While understanding how students learn and finding ways to optimize their learning, preferably through replicable and publishable forms of scientific inquiry, is clearly important, this alone cannot be the *essence* of the scholarship of, or professionalism in, teaching. “Best (teaching) practices”, therefore, are no more than the *means* by which to bring about desired educational outcomes. And so a question to be addressed early on in any deliberations on university teaching ought to be “what are the *ends* that the contemporary university serves through its teaching practices and curriculum?” and, more importantly, “are these the same that it should serve”? Are we concerned with training and socializing researchers into our discipline, preparing students for specific jobs or for lifelong learning, facilitating their personal development, promoting their successful participation in a democratic society, or perhaps none, or all, of these? Analyses of these latter questions are just as essential aspects of *practicing the scholarship of teaching* as are explorations of how well certain teaching methods work and how, or how well, students learn (Hutchings & Shulman, 1999). The scholarship of teaching and learning, or professionalism in teaching, therefore, needs to be conceptualized broadly and integrate the notion of *professionalism* with the notion of *citizenship* (see also Walker, 2001). By asking (1) what do we consider to be meaningful goals and purposes of higher education, (2) what do we know about student learning and development in relation to these goals, and (3) how can we promote such learning and development (Kreber & Cranton, 2000; Kreber, 1999), the scholarship of teaching and learning could lead to changes that go beyond the development and implementation of instructional innovations but are expressed also in the larger curriculum and co-curriculum (Kreber, 2005a)

I am stating what is obvious to everyone, of course. Certainly goals are important and no one would dispute this. In recent years, many scholars have highlighted the university’s role in promoting moral and civic education (e.g., Colby, Ehrlich, Beaumont, & Stephens, 2003; Lempert, 1996; Piper, 2002; Orr, 1993; Rhoads, 2000) and numerous higher education policy documents directly speak to the importance of these goals (e.g., DfES, 2003; World Conference of Higher Education, 1998; National Panel Report, 2002). More over, the focus for the 2003-2004 cohort of Higher Education Carnegie Scholars organized by the *Carnegie Academy for the Scholarship of Teaching and Learning*, was on Liberal Learning. The Carnegie Foundation also recently initiated the “*Political Engagement Project*” to address the problem of young people increasingly disengaging from politics. This initiative builds on the earlier work by Colby et al. (2003) on moral and civic responsibility. Clearly, all these projects demonstrate careful consideration of the goals and outcomes of higher education and a concern with student learning that goes beyond the development of discipline-experts, or training for specific jobs. However, the links between these moral and civic goals and *the scholarship of teaching and learning*, though possibly assumed by many, has not always been made *explicit*. Even though many have discussed the importance of educational goals and purposes over the years, until recently these discussions occurred largely outside rather than *within* the discourse on the *scholarship of teaching and learning* (by which I mean a discourse found in *SofTL specific* journals and conferences). I suggest that it is perhaps for this reason that many faculty and administrators associate the *scholarship of teaching and learning* still primarily with the notion of “best (teaching) practices” rather than a broader notion of professionalism that would integrate the idea of “citizenship”. Though the latter is possibly taken for granted by some, it still occupies

somewhat of a secondary role in conceptions of what the scholarship of teaching and learning is, should, or could be.

In this article, then, I suggest that the *scholarship of teaching and learning* involve (1) careful consideration of educational goals and purposes suitable for addressing the various political, social, cultural, environmental and economic challenges of our times, (2) understanding how students learn and develop toward these and other academic goals, and (3) identifying ways to best facilitate this learning and developmental process.

I further contend that the notion of *the scholarship* of teaching and learning implies that we approach our teaching practice with the same sense of *skepticism* that guides our research. As researchers, we habitually provide arguments or reasons for our assertions. Depending on our discipline or subject area, we engage in the process of hypothesis testing, interpretation or critical analysis routinely. Moreover, we recognize that it is important to share with colleagues the evidence we generated for our point of view and invite them to follow, and possibly critique, our lines of argumentation. It has been proposed that we engage in similar processes with respect to our teaching; however, traditional ways of sharing such as conference papers and journal publications are but two of several possibilities. Later in this paper I will discuss how and why teaching portfolios are particularly suitable for this purpose.

In the remainder of this article I will build on these observations and discuss how the *scholarship of teaching and learning* may be developed through *transformative learning* (Mezirow, 1991), a process by which faculty construct knowledge about teaching and learning through reflection. In line with the earlier arguments, I suggest that faculty construct knowledge in three different domains. The first domain of knowledge relates to what we consider to be meaningful goals and purposes of higher education (*Curricular Knowledge*). The second refers to what we know about student learning and development in relation to these goals (Pedagogical Knowledge, or perhaps more appropriately referred to as *Psychological knowledge*). The third pertains to what we know about the teaching and instructional design processes needed to bring about student learning and development (Instructional Knowledge).

