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Using the Scholarship of Teaching and Learning at Disciplinary, National and Institutional Levels to Strategically Improve the Quality of Post-secondary Education

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Abstract

The continual improvement of post-secondary education (PSE) in Canada requires at least three important elements: (1) an understanding of the forms that good teaching takes, with a focus on how these forms differ from one academic discipline to the next; (2) the use of well-collected data to inform decisions regarding constructive change, and (3) ready access to the collective body of knowledge about post-secondary teaching and learning produced across disciplines and institutions. Here, we examine these three elements, first by applying the notion of "signature pedagogies" to help understand the ways teaching differs among disciplines. Then, from institutional and national perspectives, we explore ways in which the benefit of research on the effectiveness of these pedagogies can be maximized.

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Abstract

The continual improvement of post-secondary education (PSE) in Canada requires at least three important elements: (1) an understanding of the forms that good teaching takes, with a focus on how these forms differ from one academic discipline to the next; (2) the use of well-collected data to inform decisions regarding constructive change, and (3) ready access to the collective body of knowledge about post-secondary teaching and learning produced across disciplines and institutions. Here, we examine these three elements, first by applying the notion of "signature pedagogies" to help understand the ways teaching differs among disciplines. Then, from institutional and national perspectives, we explore ways in which the benefit of research on the effectiveness of these pedagogies can be maximized

Introduction

McKinney defines the scholarship of teaching and learning (SoTL) as the systematic study of teaching and learning processes, and the sharing and review of such work (McKinney, 2004). The excitement that has greeted the SoTL movement can be attributed, in no small part, to its potentially ubiquitous nature. SoTL is not limited to offices of institutional research or Faculties of Education. While these entities have been conducting good research for many years, SoTL expands the level of activity to include all those in an institution's teaching and learning community. At post-secondary institutions across Canada, multi-disciplinary teams have been created to produce excellent SoTL projects. If well supported, this research is broad in scope, timely, relevant and engaging.

It is the caveat, "if well supported," that is the subject of much discussion in PSE at the moment. What is needed at an institutional level to properly support SoTL research such that it benefits that institution? More macroscopically, what policies and frameworks must be in place nationally to mobilize SoTL research in ways that

improve PSE across the country? For example, Canada does not currently offer funding opportunities, from major federal sources, to support SoTL work. In this paper, we will explore the need for such institutional and national support for SoTL and we will provide examples to illustrate how this support is being envisioned and built.

"Signature Pedagogies": Strategies in Learning Environments

"We are what we repeatedly do. Excellence (Areté) then, is not an act, but a habit." _Aristotle

Lee Shulman's "signature pedagogies" provide a lens on "the mode of teaching that has become inextricably identified with preparing people for a particular profession: distinctive . . . pervasive . . . essential" (Shulman, 2005a). His approach and findings pose questions for the scholarship of teaching and learning as related to practices, not only in preparing people for professions and for teaching as a profession, but also for practices of teaching and learning within the disciplines (Shulman, 2005a, b, c).

Here, we present the forms, features, and dynamics of Shulman's "signature pedagogies" as ways to construct learning environments that engage learners to affect personal change. Second, we focus on three concerns that Shulman's lens highlights about pedagogies and learning environments: (1) congruence between disciplinary perspective and practices; (2) frameworks and metaphors as organizing routines; and (3) abilities/competencies as practices related to outcomes. Shulman (2005a) provides insight into the "challenge of teaching people to understand, to act, and to be integrated into a complex of knowing, doing and being" in the professions. We will examine this challenge for teaching undergraduates in sociology.

Two Vignettes Illustrating the Gap
During a pause in a monthly meeting, faculty talk nonchalantly and without specific detail about the many skills sociology majors acquire over the course of the four-year major. "Lots of skills" is the concluding consensus.

Several days later, a sociology major finishing her third year stops by to talk about her uneasiness at the prospect of trying to enter the job market a year from now. "Lots of ideas, but no specific skills" is her concluding concern.

Several gaps become evident when these two vignettes are juxtaposed. Faculty perceptions and student experience don't match. Neither faculty nor students make "skills" explicit. No conversation takes place about the connection between courses and skills. There is no bridge between undergraduate program outcomes and worlds of work, community, and family. Shulman's "signature pedagogies" highlights these gaps while providing a lens and an approach for bridging these gaps through a focus on education as practice. The scholarship of teaching and learning provides an invitation to use this lens to research these gaps.

Through the Lens of "Signature Pedagogies"
In a ten-year study, Shulman has been asking how the pedagogical forms distinctive to different professions prepare persons for professional practice. As "signature pedagogies," clinical rounds in medicines, the legal case in law, the design project in engineering, and homiletics in ministry represent "canonical forms" of socialization practices. Despite obvious differences, each of these sets of teaching and learning practices is centered around a distinctive, imbedded pedagogical form that juxtaposes

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"the intellectual, practical and moral imperatives conjointly" (Shulman, 2005a), "connect(ing) thought and action" (Shulman, 2005a).

