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Scholarship of Teaching and Learning: A Review of the Literature

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The publication of Ernest Boyer's seminal work, *Scholarship Reconsidered: Priorities of the Professoriate* (1990) began a movement in higher education to extend quantitative research into the classroom. This movement, termed the "scholarship of teaching and learning" (SoTL), has sought to measure the effectiveness of teaching methods and to refocus the classroom on what students actually learn. The underlying premise is that just because specific course content is taught does not mean that students have learned it. By conducting research on student learning, Boyer and others involved in SoTL hope to inform the world of higher education and improve teaching methods.

Another premise underlying SoTL is that pedagogical research is a legitimate area of research. Professors have long understood that research deemed "legitimate" has traditionally been carried out in the subject areas, not on pedagogy. Boyer and others are striving to demonstrate that classroom research is not only valid but also worthy of recognition.

The literature relevant to gaining a general understanding of the growing interest in the scholarship of teaching and learning comprises the following categories: (a) general overview, including the goals, background, and definitions used in SoTL; (b) the scholarly process and models for research and curriculum design; (c) issues and challenges in SoTL, such as ethical standards, evaluation/assessment, and resistance to SoTL research; and (d) online SoTL resources. The literature included in this bibliography consists of primarily journal articles and university-related websites where the scholarship of teaching and learning is actively carried out.

General Overview

Most articles on the scholarship of teaching and learning reference Ernest Boyer's book *Scholarship Reconsidered: Priorities of the Professoriate* (1990) and the [Carnegie Academy for the Scholarship of Teaching and Learning](), known as CASTL, as they provide brief overviews of SoTL history and goals. Articles such as "Student Learning and the Scholarship of University Teaching" (Trigwell & Shale, 2004), "CASTLs in the Air" (Bender, 2005), and "Scholarship in Teaching as a Core Professional Value" (Nicholls, 2004) go into more depth as they explain Boyer's list of four separate but intertwined functions of the professoriate: discovery, integration, application, and teaching. These four are mentioned in most articles, but Hutchings and Shulman (1999), Richlin (2001), and Trigwell and Shale (2004) discuss a fifth function they believe must be involved in scholarship—making research available for peer review and discussion through publications and presentations. For Richlin, peer review/public scrutiny of research completes Boyer's list of four and provides the previously missing cog in the ongoing cycle of research and scholarship.

Several articles define terms used in the field of SoTL, and several struggle to clarify confusing terms. Two of the most common terms defined are "teaching" and "scholarly teaching." Smith (2001a) in "Expertise and the Scholarship of Teaching" defines teaching as all that is involved—both inside and outside the classroom—with helping students learn. In

"Formative Evaluation and the Scholarship of Teaching and Learning," Smith (2001b) differentiates teaching from scholarly teaching by asserting that the latter is informed by educational theory, research, assessment, and methods so that teachers can make appropriate choices to enable their students to be effective learners. Richlin and Cox (2004) concur with Smith's definition of scholarly teaching, and in another article, Richlin (2001) explains that although an experienced teacher may make such choices implicitly, to be deemed scholarly, the teacher must be able to justify the choices by specifying the literature that informs those choices.

Clarifying the terms "scholarly" and "the scholarship of teaching" or "the scholarship of teaching and learning" is also a frequent component in many SoTL articles. Professors and researchers in SoTL do confess that a range of definitions to terms like "scholarly activity" and "scholarship" appears in various books and articles. Smith (2001b) defines "teaching" as activities that help students learn, "scholarly teaching" as reflecting on one's knowledge and application of pedagogy, and "scholarship of teaching and learning" as contributing to the public body of knowledge about teaching and learning. Shulman (1998) and Hutchings and Shulman (1999) agree that to qualify as "scholarship of teaching," the research must be made public and be under the same critical review as research in other disciplines. They also separate "scholarly" from "the scholarship of teaching and learning" by insisting that scholarship requires a planned method of inquiry and analysis. Trigwell and Shale (2004) and Richlin and Cox (2004) concur with the criterion that public scrutiny is an essential component of any work worthy of the term "scholarship." In a related article, Richlin (2001) further explains that the scholarship of teaching actually begins only when the findings gained from scholarly teaching are presented or published. Ottewill and MacFarlane (2004) in "Quality and the Scholarship of Teaching: Learning from Subject Review" assert that the term "scholarship of teaching" is now generally used to imply both a reflection of and sharing of research as well as an understanding that pedagogical practice and research go hand-in-hand.