Questions that will be examined in this article include:

- How is reflection on teaching and learning valuable?
- What role do experience and theory play in reflection on teaching?
- What is transformative learning?
- Are there different kinds or levels of reflection, and if so, are all levels of reflection equally conducive to fostering change and development in higher education teachers?
- How is reflection, and transformative learning, linked to the scholarship of teaching?
- How can transformative learning on teaching and student learning be demonstrated and reviewed?

II. How is reflection on teaching and learning valuable?

For more than two decades researchers have explored the role of reflection in teacher training (e.g., Hatton & Smith, 1995; Calderhead, 1989; Zeichner et al., 1987) and more recently, it has become a buzzword also in higher education. Time and again faculty are reminded of the importance of reflecting on their teaching (e.g., Brookfield, 1991, 1995; Cranton, 1998; Ramsden, 1992; Schön, 1995), though the process of reflection itself remains poorly understood

(e.g., Moon, 2000). Reflection also has been identified as a key process in the scholarship of teaching and learning.

Andresen (2000), for example, argued that the scholarship of teaching, should be inquiry-driven, involve *critical reflectivity*, and scrutiny by peers. Two other studies, one with “experts” in the scholarship of teaching (Kreber, 2002b) and one with “regular faculty” (Kreber, 2003) showed that both “experts” and regular academic staff consider the scholarship of teaching to be inquiry driven and to involve *critical reflection*. Trigwell et al. (2000) identified five qualitatively different conceptions of the scholarship of teaching in a study with faculty at an Australian university following the research tradition of phenomenography (Marton 1981). These five conceptions were shown to differ in terms of four dimensions, one of them being the *focus that reflection on teaching can take*. Finally, Glassick et al (1997) proposed *reflective critique* as one of six criteria or standards by which to judge the scholarship of teaching. Clearly, reflection is recognized as an important aspect of the scholarship of teaching. However, just what precisely it is that we hope reflection will accomplish is not always made clear.

At the same time there perseveres a deeply-held belief that through reflection we can enhance our teaching practice, and by extension, the learning experiences of our students. Such conclusions *presuppose* that reflection will lead to *valid* and valuable forms of knowing. For if the outcomes of reflection on teaching were *not assumed to be valid*, how would such reflection be meaningful? It is this idea of checking whether what we think actually makes sense, or is “*valid*”, given the context we find ourselves in, that is at the core of Mezirow’s (1991) theory of transformative learning. In emphasizing the importance of validity testing, Mezirow is inspired by the work of German sociologist Jürgen Habermas. Borrowing heavily from Habermas’s (1971) theory of knowledge-constitutive interests, Mezirow distinguishes three different forms of learning: instrumental, communicative and emancipatory. It is through these three forms of learning that we can test the validity of our assumptions.

A. Three different forms of learning

When engaged in *instrumental learning* we verify a belief or assertion by subjecting it to the empirical-analytical method; that is by posing it as a hypothesis that then can be tested by gathering data that will either support or contradict it. *Communicative learning*, on the other hand, relies on the notion that through communication with others we can reach a common understanding on what is true. An assertion or belief is valid, therefore, if agreement on it can be reached within a community. Such a *consensus* then is based on what the community at some point has accepted as the norm. While communicative learning is very valuable if the goal is to reach greater understanding within a framework of given norms, this form of learning does not concern itself with the question of how these norms have come about. Put differently, through communicative learning we do not ask “*why did we ever conclude that things should be this way?*” or “*Why does it matter that we do them this way?*”

In response to the limits of communicative learning, Mezirow (1991), leaning on Habermas (1971), suggests that important aspects of learning do not occur on the basis of subjective understanding and consensus within a given social context. Instead the most significant forms of learning involve a critical analysis of the processes and conditions by which certain norms we have come to take for granted have evolved and how “*consensus*” was reached. This is the nature of *emancipatory learning*.

Whether or not the assumptions or conceptions we hold about university teaching are *valid*, therefore, can be determined through instrumental, communicative, or emancipatory learning or any combination of these.

III. What role do experience and theory play in reflection on teaching?

When we think of reflection on teaching, we typically have in mind teachers reflecting on their personal teaching experiences rather than on research findings (see also Hiebert, Gallimore & Stigler, 2002; Huberman, 1985). This notion is supported by an extensive body of literature which argues that instructors who reflect on their teaching experiences acquire knowledge that is useful to them in the contexts in which they teach (e.g., Cochran-Smith & Lytle, 1990; Munby & Russell, 1994; Schön, 1983). Moreover, these scholars suggest that the teachers' personal knowledge, constructed on the basis of teaching experience, is more valuable than theoretical or research-based knowledge on teaching. Theoretical knowledge about teaching, such as that found in books and academic journals, is, according to these scholars, more or less *irrelevant* or *worthless* as it cannot be directly *applied* to practice.