In showing how these distinctive "signature pedagogies" accomplish their outcomes in the formation of professionals, Shulman describes common, interrelated features of teaching and learning strategies present within the four professions. Shulman (2005a) characterizes these pedagogical strategies within distinctive professions as "habitual, routine, visible, accountable, interdependent, collaborative, emotional, unpredictable, and affect laden." These characteristics are integral to constructing the learning environment, its dynamic interaction, and its capacity for holding attention and intention.[1]

Shulman groups these strategies for constructing the learning environment into three related pedagogies that account for the outcomes of "signature pedagogies": pedagogies of uncertainty (Shulman, 2005b), engagement, and formation. These relate to three capacities of effective professional practice: (i) routine, habitual, expected practices providing structures for exercising judgment in the face of contingency, complexity, and uncertainty; (ii) visible, accountable, and vulnerable performances in sustained dialogue between teachers and students and students with each other; (iii) continuous, supportive, enduring practices evoking, fostering and reinforcing "identity and character, dispositions and values" (Shulman 2005a). For Shulman, these are "pedagogies of action . . . because the pedagogy immediately places the emphasis on action" (Shulman 2005a).

Sociology . . . Through a Glass Darkly

Like other social sciences, sociology does not have an obvious "signature pedagogy."[2] Rather than seeking a single distinctive pedagogical form, the focus is on what can be learned from Shulman's elaboration of "signature pedagogies" for undergraduate education in sociology. We propose to address three questions Shulman's research raises, as these bear on pedagogical strategies for constructing effective learning environments: congruence, frames and routines, and abilities/competencies. These are concerns found in the scholarship of teaching and learning in sociology (Howery, 2002; Witman & Richlin, 2007).

Congruence: Congruence means that pedagogical strategies implicit and explicit within a learning environment evoke, foster, and reinforce sociological ways of knowing (Parks, 2005, p. 59). The central research question stemming from concerns for congruency in the teaching of sociology is: Are there ways of constructing the learning environment such that the fundamentally interdependent, relational, and contextual character of human life is revealed and reinforced and hence foster student intellectual, emotional, and ethical engagement (Thompson 1996)? How we organize and disclose the learning environment as socially constructed is also much of what we teach (Howery 2002).

Frames and routines: In this context, the research question would be: Are there images, metaphors, and narratives in the field of sociology that can serve as recurring frameworks for structuring/scaffolding teaching/learning sociology in order to engage complexity, diversity, and uncertainty in the learning environment? The sociological imagination developed by C. Wright Mills (1959), sociology as a form of consciousness and debunking the world-taken-for-granted as developed by Peter Berger (1963), and sociological mindfulness developed by Michael Schwalbe (2001) are widely used metaphors for imagining the unseen "reality of 'between'" and its consequences that can serve as strategic

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themes and organizing pedagogical strategies. Each of these metaphors involves sociological vantage points for making sense of the social world that include ethical demands related to inequality, injustice, and compassion. If any theme characterizes Canadian sociology across different theoretical frameworks, it has been longstanding attention to social inequality in its many forms.[3]

Abilities/competences: Are there ways of organizing the learning environment for teaching sociology around outcomes of basic or foundational competencies common to a variety of occupational, civic, and personal capacities, though without the specificity found in the professions that Shulman investigated? The outstanding work of Evers, Rush, and Burdrow (1998) in *Bases of Competence*, and the abilities-based curriculum of Alverno College detailed in *Learning That Lasts* (Mentkowski &Associates, 1999) offer fruitful approaches to constructing learning environments based on outcomes that change the expectations and practices of students and faculty.[4] Wood (2004) examines impact of a web-enhanced curriculum in sociology at Rutgers which has resulted in increased curricular collaboration and communication: shared standards for students' skills, conceptual and technical vocabulary, and citation conventions. Integrated within the curriculum, service/engaged/ community learning and internships employ a dialectical pedagogy of practice and reflection (Hesser *et al.*, 1999; Harward, 2007). Service/engaged/community learning significantly redefines the learning environment on the basis of practices and increased engagement and awareness of the social and ethical, bridging the classroom and the community.

"Signature pedagogies" and Learning
Shulman's lens of "signature pedagogies" also serves as a narrative, telling us what to pay attention to while changing the view of what we observe and do (Shulman, 2007). "Signature pedagogies" point to the gaps between faculty teaching and student learning. "Signature pedagogies" offer a way of telling what we do when we teach and learn, centered on how students and teachers mutually construct a learning environment that holds and supports persons in visible, engaged, and accountable interaction.

Shulman is attending to sets of pedagogical practices both as scaffolding and as intended outcomes. He gives emphasis to practices within the learning environment for developing competence and control, engagement, and character and values. Shulman's focus has been on how we prepare people for professions – on formation in, through, and for practices. We have drawn on Shulman's approach as a way of highlighting and bridging gaps in order to view pedagogical practices already widely used in sociology. The scholarship of teaching and learning invites us to research these views and reflect on them.