An entire article devoted to the troublesome SoTL terms is "Scholarship of Teaching: Now Too Defined?" (2005). The article remarks that the confusion stems from Boyer's lack of clarity in the first place, so that when others in higher education began doing research in the scholarship of teaching and learning, they perpetuated the ambiguity, resulting in the current confusion of terms and the constant need to define or clarify terms in so many articles. The article points out that Kreber (2003) believes that not only are there too many definitions and no consensus, but also that perhaps now terms are too narrowly defined. The author of "Faculty Involvement in the Scholarship of Teaching" ("Faculty Involvement," 2004) agrees that the definitions are confusing and calls the plethora of definitions a "conceptual quagmire," one that has kept SoTL progress from advancing.

Several articles reiterate the goals of the scholarship of teaching and learning, as originally stated by Boyer (1990). Most of the articles recap Boyer's concern about the strained relations between research and teaching in higher education and the need to encourage and validate research done by teachers. Burman and Kleinsasser (2004) succinctly summarize Boyer's goals: "to invite a conversation about faculty reward systems, especially in large universities where research seems to overshadow teaching" (p. 59). In "The Scholarship of Teaching and Learning," Flatt (2005) explains that SoTL is a growing part of academia and encourages and recognizes the validity of educational research conducted by classroom teachers. Promoting, acknowledging, rewarding, and publishing properly conducted educational research done by teachers—as done in other disciplines—are the over-arching aims of SoTL.

Beyond providing background for the basis of the SoTL concepts, Bender (2005) presents an in-depth coverage of the Carnegie Academy for the Scholarship of Teaching and Learning (CASTL) and how its goals mesh with Boyer's. CASTL (Carnegie, 2006), initially funded by a Pew grant, began in 1998 as an initiative of The Carnegie Foundation. Two seminal works prompting CASTL are Boyer's *Scholarship Reconsidered* (1990) and *Scholarship Assessed* (Glassick, Huber, & Maeroff, 1997). CASTL's goals are to support SoTL in promoting student learning, enhance teaching, and bring teachers "recognition and reward afforded to other forms of scholarly work" (Carnegie Foundation, 2006 & Bender, 2005). Bender explains the CASTL leadership and influence of both Ernest Boyer and Lee Shulman, as well as CASTL's programs to bring faculty together at Carnegie headquarters and other venues in order to promote SoTL ideas and research. Bender's article also reports follow-up research that the Carnegie Foundation conducted of the faculty who have been involved in CASTL's training to see the longer-term effects of Carnegie's forums and conferences.

The Scholarly Process and Models for Research and Curriculum Design

Shulman (1998), in analyzing the scholarly process, identified five aspects: vision, design, interactions, outcomes, and analysis. Cottrell and Jones (2002, 2003) in "A Snapshot of Scholarship of Teaching and Learning Initiatives" and "Researching the Scholarship of Teaching and Learning: Analysis of Current Curriculum Practices," agree with this set of five and use it as a framework for their own study of 47 instructors and their motivations, practices, assessment methods, and outcomes for improving teaching and learning. They point out that assessment methods (e.g., portfolios, papers, exams) can provide important information that a teacher "can use to shape and modify the course design, ultimately helping to maximize student learning and development" (p. 170). Smith (2001b) concurs with Cottrell and Jones' view of assessment and devotes an entire article to examining various assessment methods he calls "formative evaluation," defined as feedback that a teacher seeks with the purpose of gathering information that can help him or her improve student learning.

Laurie Richlin (2001) illustrates the conceptual model that ties together scholarly teaching and the subsequent scholarship. She maintains that the purpose of the former is "to impact the activity of teaching and the resulting learning" (p. 58) and the purpose of the resulting scholarship is to communicate the outcomes to peers so that the knowledge is added to the academic community. Her conceptual model is laid out in a cyclical schematic revealing that scholarly teaching creates research opportunities that produce data that is evaluated and shared with peers; this in turn becomes part of the knowledge base that informs others, who then are motivated to do and publish scholarly research. The cycle is ongoing.