An intriguing question, however, is whether the reflective process might also be directed to theoretical knowledge about teaching, and if so, under what circumstances would theoretical knowledge be of value to teachers? Norris (2001) suggests that the value of educational theory for the practice of teaching depends on how teachers engage with theory. Educational theories, he argues, surely will not seem particularly useful to teachers if they are wrongly expected to serve as situational or context-specific problem-solving strategies. This cannot be the purpose of any theory. Instead, teachers need to understand the value of theories as "general models" which they need to adapt to their specific context. Whether and, if so, how such research-based knowledge applies to a teacher's given situation is a question that only those who know the particulars of the situation can answer. "When the situation is the classroom, teachers know the most about them" (Norris, 2001). Hiebert et al. (2002) also emphasize the importance of local hypotheses that teachers develop and test across specific contexts thereby working in collaboration with researchers "to digest and transform their general findings into professional knowledge for teaching" (p.13). It follows that while reflection is certainly associated with *experience* (see also Boud, Keoch & Walker, 1985; Dewey, 1991; Kelly, 1955; Kolb, 1984; Mezirow, 1991; Moon, 2000) it also plays a significant role in determining the usefulness of *theoretical or research-based knowledge*. Jarvis (1999) summed it up most succinctly when he argued that theories serve as information that practitioners need to transform into *situation-specific knowledge* as they try them out in practice. In doing so they create valid knowledge.

The view that there are at least two equally important sources of reflection on teaching – *educational theory* and *teaching experience*--, has been repeatedly articulated also in the higher education teaching and learning literature (e.g., Kreber, 2002; Kreber & Cranton, 2000; Menges & Weimer, 1996; Paulsen, 2001; Rando & Menges, 1991). As Rando and Menges (1991) suggested more than a decade ago: "*articulating a rationale for one's instructional world...requires reflection about personal theories, knowledge of formal theories, and blending of the personal and formal*" (pp. 13-14). While it is indeed important to consider both experience and theory in the discussion of reflection on teaching, doing so does not in and of itself address the question of *how* reflection enhances the practice of teaching. As we have just seen, Jarvis proposed that theories are validated through practical experience but the idea of *validation* would benefit from a more thorough analysis. As discussed above, Mezirow (1991) suggests that we come to know things as being either "true" or "false" through instrumental,

communicative, and/or emancipatory learning. These forms of learning are linked to different kinds of *reflection*. We will turn to these different forms of learning and kinds of reflection next.

IV. What is transformative learning?

Mezirow's theory of transformative learning, to a large extent, is informed by the cognitive-developmental tradition (e.g., Kelly, 1955; Piaget, 1964). This particular strand of psychology assumes that individuals develop intellectually as they encounter events that cannot be interpreted through their existing mental frames of reference. Intellectual development occurs as frames of reference get revised as a result of *reflection*. A frame of reference, often called a *conceptual structure*, is interpreted as an interrelated set of assumptions, constructs, or conceptions, individuals actively *form* through experience. As specific assumptions are questioned and possibly revised (or *transformed*) in light of contradicting evidence, this can lead to a more substantial change in frame of reference (or "conceptual structure"). Since individual assumptions are understood to be hierarchically organized, it would depend on their position or relative importance within the larger frame of reference, whether a revised assumption leads to a transformation in the frame of reference itself.

To illustrate this point by means of an example, think of a new faculty member whose assumption that all students would prepare the readings assigned for class is challenged early in the semester when she notices that this holds true for only about 50 % of students. Clearly, she now realizes that undergraduate students are not equally ready to assume responsibility and control over their learning. Whether or not the transformation of this one assumption (or conception) will actually promote a more substantial transformation in frame of reference (or conceptual *structure*) will depend on the importance she attributes to this new knowledge. It would be possible, for instance, that she begins to question related assumptions and reflects on how she could better facilitate the process of self-regulated learning for different students, and whether, and if so, why, it matters that students learn to take on more responsibility for their learning. Since, as was noted, the assumptions (or conceptions) we hold about teaching and learning are in some ways interrelated, a transformation of one assumption *may* promote reflection on other assumptions. Not in all cases, however, will reflection lead to a drastic change in frame of reference for, through reflection, we may also find our assumptions to be confirmed or *validated*. Let us now look at the different forms "reflection" (as conceived by Mezirow) can take.

V. Are there different kinds or levels of reflection, and if so, are all levels of reflection equally conducive to fostering change and development in higher education teachers?

In distinguishing between different kinds of reflection, Mezirow put clearer parameters on the rather vague term "reflection" and, hence, made a significant contribution to our understanding of the reflective process and teacher thinking. The three kinds of reflection Mezirow identified are *content*, *process*, and *premise reflection*. He describes the differences between the three forms of reflection as such:

The critique of *premises* or presuppositions pertains to problem *posing* as distinct from problem *solving*. Problem posing involves making a taken-for-granted situation problematic, raising questions regarding its validity. ... the term "critical reflection" often has been used as a synonym for reflection on premises as distinct from reflection on

assumptions pertaining to the *content* or *process* of problem solving (Mezirow, 1991, p.105).

It follows that *content*, *process* and *premise* reflection are very different in terms of their nature and what they can achieve; indeed, one could say that they represent different *levels* of reflection.