We have sought to draw out implications through three questions about how these pedagogical practices construct learning environments in teaching/learning sociology. Our proposed research questions have attended to the importance of congruence, routines and frames, and abilities/competences as potential forms in teaching sociology parallel to canonical forms in "signature pedagogies" of the professions. These practices represent ways of teaching and learning sociology for engaged participation in a variety of personal, social, occupational, and civic contexts. In doing practices together repeatedly, in telling the story differently, and in researching the effects, as teachers and students we can build habits that both inform and transform our relationships to ourselves and our world.

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As scholarship of teaching and learning, "signature pedagogies" address the gaps in a systematic, sustained way (Mentkowski, 1999) that makes for congruence between ways of teaching and ways of learning, between ways of knowing and practices, between values and identity. However, the research required to achieve this congruence is not likely to be conducted without adequate support at both institutional and national levels.

Establishing Pedagogical Research Programs at the Institutional Level to Improve Quality in Post-Secondary Education

Research has taught us that successful organizations reflect on their practice (See Bok, 2006). For educational organizations, this means researching the ways their students learn and their faculty teach. Here, we introduce a process by which institutions can establish a research plan that is aligned with institutional goals and is focused on clearly prioritized questions. We will use the work of the University of British Columbia's Institute for the Scholarship of Teaching and Learning to help understand one way to build an institutional pedagogical research agenda, and thus inform an institution's mission to continually improve educational quality.

SoTL research that is strategically aligned with an institution's mission is more likely to be supported by that institution and foster constructive change (Schroeder, 2005). The University of British Columbia has established the [Institute for the Scholarship of Teaching and Learning](#) (ISoTL) to provide an infrastructure for pedagogical research across campus. It supports research on teaching and learning as conducted by faculty from every academic discipline. Multi-disciplinary research teams are being created that unite faculty members from Education with colleagues from Biology, Engineering, Medicine, Arts, and elsewhere. Research Institutes such as ISoTL can be valuable elements in the development and maintenance of an institutional research plan related to teaching and learning. They can help with the listing and prioritization of research questions and the identification and support of appropriate research methods.

The value of this multi-disciplinary research is enhanced if it is aligned with institutional goals. For example, the University of British Columbia has articulated a clear set of overarching learning-related goals in its visioning document, entitled *[TREK 2010: A Global Journey](#)*. Some of the learning goals identified in TREK 2010 include:

- foster a sense of social awareness and global responsibility

- recognize interdisciplinarity as an important principle in academic planning for undergraduate and graduate programs

- examine the issue of class sizes, with a view to enhancing students' engagement in their learning

Thus, research supporting the goals of TREK 2010 would be consistent with the University's vision and stated direction. Such research can serve as a way of measuring the University's success in realizing this vision.

It is important to note that SoTL research can inform a university's mission without requiring that the research agenda be centrally dictated. While some important

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research questions can be generated centrally at administrative levels, pressing questions can also come from individual faculty members. At UBC, groups of faculty have identified research questions relevant to local programs and learning processes. Collaborative teams are created to pursue these questions. These teams are composed of faculty members from the local discipline who have a good working knowledge of the questions being asked, and faculty members from our Faculty of Education who bring methodological and conceptual expertise to the team.

All institutions can generate similar research questions addressing such topics as learning processes, "signature pedagogies," online interaction processes and dynamics, program scope (gauging the short- and long-term of impact), effective learning environments, and faculty support and relations. These questions can be grouped based on commonalities so that research projects can be prioritized for immediate attention.

We must also acknowledge the different forms that data can take in research addressing these questions. In some cases, we will have to design new measures in order to collect these data. In others, rich data will already exist. In either case, faculty will probably be required to expand their repertoire of research paradigms and data forms with which they are comfortable. In particular, it is important to include qualitative data when trying to understand learning environments and students' experiences with them. The scholarship of teaching and learning requires that more people learn how to collect and analyze qualitative data in rigorous ways. Qualitative data include such things as students' comments on courses and instruction, and the online dialogue among students and between students and their instructors. Paradoxically, data of this nature is often both rich and neglected, waiting for people with the time and expertise to provide analysis and to refine future evaluation procedures to provide better data still.

From this brief exploration, we can see that pedagogical research comes with its challenges. The rewards more than justify the effort, however — for students, faculty, and the institution. To maximize this benefit, it is recommended that a comprehensive research agenda be created and that this agenda be closely aligned with university mission and vision statements. However, such strategic alignment of pedagogical research conducted at the faculty level and institutional goals is still quite rare in Canadian post-secondary institutions.

Institutions need a central entity, like an Institute for the Scholarship of Teaching and Learning, to help orchestrate and disseminate pedagogical research conducted by individual faculty members for the benefit of the entire institution. Without this, pedagogical research might inform individual course or program development, but not more macroscopic goals that are manifest in important policies and that form the criteria for the measurement of improvement in an institution's learning environment. Currently, post-secondary institutions rely much more heavily on data collected by offices of institutional research. For the most part, these offices collect good data, but most of it takes the form of graduation rates, exit surveys, and grade patterns. Too little institutional research addresses pedagogy. Even less likely is a strategic partnering of individual faculty researchers and staff working in an office of institutional research. This partnership is an important frontier for Canadian post-secondary education in its quest to improve teaching and learning.