Glassick, Huber, and Maeroff (1997) assert that the scholarly process is generally understood to entail "clear goals, . . . adequate preparation, . . . appropriate methods, . . . significant results, . . . effective presentation, . . . and reflective critique" (pp. 24-25). The online publication *The Journal of Scholarship of Teaching and Learning* (*JoSoTL*) lists and uses these criteria in evaluating submissions to *JoSoTL* (*Journal of Scholarship,* 2004), and in "Improving the Scholarship of Teaching and Learning," Graham Badley (2003) agrees with these criteria and thinks they could advance the scholarship of teaching and learning but acknowledges that no single set is perfect for all research. After summarizing Glassick, Huber, and Maeroff's research framework, Badley points out that the strongest element is their emphasis on reflection and self-evaluation of one's own research.

In "Conceptions of Research and Scholarship," Angela Brew (1999), accepting the assertions that those in higher education should forge a relationship between research and teaching, seeks to clarify the various conceptions faculty have of research and scholarship. Her survey of research faculty from various disciplines reveals varying views of the purpose of research and of the nature of scholarship. She lays out these differing concepts in table form under two major headings: structural dimension—defined as "what is perceived and how the elements . . . are related to each other"—and the referential dimension—defined as "the meaning given to what is perceived." She maintains that it is necessary to be aware of how research and scholarship are understood differently and to be open to the full range of conceptual models of research. Such understanding allows for ongoing academic conversation and the hope for bringing together teaching and research.

One tenet of both curriculum design and research models is planning; reliable data isn't just collected randomly, nor does consistent effective teaching "just happen." Recognizing the need for planning, professors involved in SoTL have sought to examine good, reliable models of both research and teaching. Trigwell and Shale (2004) use "pedagogic reasoning" to bridge what a teacher knows in terms of subject content and which pedagogical activities a teacher uses to enable students to learn that knowledge. They explain their model composed of three parts: knowledge, practice, and outcome. They include a schematic diagram to show how these are intertwined and can lead to peer review and publication. Their model views learning as a partnership of students and teachers in which teachers create knowledge with their students.

Issues and Challenges in SoTL

The scholarship of teaching and learning was born out of the tension between research and teaching at institutions of higher learning, and several issues have arisen since that birth. As Boyer (1990) himself reports in *Scholarship Reconsidered,* "Almost all colleges pay lip service to the trilogy of teaching, research, and service, but when it comes to making judgments about professional performance, the three rarely are assigned equal merit" (p. 15). It was this issue that prompted Boyer to challenge academia "to rethink what it means to be a scholar . . . and move beyond the tired old 'teaching versus research debate'" (p. 16). Indeed, the divide between teaching and research remains well into SoTL's second decade.

Boyer (1990) points out that what is now considered traditional research in the realm of higher education is relatively recent, having first been used in England in the 1870s as an attempt to reform Oxford and Cambridge and having arrived in the U.S. in 1906. Bender (2005) picks up the history of the devaluation of faculty and education in general and devaluation of teaching-focused faculty, further explaining the developments that morphed into the researcher-versus-teacher class system prevalent in universities. Today research is seen as the primary form of university activity, with publishing and teaching the natural outcomes of research (Boyer, 1990). Hutchings and Shulman (1999) believe that part of this class system stems from the assumption that only traditional scientific methods of inquiry produce valid research. Until there is an "inquiry into the process of inquiry itself," they add, the field of scholarship of teaching will not advance (p. 12). Certainly one of the primary goals of CASTL is to counter the negative connotation that teaching-focused faculty face (Bender, 2005).

A resistance to acknowledging pedagogical research as scholarly is an issue that has been around since Boyer's initial challenge to the professoriate. Bender (2005) observes that even Boyer's four categories of scholarship (discovery, integration, application, and teaching) were

received with suspicion, especially the fourth category—teaching. Some people *outside* schools of education, she reports, argue that equating teaching with scholarship is a deceptive route to elevate teaching in higher education, while some *within* schools of education feel that tying teaching with scholarship could compromise the art of teaching.

The issue of terminology and definitions still plagues SoTL. Smith (2001a; 2001b), Richlin (2001), Richlin and Cox (2004), Hutchings and Shulman (1999), Trigwell and Shale (2005), Nicholls (2004), and many others all confirm the ongoing struggle with coming to a consensus about definitions of terms used in SoTL. Nicholls notes it as a problem in the United Kingdom too, not just in the United States, and "Scholarship of Teaching: Now Too Defined?" (2005) asserts that until the challenge of definitions is resolved, the larger issue of rewarding teaching faculty is not likely to be resolved.