The term *content reflection* is at times confusing to people, particularly when discussed in the context of teaching and learning. Contrary to our intuitive understanding, the term “content reflection” does not refer to reflection on the content of the courses we teach. What Mezirow means by *content* reflection is having a clear sense of, and providing a description of, the content of the problem that we need to solve. In short, content reflection asks “*What’s really the problem here and what do I need to do?*”. In content reflection, we do not question the presuppositions underlying our argument but simply use our present knowledge, that is the assumptions or conceptions we presently hold, to describe a problem and how it is *habitually* solved by us. According to Mezirow, content reflection, is a process in which we “*are not attending to the grounds or justification for our beliefs but are simply using our beliefs to make an interpretation*” (Mezirow, 1991, p.107). To be clear, the question of whether our knowledge is *valid* is not one posed by content reflection. All we ask through *content reflection* is “*what do I presently know about how to solve this problem?*”

Process reflection, on the other hand, is focused on the effectiveness of the problem-solving strategy itself. Here we ask “*how do I know that I am effective (or was conscientious) with what I do?*”. Finally, in *premise reflection*, we call into question the presuppositions on which our present knowledge is based and ask “*why is it that I choose to attend to this problem— is there an alternative?*”

How these forms of reflection are linked to the three forms of learning discussed earlier-- *instrumental*, *communicative* and *emancipatory*-- is illustrated next.

It has become evident that content reflection does not address the question of validity of the outcomes of reflection. Through process and premise reflection, however, we test the validity of our assumptions or conceptions. In process reflection we find out whether what we do works by seeking some form of *evidence* for its “effectiveness” (which in some case is better interpreted as “meaningfulness” or “conscientiousness”). This evidence might be found through published research we read about, research we conduct ourselves, or through experience such as talking to others. Reflection then can be informed by the two sources of knowledge construction discussed earlier: personal *teaching experience* and *educational theory*. Process reflection then occurs through either instrumental or communicative forms of learning, or both. In case of *instrumental learning* we might validate our knowledge by posing it as a hypothesis that we then test (for example, “students achieve better test scores if I give them the opportunity to choose between two assignments”). In case of *communicative learning*, we might validate our knowledge as we discuss what we assume to be true with a community of peers to achieve consensus (for example, as we discuss the meaningfulness and relevance of certain goals or values which guide our curriculum planning). Obviously, it is only when we are engaged in *premise reflection*, that is the questioning of presuppositions of what we believed to be true, that our learning would become also *emancipatory*. We may question, for example, *why* we ever decided on certain goals and values and examine the processes and conditions by which these came about.

If our goal is to enhance university teaching, it is vital that we encourage also process and premise reflection rather than just content reflection on teaching. Let us now explore what it might look like when people engage in *content*, *process* or *premise reflection* on teaching.

V. How is reflection, and transformative learning, linked to the scholarship of teaching?

Kreber and Cranton (1997, 2000) suggest that the *scholarship of teaching and learning* involves learning about three equally important domains of teaching knowledge: (1) knowledge about the goals and purposes of our teaching (labelled *curricular knowledge*), (2) knowledge about how students learn (back then was labelled *pedagogical knowledge* but should perhaps have been labelled *psychological knowledge*), and (3) knowledge about instructional design and the instructional process (labelled *instructional knowledge*). This taxonomy is not unrelated to other models describing the knowledge base of teaching (e.g., Rice, 1991; Shulman, 1987). The main difference is that the SofT model is not limited to identifying knowledge domains but is concerned with the *construction of knowledge*, through *reflection*, in each domain. Another important aspect of the model is that it stresses the critical examination of goals and purposes of higher education as an integral part of the Scholarship of Teaching and Learning.

Mezirow's three levels of reflection (on content, process and premise) serve to explain how faculty might construct knowledge in the domains of *curriculum* (what are the goals and purposes of our teaching?), *pedagogy* (how do students learn and develop toward these goals?), and *instruction* (what can be done to optimize this learning or developmental process?). It follows that individuals may actually be involved in as many as nine different kinds of reflection (namely content, process and premise reflection in the three domains of instructional, pedagogical and curricular knowledge) with each of the nine kinds of reflection generating a slightly different form of teaching knowledge.

In summary, as higher education teachers are involved in any of these nine forms of reflection, they draw on their teaching experience or educational research, or both. Clearly then, reflection, whether informed by experience or theory, *leads to knowing*, indeed, as many argue, is a process of active knowledge construction. The knowledge higher education teachers construct through these forms of reflection can be tested for its validity through instrumental, communicative or emancipatory learning processes. When our assumptions become validated as a result of process or premise reflection, we can present some sound arguments by which to justify our practice. To borrow Dewey's (1933) words, through reflection we carefully considered "any belief or supposed form of knowledge in light of the grounds that support it and the further conclusions to which it tends" (p.9).