In sum, central units such as the Institute for the Scholarship of Teaching and Learning can help post-secondary institutions enhance quality by:

- providing valuable infrastructure for pedagogical research;

- bringing together multidisciplinary research teams to conduct this research;

- helping coordinate this research with institutional learning goals;
- building partnerships between individual SoTL researchers and offices of institutional research;

- facilitating the effective dissemination of research findings to inform practice and policy.

Coordinating the SoTL efforts within an institution will enhance the impact of SoTL research and the quality of the institution. Coordinating these efforts on a national level will afford even greater benefits.

The National Perspective: Why Do We Need a National SoTL Infrastructure?

Given the vibrant scholarship of teaching and learning emerging in the disciplines and within institutions, what is the role of a national infrastructure for SoTL? In the simplest terms, the primary role is one of providing critical infrastructure for "boundary spanning" across disciplines and across institutions. While conventional scholarship of teaching and learning allows us to ask authentic questions — the answers to which directly inform student learning experiences — the challenge of this form of inquiry is that it focuses on learning in a specific context: typically a single course in a particular discipline, in a single institution (Huber & Hutchings, 2005). We have already made a case for linking this research to an institution's overarching goals. We must, in fact, take this further. Without an effort to connect the answers to these questions across disciplines and institutions, we face the risk of isolating the knowledge, research methods and evidence of effective teaching developed within disciplines (Shulman, 2004); miss opportunities to build a broader base of knowledge about student learning by systematically connecting our work (Huber & Hutchings, 2005); and fail to build the credibility of the scholarship of teaching and learning as an important contribution to enhancing student learning and as a valid form of academic work (Huber, 1999). How do we create the infrastructure through which the knowledge generated through the SoTL can be shared, applied, critically reviewed, and transformed by others?

In practice communities of all kinds, the flow and transformation of knowledge takes place most readily across tightly knit groups who share a common practice environment, such as an academic department (Wasko & Faraj, 2005). In academic communities, the "social reach of knowledge" (Brown & Duguid, 2001, p. 205) is greatly enhanced because discipline-based societies spanning countries and continents re-create the infrastructure that makes smaller communities of practice so efficient in sharing and building knowledge. Discipline-based societies

- create organizational structures that provide the social and intellectual means to develop shared goals and values;

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- communicate knowledge generated, give and receive peer-feedback;

- make connections among ideas and people;

- work collectively towards building knowledge in a domain. (Swales, 1990; Huber, 2004).

Although more loosely structured and geographically distant, these larger disciplinary networks (Wasko & Faraj, 2005) are very effective in transferring and transforming knowledge because they create a community within which knowledge is "created and warranted" within a shared "epistemic culture" (Knorr-Cetina, 1999). Membership in such networks is one dimension of the dual citizenship of every academic.

The second dimension of academic citizenship is our membership in an institutional community. Ironically, the flow of knowledge within our local institutional communities can be more challenging because the social infrastructure to support knowledge flow is not as well established as in our disciplinary networks; further evidence of the need for entities like an Institute for the Scholarship of Teaching and Learning. Unlike our disciplinary identities, our professional identity as teachers is not characterized by a strong epistemic culture of teaching and learning even though we all share in what Arreloa & Theall (2001) characterize as the "meta-profession" of teaching that crosses disciplinary boundaries. Simply disseminating our work, while a necessary condition, is not sufficient to achieve the transfer of teaching knowledge between disciplinary communities (Schroeder, 2007).

As the experience of the University of British Columbia demonstrates, fostering the flow of knowledge across academic disciplines – within even a single institution – requires the crafting of intellectual and social conduits through which knowledge generated by scholars in one discipline is shared, critically evaluated, judged, built upon, and valued by colleagues in another (Brew, 1999). To optimize the impact of the scholarship of teaching and learning on student learning, we need to actively build the kinds of infrastructure common in other scholarly communities: structures that optimize the development of shared SoTL goals, resources, research methods, and communication vehicles (Taylor, 2005).

Peter Galison (1997) argues that such interdisciplinary work requires us to construct "trading zones:" spaces between disciplines where we can trade, with colleagues from other disciplines, what we know about our shared interests in teaching and learning, recognizing the challenges posed by the use of different languages and different methods (Nakonechny & Poole, 2006). Effective knowledge flow across such trading zones requires not only the transfer of knowledge but, in may cases, also the active translation of that knowledge into new cultural and practice communities (Carlile, 2004).

In addition to intellectual infrastructure, institutions also need to establish organizational infrastructure to encourage, resource, recognize, and reward scholarship that both develops and demonstrates the effectiveness of student learning experiences (Cambridge, 2004; O'Meara, 2005). As in the case of UBC, value statements by the institution communicate the importance of the SoTL to the university community. Intellectual and financial resources support those claims (Cook,

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2004), and leadership is provided to span disciplinary boundaries and to mobilize available resources to support activity in the trading zones created (Lieberman, 2004).

Policies and practices with respect to faculty roles and rewards are adjusted to assess and recognize faculty work in the area of SoTL (Roen, 2004) including an assessment of the impact of SoTL activity on the quality of student learning experiences and the development of teaching and learning capacity, more generally (Wert, 2004). Even within a single institution, fostering synergy among the work of individual scholars and the disciplinary and institutional communities in which that work is shared, critically addressed, applied, and built upon is a complex task.

The gaps that must be negotiated before knowledge generated through the SoTL can flow between post-secondary institutions are even more daunting. Notwithstanding its shared teaching and learning enterprise, Canada's national system of postsecondary institutions is not so much a community of practice, as what Brown and Duguid (2001) characterize as a "network of practice" (p.205). Unlike disciplines with their highly connected discourse communities, or institutional communities who share space, resources, relationships, and a common mission, the national post-secondary system is larger, more loosely knit, and does not benefit from "repeated and enduring exchange relationships" (Inkpen & Tsang, 2005, p. 146) that foster reciprocal SoTL knowledge flow between network members. At the national level, Canada's post-secondary sector represents a huge SoTL potential. What can we do to create the structural, intellectual, and relational connections among institutions that will make the scholarship (and the ways of producing it) currently produced by individuals and largely sequestered in disciplinary and institutional communities available to improve student learning on a broader scale?

What Functions Would a National Infrastructure Perform?

The global function of a national infrastructure is to facilitate the flow of SoTL-generated knowledge across boundaries where it presently tends to "stick" (Brown & Duguid, 2001) at the intersections of individual teaching contexts, disciplines, and institutions. How could a national SoTL infrastructure support connections among networks of SoTL and build the value and valuing of our collective work? Important lessons can be borrowed from the work of the Carnegie Foundation in the US, and in particular, the Carnegie Academy for the Scholarship of Teaching and Learning, from the Scottish approach to quality assessment (Gordon, 2007), and from the emergence of the Higher Education Academy in the UK (Gosling, 2004). When these lessons are considered in the context of a recent roundtable discussion by a broad range of Canadian stakeholders in the scholarship of teaching and learning (Christensen Hughes & Rog, 2006), at least 8 suggestions regarding a national SoTL infrastructure emerge.

- Canada needs a visible national organization with a mandate to establish and sustain active connections with institutional, regional, national, and international organizations and initiatives that share interests in SoTL (e.g. an emerging Atlantic Canada Consortium, The Canadian Centre for Studies in Higher Education (Farr, 2007), the Society for Teaching and Learning in Higher Education, The Research University Consortium for the Advancement of the Scholarship of Teaching and Learning (Carnegie Cluster Program), the Higher Education Academy in the UK.

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The British experience, in particular, points to the importance of the boundary spanning function: an organizational level with the mandate to create conduits for reciprocal knowledge flow between individuals, disciplines and institutions (Gosling, 2004). A Canadian model that has the potential to provide the kind of SoTL infrastructure advocated by Gosling is NSERC's Centres for Research in Youth Science Teaching and Learning (CRYSTAL) program which funds and coordinates "research into science and mathematics teaching and learning at the K-12 level and to develop practical solutions to problems in this area."

Given Canada's geography, establishing a virtual "network of practice" (Brown & Duguid, 2001) across which knowledge can be transferred, translated and transformed (Carlile (2004) is a critical function of such an organization. One dimension of this network would be a central repository for information on the nature and potential of SoTL, resources on how to conduct SoTL, and exemplars of research tools, ethics applications, SoTL studies, and leadership practices for SoLT development. A national infrastructure could also be designed to provide a rotating annual institute modeled on the Carnegie Academy for the Scholarship of Teaching and Learning leadership program's SoTL development initiative.

- Such an interdisciplinary practice network needs to be more than a repository for resources to support the development of SoTL. It must also provide a forum in which participants can engage in scholarly discussions of particular studies, perhaps modeled on the *Annals of Research in Engineering Education*, and extend to provide peer support for developing the SoLT inquiry process, based on experiences in diverse disciplines and institutions.

- A critical element in the SoTL inquiry process is the consideration of ethical guidelines. While SoTL allows us to ask authentic questions – ones that will have a direct impact on the quality of our students' learning experiences – it carries with it both unique and shared ethical considerations (Hutchings, 2003; Poole & MacLean, 2004). Beyond sharing standard practices for conducting research in environments where our primary responsibility is to educate, and where our power relationship with students is a particular concern, a national organization is well positioned to advocate for the development of standards of ethical practice in SoTL that cross institutions and funding agencies.

- At the heart of every academic community lies its communication infrastructure. Knowledge flow, uptake, and growth are facilitated within and between communities through vehicles that include conferences, journals, symposia, websites, and a host of technology-mediated communication tools. A national infrastructure should be designed to provide an inventory of existing communication infrastructure, and to create new vehicles strategically designed to bridge recognized gaps in knowledge flow.