When individual assumptions *were not validated* as a result of reflection, transformative learning (a revision of assumptions or conceptions) might occur as a result. Premise or critical reflection on a single assumption may or may not lead to a transformation of one's larger frame of reference (or conceptual structure) on teaching². Table 1 summarizes what has been argued and provides some concrete examples of possible responses to the reflective questions posed by the scholarship of teaching (SofT) model. Tables 2 to 4 illustrate the process of *content*, *process*

² It might be useful to think of the conceptual structure as something similar to Prosser and Trigwell's (1999) "conceptions of teaching" (see also Martin & Balla, 1991; Ramsden, 1992; Kember & Gow, 1994), which can be predominantly *teacher-focussed* or increasingly more *student-focussed* and oriented towards promoting students' *conceptual change* in the understanding of subject matter. For instructors to change their conceptions, transforming one single assumption may or may not trigger a more drastic change or transformation in "conceptions of teaching".

and *premise reflection* for the domains of curricular knowledge, pedagogical (or rather psychological) knowledge and instructional knowledge respectively. Clearly, the goals we identify as a result of reflection within the domain of curricular knowledge influence the reflective processes in the other two domains. The three goals discussed in the tables --self-management, autonomy and social responsibility-- are examples only (though they are, of course, consistent with the understanding of the scholarship of teaching and learning as a “professionalism” that is inclusive of the notion of “citizenship”). Obviously there are other important goals of higher education including those that are more subject, discipline or program specific. An essential aspect of the SofT model is its emphasis on justifying educational goals through *process* and *premise reflection*.

Following this model, faculty can provide evidence of engagement in the scholarship of teaching. This involves demonstrating that we made efforts to validate our knowledge of teaching in learning in the three knowledge domains, and acted on the results of our reflection. Given appropriate criteria, it could also be assessed through a process of peer review (Kreber, 1998; 2001). How the various reflective processes could be demonstrated in a teaching portfolio I will discuss below.

VII. How can transformative learning on teaching and student learning be demonstrated and reviewed?

The idea of the teaching portfolio originated in Canada in the early 1970s (Knapper, McFarlane, & Scanlon, 1972) and later resulted in a publication sponsored by the Canadian Association of University Teachers (CAUT), entitled "The teaching dossier: A guide to its preparation and use" (Shore and others, 1980, 1986). Teaching portfolios are meant to have both formative and summative evaluative purposes (Edgerton, Hutchings, & Quinlan, 1991; Knapper, 1995; Smith, 1995). This is to say that they are meant to promote teacher growth and provide a basis for judging teaching effectiveness. Typically, teaching portfolios include various documents among them a philosophy statement, outlines of courses taught, unsolicited comments from students, written feedback from colleagues, examples of course work completed by students, summary of teaching evaluation from students, and so forth. Evidently, sources such as these, particularly if compiled together, provide a broader and more objective picture of teaching effectiveness than, for example, student ratings of instruction alone. Clearly, teaching portfolios can be very useful in demonstrating teaching effectiveness to an evaluation committee. However, it is less obvious how teaching portfolios thus construed serve their formative purpose. Most teaching philosophy statements that I have read over the years provide “thick” descriptions (e.g., Lincoln & Guba, 1985) of present practices but demonstrate little evidence of critical reflection on the underlying assumptions themselves. These descriptions are good examples of what is meant by “*content reflection*”. Surely, this does not necessarily mean that faculty are not critically reflective; it is equally possible that many simply do not know how to demonstrate their reflection. My purpose in this essay is to show how teaching portfolios could be used to document engagement in the various reflective processes associated with the SofT model. The portfolio then could be a means not only for *stating the assumptions* we hold about instructional design issue, student learning and development and goals and purposes but also for documenting the processes by which assumptions were constructed. The basic idea behind such a portfolio is that both authors and reviewers can form judgements regarding the validity of the outcomes of reflection by exploring and assessing the extent to which stated assumptions are the result of

Table 1

The Scholarship of Teaching (SoT) Model (adapted by Kreber & Cranton, 2000): Content, process and premise reflection in the three knowledge domains (*Examples of possible responses*)

	Curricular knowledge	Pedagogical/Psychological knowledge	Instructional knowledge	Validity testing involved?	Form of learning	Sources of knowledge used in reflection
Content reflection	“What are the goals and purposes of my teaching?”	“What do I know about how students learn and develop?”	“What instructional strategies should I use?”			
<i>The problem is described</i>	“The problem I need to solve here is clarifying my goals.”	“The problem I need to solve here is how to promote moral development and social responsibility.”	“The problem I need to solve here is (for example) how to provide students with real-life problems.”		I make explicit what I already “know” (what I believe to be true) no challenging of assumptions is taking place at this point.	Largely experience-based but could also be research-based
<i>Possible habitual response</i>	“My main goal is to promote in students a greater sense of moral development and social responsibility.”	“I can do this by providing them with opportunities to solve real-life ill-structured problems.”	“I can do this by incorporating a service learning component.”	NO		
Process reflection	“How conscientious have I been in identifying this goal?”	“How effective am I in learning how to promote moral development and social responsibility?”	“How effective has my use of service learning been in providing students with opportunity to solve real-life problems?”	YES	Instrumental and/or communicative	Experience-based and/or research-based
Premise reflection	“Why does my goal of promoting social responsibility matter – what possible alternatives are there?”	“Why does it matter that I offer opportunities to solve real-life and ill-structured problems – what possible alternatives are there?”	“Why does it matter that I use this approach (here service learning). Is there an alternative?”	YES	Emancipatory (possibly preceded by instrumental and/or communicative learning)	Experience-based and/or research-based

Table 2

Examples of possible responses to content, process and premise reflection questions in the domain of curricular knowledge.

	First goal	Second goal	Third goal
Content reflection “What are my goals”	“My goal is to promote self-management.”	“My goal is to promote personal autonomy”	“My goal is to promote social responsibility”
Process reflection “How effective or conscientious have I been in identifying these goals” or “How did these goals come about”?	“The need for students to develop the skills, abilities and attitudes needed for continuous learning has been repeatedly emphasized in the educational literature.”	“Philosophers, educators and social critics have identified the cultivation of autonomous individuals as an important purpose of higher education.”	“People arguing that higher education should bring about autonomous thinkers also emphasize the need for responsible citizens. Carnegie identified encouraging civic engagement as an important educational purpose.”
Premise reflection “Why does it matter that I promote these goals?”	“While there are other important goals, students need to acquire the capacity to engage in continuous adaptive learning because such learning has become a reality in our rapidly changing world. Without this capacity individuals will be seriously limited in their opportunity to make changes necessary to improve their lives.”	“While there are other important goals, students need to be able to distinguish mere habit and convention from what they can defend by argument in order to solve the most pressing problems of our times. Without this ability individuals easily become puppets and automatons of hegemonic forces that take control of their lives.”	“While there are other important goals, students need to develop a sense of responsibility towards the community and the environment because our most pressing problems can be solved only by recognizing that we are in this together. Without this sense of stewardship and citizenship we open the door to conflict as marginalized groups and social and environmental issues easily get ignored.”

Table 3

General questions asked in content, process and premise reflection in the domain of pedagogical (or “psychological”) knowledge.

	Self-management	Autonomy	Social Responsibility
Content reflection	“What do I know about how students develop a sense of self-management?”	“What do I know about how students develop a sense of autonomy?”	“What do I know about how students develop a sense of social responsibility?”
Process reflection	“How do I know that what I believe about how to promote self-management (for example, promote self-regulated learning, deep level approaches, self-evaluation, information finding, etc), is actually true?” and “How effective have I been in identifying, or learning, about how students develop self-management?”	“How do I know that what I believe about how to promote autonomy (for example, promoting intellectual development, critical thinking, exercising freedom of choice, etc) is actually true?”	“How do I know that what I believe about how to promote social responsibility (for example, promoting moral development, social commitments, cultural and environmental sensitivity, etc) is actually true?”
Premise reflection	“Why does it matter that I focus on <i>these</i> constructs, ideas or theories to help students develop self-management – what possible alternatives are there?”	“Why does it matter that I focus on <i>these</i> constructs, ideas or theories to help students develop autonomy -- what possible alternatives are there?”	“Why does it matter that I focus on <i>these</i> constructs, ideas or theories to help students develop social responsibility -- what possible alternatives are there?”

Table 4

General questions asked in content, process and premise reflection in the domain of instructional knowledge.

	<i>Self-management</i> For example, linked to <i>Self-regulated learning</i> <i>Deep level learning</i> <i>Self-evaluation</i> <i>Finding information</i>	<i>Autonomy</i> For example, linked to <i>Critical thinking</i> <i>Deep level learning</i> <i>Intellectual development</i> <i>Exercising freedom of choice</i>	<i>Social Responsibility</i> For example, linked to <i>Moral development</i> <i>Cultural and environmental sensitivity</i>
<i>Content reflection</i>	“What do I know about the strategies needed to help students develop a sense of self-management?”	“What do I know about the strategies needed to help students develop a sense of autonomy?”	“What do I know about the strategies needed to help students develop a sense of social responsibility?”
<i>Process reflection</i>	“How do I know that these strategies are effective?”	“How do I know that these strategies are effective?”	“How do I know that these strategies are effective?”
<i>Premise reflection</i>	“Why does it matter that I use these strategies -- what possible alternatives are there?”	Why does it matter that I use these strategies -- what possible alternatives are there?”	Why does it matter that I use these strategies -- what possible alternatives are there?”

engagement in *process* and *premise* reflection, or instrumental, communicative and emancipatory learning.

In order for us to demonstrate our reflection on the various aspects of the scholarship of teaching model, it is not enough to tell others that we reflected. Demonstrating reflection more convincingly, would involve providing *indicators* of engagement in the reflective processes underlying the scholarship of teaching and learning (here the SofT model). *Indicators* of engagement in the scholarship of teaching are concrete actions we took from which engagement in the various reflective learning processes can be inferred. While Kreber and Cranton (2000) proposed a list of indicators based on a conceptual analysis, a recent study with thirty-six science faculty (Kreber, 2005) identified indicators empirically. The list below draws on both records but makes some additional suggestions. The items in the list are concrete actions faculty can take and also describe and document in the portfolio.