- Another dimension of building SoTL capacity at the national level is a common assessment framework to guide peer review of both individual examples of scholarship and the recognition of this form of scholarship in faculty careers. Individual journals and conferences have developed robust frameworks for peer review and Randall and Zuydervelt (2006) have compiled a database of

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institutional SoTL policies and practices that is international in scope. A national infrastructure could be designed to advocate for such assessment frameworks and to provide a central clearinghouse for models of practice.

• Similarly, any national infrastructure should be designed to provide an active database of SoTL literature that can not only provide exemplars, but will also create a resource to develop and demonstrate teaching quality across institutions. As a practice-based field of study the SoTL answers specific and relevant teaching and learning questions in particular contexts. Each study represents an incremental contribution to a more general question. By compiling and organizing our collective findings, we contribute to "the learning commons" advocated by Huber and Hutchings (2005), and to a resource for evidence-based decision making in post-secondary education.

• Although there is considerable good will and commitment to the SoTL by individuals and institutions, it will not be a sustainable (or credible) field of scholarship without funding. One of the challenges to creating a stable "strategic alliance network" (Inkpen & Tsang, 2005, p. 148) is to secure resilient infrastructure for both social and financial capital. The major existing sources of funding currently reside within institutions. Many universities and colleges have internal grants programs, but these programs vary widely in their capacity to fund projects, and in some institutions lack of funding represents a barrier to the strategic generation of SoTL at a local or national level. An important aspect of a national SoTL infrastructure would be to actively search out and disseminate existing funding opportunities (and models of local funding) in an effort to "level the playing field of support" across institutions.

Perhaps more important is the advocacy role of this infrastructure with respect to demonstrating and developing models for sustainable funding. If we consider the products of the SoTL as a "public good" then there is also merit in thinking of a role for stable government funding to support a sustainable social and financial infrastructure for advancing this work (Alder & Kwon, 2002). This role is certainly recognized in government research policy and programs in other fields. It was also a dominant theme during a recent national *Roundtable on Research, Teaching, and Learning* (Christensen Hughes & Rog, 2006). Drawing on established programs, a national strategy could include a variation of the *Canada Research Chairs* program as essential leadership strategy for SoTL capacity building. The concept would involve an invitation to each institution to propose a multi-year team project led by a *Canada Teaching Chair* designed to apply SoTL to address a particular issue in that institution, and in so doing, build the SoTL expertise of colleagues, and graduate and undergraduate students. Proposals would be peer reviewed and funded in a national competition oriented not so much to exclusivity as to distributing well-designed and high-impact projects across institutions.

Another strategy appropriate for the national level is to borrow an approach from the Scottish system (Gordon, 2007) and seek input from the academic community on critical issues in post-secondary education, such as creating successful learning experiences for first-year students. A national infrastructure can facilitate a call for proposals, award grants, support inquiry on a number of parallel projects, and coordinate the dissemination of collective results to

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contribute to the collective problem-solving with respect to the targeted theme. In the longer term, the concept of the well-funded Higher Education Academy in the UK, whose mission it is to "help institutions, discipline groups and all staff to provide the best possible learning experience for their students," may provide a useful national model for the Canadian context. The goal of the proposed national body is not to replicate grants programs that already exist at the institutional and discipline levels, but to
1) fund initiatives that facilitate taking that work to broader audiences and applications and 2) directly fund SoTL initiatives that cannot be funded at a local level.

Through active advocacy, development, and dissemination functions (Table 1) such a national infrastructure would foster the generation, transfer, translation, and elaboration of the evidence we bring to designing successful learning experiences in post-secondary education. Pat Hutchings (2006) captures, in practical terms, the impact that a well-designed national infrastructure can have.

> Thus, faculty using different classroom approaches (and coming from different disciplines and institutional settings) can work together to build a greater collective intelligence about the best ways to promote student learning in the varied and unpredictable circumstances of teaching today. Seen in this way, the scholarship of teaching and learning is not a separate, self-standing initiative but a set of principles that can undergird and connect diverse approaches to improving learning ("Building a Better Conversation About Learning").

Summary

The potential value of the scholarship of teaching and learning lies, in large part, in the scope of its invitation to participate. Academics who have been practicing signature pedagogies for decades are now being drawn into a form of scholarship that explores these methods and their effectiveness. The resulting intellectual movement is massive and wide-reaching, but it can also be somewhat chaotic, scattered, and isolated within individual learning environments.

Recognizing this, we have used the notion of signature pedagogies to illustrate an argument for institution-wide and nation-wide entities to help orchestrate, support, and communicate the processes and products of SoTL more broadly. When these entities are functional, activities, policies, and communities will be created that maximize the value of SoTL research.