1. Describing the instructional strategies one uses (content reflection/instructional knowledge--experience-based);
2. Asking for peer review of course outline (process reflection/instructional knowledge--experience-based);
3. Collecting data on students' perceptions of methods and materials (process reflection/instructional knowledge—experience-based);
4. Experimenting with alternative teaching approaches and checking out results (premise reflection/instructional knowledge—experience-based);
5. Comparing different instructional strategies for their suitability in a given context (premise reflection/instructional knowledge—experience-based)
6. Paying attention to end of term teaching evaluations (process reflection/instructional knowledge—experience-based)
7. Writing critiques on “how-to teaching books” (premise reflection/instructional knowledge—research-based);
8. Administering learning styles or other inventories to students (process reflection/pedagogical knowledge—research-based/experience-based);
9. Writing an article on how to facilitate learning in the discipline and submit it to a scholarly journal (content/process reflection/pedagogical knowledge—research-based);
10. Gathering feedback from students on their learning of discipline-specific concepts (process reflection/pedagogical knowledge—experience-based);
11. Comparing research-based insights gained from courses on teaching and learning to one’s knowledge of how students learn (process reflection/pedagogical knowledge—research-based)
12. Listening to others, observing how others learn, and discussing or writing about it (process reflection/pedagogical knowledge—experience/research-based)
13. Reading articles or books on learning and developmental theory (content reflection/pedagogical knowledge—research-based);
14. Observing others teach and observing the reactions of their learners (process reflection/pedagogical knowledge—experience-based)
15. Conducting an action research project on student learning (process reflection/pedagogical knowledge—research-based);

16. Presenting findings from classroom teaching experiments at teaching-related sessions at conferences (process reflection/instructional knowledge—research-based);
17. Showing how goals of one's teaching relate to what students need to live successful lives (Process reflection/curricular knowledge—experience-based)
18. Consulting with an educational development specialist (process reflection/pedagogical knowledge—research-based);
19. Comparing classroom experience to formal research results on student learning (process reflection/pedagogical knowledge—research-based);
20. Explaining how and why goals have changed over time (Premise reflection/curricular knowledge—experience-based);
21. Consulting with employers to see what goals they have in mind (Premise reflection/curricular knowledge—experience-based).
22. Participating in a curriculum review committee (Premise reflection/curricular knowledge—experience-based).
23. Participating in philosophical discussions on student learning, for example through a listserv or with colleagues (premise reflection/pedagogical knowledge—experience-based)
24. Reading books on the goals of higher education and comparing goals to those underlying the programs offered in the department (process reflection/curricular knowledge—research-based)
25. Writing articles that compare the usefulness of textbooks in one's field and compare outcomes of analysis to own text and course content (Process reflection/curricular knowledge—research-based)

Prior to discussing this list it might be useful to make one further observation. It has been suggested that there is a difference between *scholarly teaching* and the *scholarship of teaching* (e.g., Richlin, 2001) and some feel that this distinction is one of critical importance. To the extent that we adopt this view, we will conclude that most of the above indicators reflect scholarly teaching but not the scholarship of teaching. However, does interpreting the scholarship of teaching exclusively as “publication of research on teaching and learning” (and considering any practices that do not meet this criterion as scholarly teaching) not unnecessarily reduce the *scholarship of teaching* to the *scholarship of discovery on teaching*³? The latter, I propose, is just one way by which to engage in and demonstrate the scholarship of teaching. If the scholarship of teaching is aimed at enhancing the quality (and recognition) of teaching and supporting student learning, is informed by knowledge of the field, is inquiry-driven, involves critical reflectivity and scrutiny by peers, as many have argued over the years (e.g., Andresen, 2000), does it then not follow that the above indicators are indeed indicators of the scholarship of teaching, particularly if they themselves are shared with peers?

Essentially, the idea of using indicators is that they allow us to make inferences about the kind of learning or reflection the faculty member has engaged in. To the extent that the indicators suggest engagement in process and premise reflection (through instrumental,

³ I assume that advocates of this view would suggest that the difference between what *educational researchers* do and what *scholars of teaching* do, is that for scholars of teaching the research problem originates in their own teaching practice, whereas for educational researchers the problem originates on the basis of theory. This distinction, however, would not hold true for all educational researchers either.

communicative or emancipatory learning), we can infer that assumptions about teaching and learning were tested for their validity. To be clear, not every indicator on this (or any other) list of suggestions needs to be addressed. The idea is that one would want to see some evidence of process and premise reflection in the domains of curricular, pedagogical and instructional knowledge. Such evidence might be produced through traditional forms of inquiry and sharing such as studies of how students learn that are then published, but many of the above indicators do not involve publication.

Without a doubt, the scholarship of teaching can be demonstrated in many different ways (see for example, Theall & Centra, 2001). Other indicators than the ones suggested here are clearly possible and the development of further indicators by those who practice the scholarship of teaching is both necessary and encouraged. For an outsider it is not always easy to decide whether an indicator (i.e., a concrete action that a faculty member may take) gives evidence of content, process or premise reflection on the part of a faculty member. A higher degree of trustworthiness in the interpretation of indicators might be possible only by talking to the faculty member him or herself. When teaching portfolios are used as described in this essay, namely with the intent to record and demonstrate reflection of different kinds, their greatest value may lie in the *formative purposes* they serve. Conversations based on the portfolio between educational developer and faculty member would hold great promise for further reflection and continued growth in teaching. As for summative purposes, the portfolio holds potential as well. As was noted, it is neither likely nor necessary that reviewers of portfolios will be able to decide for *each* recorded instance whether reflection was focussed on content, process or premise. Nonetheless, reviewers can still arrive at an overall impression of whether the faculty member went beyond *content reflection* on goals, his or her understanding of student learning and development, and how to promote academic learning and development. Results from a recent study suggest that faculty engage primarily in content reflection on teaching, followed by process reflection and that premise reflection across all three knowledge domains is not as common (Kreber, 2005b).

VIII. Concluding comments

I argued in this essay that the scholarship of teaching and learning needs to be informed by a broader conceptualizations of *professionalism*, one that is not limited to “best teaching practices” but is inclusive of the notion of *citizenship* (contributing to the university’s moral and civic purpose).

The *Scholarship of Teaching (Soft) model* (Kreber & Cranton, 2000) suggests that faculty develop in the scholarship of teaching and learning as they actively construct and validate their knowledge through reflection in three domains of teaching knowledge: (1) knowledge about the goals and purposes of university teaching (curricular knowledge), (2) knowledge about student learning and development toward those goals (pedagogical knowledge, or rather psychological knowledge), and (3) knowledge about how to optimize this learning and developmental process (instructional knowledge). Reflection is informed by knowledge gained through personal experience and/or through formal inquiry faculty conduct themselves or read about. Content, process and premise reflection are three *qualitatively different kinds* of reflection. Only in *process* and *premise* reflection are assumptions or conceptions questioned for their validity. In *content reflection* we merely make our present assumptions *explicit* (i.e., we state what we believe to be true); however, content reflection is not irrelevant as identifying

assumptions is a critical first step in reflection. Both process and premise reflection go beyond this and involve “validity testing”. *Process reflection* occurs through instrumental and/or communicative forms of learning and focuses on the problem-solving strategy (“how do I know that what I’m doing makes sense?”). Premise reflection can lead to emancipatory learning and focuses on the presuppositions underlying our practices and how they came to be taken for granted (“why does it matter that I/we focus on this problem?”).

Reflection on assumptions (or conceptions) we hold does not always lead to a transformation of assumptions (or conceptions) to be meaningful (Kelly, 1955; Mezirow, 1991), as through reflection we may find justification for our practices. Only if, through reflection, assumptions are *not validated* might transformative learning take place. However, even then it will depend on a combination of factors -- including personal (for example, willingness to change), social (for example, support by others for change) and contextual ones (for example, external constraints to change) -- whether reflection will lead to a transformation of assumptions and, ideally, changes in practice. As well, as was stated earlier, whether or not *one* transformed assumption leads to a transformation in the larger frame of reference (or conceptual structure) on teaching depends on the importance we attribute to our new insight or knowledge.

The scholarship of teaching and learning thus construed involves both learning and knowing about teaching. Teaching portfolios offer the opportunity to document or publicize our engagement in the scholarship of teaching and learning and to share or exchange the insights we gained through the various reflective processes with the larger academic teaching community so that they, in turn, can review and critique our practices. This exchange or sharing of indicators of reflection with members of the academic teaching communities may encourage others to build on our work. It might make most sense to start this sharing within our own departmental contexts where our insights can immediately be built upon to improve practice. In an ideal scenario there would be teaching environments in place in all departments across the university that encourage faculty to support each in other in the process of content, process and premise reflection on educational goals and purposes, learning and student development and instruction design. But small groups of faculty who start a weekly or monthly discussion group can make a difference. And if this group decides to go together to conferences on teaching and learning to share their own work more widely or to learn from that of colleagues, they have even greater insights to share with their own departmental colleagues when they return.

I should not conclude without noting that the three forms of reflection described here (on content, process and premise) are also useful in the planning of educational development program initiatives. Questions program planners could ask themselves include:

- To what extent are participants in our program encouraged to engage in *content*, *process* and *premise* reflection on the goals and purposes of the courses they teach *specifically* and on the goals and purposes of a university education *more generally*?
- To what extent are they encouraged to engage in *content*, *process* and *premise* reflection on learning and student development?
- To what extent are they encouraged to engage in *content*, *process* and *premise* reflection on instructional design (including teaching and assessment methods)?
- To what extent are they encouraged to reflect on their personal experience *and* on education theory?
- To what extent are they encouraged to contribute to educational theory?
- How do we *evaluate* these kinds of learning?

I suggested that faculty can record the indicators of their reflections (i.e., the concrete activities they engaged in that made them reflect) in the form of a teaching portfolio for formative and summative evaluation purposes. However, the list of indicators introduced earlier also serve a second purpose: these indicators are useful also for planning educational development assignments or activities for faculty and GTAs as they are concrete examples of activities that can be planned that would involve course participants directly in the desired forms of reflection.

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