Table 1. Functions of a proposed National Infrastructure for SoTL

Dimension	Advocacy	Development	Dissemination
Information on the nature and potential of SoTL	X	X	X
Resources on how to conduct SoTL			X

Research tools			**X**
Ethics guidelines	**X**	**X**	**X**
SoTL funding	**X**	**X**	
Exemplars (ethics, studies)			**X**
Communication (conferences, journals, symposia, etc.)	**X**	**X**	**X**
Assessment standards	**X**		**X**
An interdisciplinary practice network (collaborators, peer support for SoLT design and writing, peer review)	**X**	**X**	**X**
A database of SoTL that can develop and demonstrate teaching quality across institutions	**X**	**X**	**X**
Leadership practices for SoLT development	**X**	**X**	**X**

(Gosling, 2004; Meta Robinson et al., 2003)

References

Alder, P.S., & Kwon, A.-W. (2002). Social capital: Prospects for a new concept. *Academy of Management Review, 27*, 17-40.

Bok, D. (2006). *Our underachieving colleges*. Princeton, NJ: Princeton University Press.

Brew, A. (1999) Research and teaching: Changing relationships in a changing context. *Studies in Higher Education, 24,* 291-301.

Brown, J. S, & Duguid, P. (2001. Knowledge and organization: A social-practice perspective. *Organization Science, 12*, 198-213.

Cambridge, B.L. (Ed.) (2004). *Campus progress: Supporting the scholarship of teaching and learning.* Washington, DC: American Association for Higher Education.

Carlile, P. R. (2004). Transferring, translating, and transforming: An integrative framework for managing knowledge across boundaries. *Organization Science, 15*, 555-568.

Christensen Hughes, J., & Rog, E. (2006). *Roundtable on research, teaching and learning.* University of Guelph, Guelph, ON, July 6, 2006.

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Cook, C. (2004). Introduction to section one: Developing infrastructure. In B. L. Cambridge (Ed.), *Campus progress: Supporting the scholarship of teaching and learning* (pp. 11-19). Washington, DC: American Association for Higher Education.

Farr, M. (2007). New research programs focus on the Canadian student experience. *University Affairs,* Retrieved on April 20, 2007. http://www.universityaffairs.ca/issues/2007/march/student_experience_01.html

Gosling, D.(2004). The impact of a national policy to enhance teaching quality and status, England, the United Kingdom. *Quality Assurance in Education, 12*, 136-149.

Gordon, G. (2007). *The approach to quality enhancement in Scotland*. Colloquium on International Policies and Practices for Academic Enquiry. Marwell Conference Centre, Winchester, UK, 19 – 21April, 2007.

Healey, M. (2001). *The scholarship of teaching in higher education: An evolving idea.* Retrieved on April 6, 2007 from http://www.heacademy.ac.uk/resources.asp?process=full_record&section=generic&id=493

Huber, M. T. (2004). *Balancing acts: The scholarship of teaching and learning in academic careers.* Washington, DC: American Association for Higher Education and The Carnegie Foundation for the Advancement of Teaching.

Huber, M. T., & Hutchings, P. (2005). *The Advancement of Learning: Building the Teaching Commons.* San Francisco: Jossey Bass.

Hutchings, P. (2007). Theory: The elephant in the scholarship of teaching and learning room. *International Journal for the Scholarship of Teaching and Learning, 1.* Retrieved on April 10, 2007 for, http://www.georgiasouthern.edu/ijsotl.

Hutchings, P. (2006). *Building a better conversation about teaching*. Retrieved on April 23, 2007 from http://www.carnegiefoundation.org/perspectives/sub.asp?key=245&subkey=582

Hutchings, P. (2003). Competing goods: Ethical issues in the scholarship of teaching and learning. *Change, 35*, 5, 26-33.

Hutchings, P., & Shulman, L.E. (1999). The scholarship of teaching: New elaborations, new developments. *Change, 31* (5), 10-15.

Inkpen, A.C., & Tsang, E. W. K. (2005). Social capital, networks, and knowledge transfer. *Academy of Management Review, 30*, 146-165.

Kanuka, H. & Anderson, T. (1998). On-line interchange, discord, and knowledge construction. *Journal of Distance Education*, *13(1),* 57-74.

Knorr-Cetina, K. (1999). *Epistemic cultures: How the sciences make knowledge*. Cambridge, MA: Harvard University Press.

Lieberman, D. (2004). Introduction to section two: Collaborating for change. In B. L. Cambridge (Ed.), *Campus progress: Supporting the scholarship of teaching and learning* (pp. 55-61). Washington, DC: American Association for Higher Education.

McKinney, K. (2004). The scholarship of teaching and learning: Past lessons, current challenges and future visions. *To Improve the Academy*, *22*, 3-19.

Meta Robinson, J., et al. (2003). The Research University Consortium for the Advancement of the Scholarship of Teaching and Learning. Retrieved on March 22, 2007 from www.cte.uiuc.edu/Did/SOTL/RUCASTL_mission_statement.PDF

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O'Meara. K. (2005). Principles of good practice: Encouraging multiple forms of scholarship in policy and practice. In K. O'Meara & R. E. Rice (Eds.) *Faculty priorities revisited: Rewarding multiple forms of scholarship*, (pp. 290-302). San Francisco: Jossey Bass.

Poole, G., & MacLean, M. (2004). *Ethical considerations for research in higher education.* Working paper #1, UBC Institute for the Scholarship of Teaching and Learning. Retrieved on November 23, 2004 from http://www.tag.ubc.ca/about/institute/Working%20Paper%20ISoTL1.pdf.

Randall, N., & Zuydervelt, N. (2006*). Scholarship of Teaching and Learning: International Institutional Policies and Practices Database*. Retrieved on April 24, 2007 from http://www.mala.ca/teaching/documents/SoTLInstitutionalPoliciesandPracticesDatabase.pdf

Roen, D. (2004). Introduction to section three: instituting policies. In B. L. Cambridge (Ed.), *Campus progress: Supporting the scholarship of teaching and learning* (pp. 103-107). Washington, DC: American Association for Higher Education.

Schroeder, C. M. (2005). Going Meta with the Scholarship of Teaching and Learning. Invited Scholars Seminar Series, Institute for the Scholarship of Teaching and Learning, University of British Columbia.

Schroeder, C. M. (2007). Countering SoTL marginalization: A model for integrating SoTL with institutional initiatives. *International Journal for the Scholarship of Teaching and Learning, 1.* Retrieved on April 10, 2007 for, http::/www.georgiasouthern.edu/ijsotl.

Swales, J. M. (1990). *Genre analysis : English in academic and research settings.* Cambridge: Cambridge University Press.

Shulman, L. (2002). Making differences: A table of learning. *Change, 34* (6) 36-44.

Shulman, L. (2004). *Building a better conversation about learning*. Retrieved on October 5, 2005 from http://www.carneigefoundation.org/perspectives/perspectives2004.Jan.htm

Taylor, K. L. (2005). *Commitment, Community and Collaboration in the Scholarship of Teaching and Learning.* Keynote address at the Conference of the International Society for the Scholarship of Teaching and Learning. Vancouver, October 16, 2005.

Theall, M, & Arreola, R. (2001). *Beyond the scholarship of teaching: searching for a unifying metaphor for the college teaching profession.* Paper presented at the Annual Meeting of the American Educational Research Association. Seattle: April 14, 2001.

Wasko, M. M., & Faraj, S. (2005). Why should I share? Examining social capital and knowledge contribution in electronic networks of practice. *MIS Quarterly, 29*, 35-57.

Wert, E. L. (2004). Introduction to section four: Documenting and assessing impact. In B. L. Cambridge (Ed.), *Campus progress: Supporting the scholarship of teaching and learning* (pp. 143-145). Washington, DC: American Association for Higher Education.

Witman, P. D., Richlin, L., & Associates. (2007). The status of the scholarship of teaching and learning in the disciplines. *International Journal for the Scholarship of Teaching and Learning, 1.* Retrieved on April 10, 2007 for, http::/www.georgiasouthern.edu/ijsotl.

Woods, R. E. (2004). Scaling up: From web-enhanced courses to a web-enhanced curriculum. *Innovate: Journal of Online Education,* 1 (1). Retrieved on April 9, 2007 from http://www.innovateonline.info/index.php?view=article&id=6

Endnotes

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[1]

These forms parallel what Parks (2005, pp. 56-60), in portraying Ronald Heifetz "case-in-point" teaching leadership, calls "a holding environment for transformative learning." These forms also parallel what Bain (2004, pp 99-117) identifies as a "natural critical learning environment," central to What *The Best College Teachers Do*. Wenger (1998, pp72-85) addresses similar concerns in *Communities of Practice*. These authors give practices, "doing," central importance in the construction of learning contexts and in learning itself. Such practices might appropriately be called pedagogies of practice.

[2]

Although the lecture remains in widespread use, it is not distinctive to sociology, but to post-secondary education generally. The extent to which the lecture is a "signature pedagogy" of post-secondary education raises questions about what is being taught and learned through how the subject matter is being taught.

[3]

In a 2003-2004 survey of University of Saskatchewan alumni who graduated in sociology from the late 1960s through 2003, "Life and Livelihood" found that for the nearly 500 respondents the sociological imagination remained an enduring form for making sense of the social world at a personal and structural level that includes a sense of justice. In ten-minute video interviews with eleven sociology faculty for use in a satellite TV distance education Introduction to Sociology course, each faculty member mentioned that concern for justice had been a factor motivating his/her decision to major in sociology, to pursue a PhD in sociology, and to seek a faculty career in higher education.

[4]

Alverno College has identified eight abilities for its "abilities-based" curriculum: communication, analysis, problem solving, valuing in decision-making, social interaction, developing a global perspective, effective citizenship, aesthetic responsiveness (Mentkowski & Associates, 1999). Evers et al. (1998: 53-131) developed four base competencies: managing self, communicating, managing people and task, and mobilizing innovation and change. These four base competencies are composites based on groupings of 18 essential skills. Although beyond the time limitations of this paper, the similarities between these base competencies and composite skills and Shulman's three pedagogies of uncertainty, engagement, and formation and descriptive characteristics are striking.

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