Ethics in SoTL research is yet another issue under current scrutiny. Bender (2005) mentions that it is an issue Carnegie leaders are looking at, and Hutchings (2002) discusses the views of scholars from various subject areas to discuss the ethical dilemmas such as using human subjects and potential social ramifications of such research. However, it is "Ethical Guidelines for Use of Student Work" (Burman & Kleinsasser, 2004) that provides a solid, in-depth examination of the challenges of and guidelines for teachers using the classroom as a research laboratory. After explaining federal regulations—such as the [Family Educational Rights and Privacy Act](#) (FERPA)—the principles behind regulations (e.g., informed consent and maintaining confidentiality), and the role of Institutional Review Boards (IRBs), they address some of the dilemmas facing SoTL, such as the dual roles being both a researcher and a teacher creates. The authors explain nine principles for teachers to use in classroom research so that ethical standards can be followed.

Other issues arise in SoTL, such as assessment and evaluation. Cottrell and Jones (2002) report findings from a study they conducted to assess the kinds of learning approaches faculty used, the outcomes expected, and what faculty did with the results, such as making informed changes in pedagogy to enhance student learning. Bender (2005) expresses hope that the current assessment movement in education might prove to be an effective tool in legitimizing SoTL and eventually to rewarding teaching faculty. Smith (2001b) discusses a variety of assessment methods, all with the purpose of improving the scholarship of teaching and learning, especially scholarly teaching. The latter article, quite thorough and focused, examines how formative evaluation can lead to better teaching and scholarly teaching and to better scholarship. He lists examples of input from students and colleagues and makes the connections—via dialogue, peer review, and reflection—to improved scholarship and student learning.

Perhaps one of the most frustrating challenges in SoTL is that relatively few people in academia are involved in research and publications. The article "Faculty Involvement in the Scholarship of Teaching" (2004) reports that of the faculty surveyed, 59% of faculty in general had published in their disciplines within the previous three years compared to 25% in topics related to SoTL. However, nearly all of the faculty were involved in unpublished outcomes, such as developing new teaching methods and informally presenting pedagogical information to colleagues. The article concedes that without building the pedagogical knowledge base and publishing it for others to review and build on, progress in SoTL has not been made.

Online SoTL Resources

Numerous resources on the scholarship of teaching and learning are available, many of them online via library searches and many of them housed on websites of universities actively involved in the scholarship of teaching and learning. Arguably the primary website on SoTL is the Carnegie Foundation for the Advancement of Teaching site, which provides a wealth of information and services such as Carnegie publications and programs. Most university sites simply describe how they incorporate SoTL practices at the universities.

Many universities, however, also provide online SoTL information. The University of Saskatchewan website explains Boyer's four-fold conceptual model of scholarship, provides help for teachers interested in engaging in SoTL activities, and discusses the need for publishing scholarly research. The University of Colorado site explains its involvement with the Carnegie Foundation for Teaching and Learning and how that has converged with its Teaching Scholar program. Queen's University offers useful guidelines for teachers interested in conducting pedagogical scholarship by providing steps to follow and questions to ask in the research process. Buffalo State University provides three rationales for incorporating SoTL—professionalism, pragmatic, and policy—but the site also provides information about and links to significant SoTL resources, such as Carnegie's CASTL website.

Information on university-sponsored SoTL programs is available from several websites. Miami University offers the Center for the Enhancement of Learning and Teaching (CELT), in which the university organizes faculty learning communities that conduct year-long research, support for others in the program, and opportunities to publish their research. The Ohio State University at Columbus has based its Teaching Enhancement Program on the Miami University model. The year-long program offered is for tenured faculty who would like to conduct research on their teaching and their students' learning in cohort groups. The university provides facilitators, student research associates, feedback, and support. Indiana University has actively been involved in the scholarship of teaching and learning for several years and in 2004, hosted the International Society for the Scholarship of Teaching and Learning (ISSOTL) conference "The Scholarship of Teaching and Learning: Perspectives, Intersections, and Directions." Past conference proceedings and information on current and future ISSOTL conferences can be found at http://www.issotl.org/conferences.html. Indiana University Bloomington has an informative website on SoTL as well.

Bibliographies

Much more information exists both in print and on the Web and can be found through several comprehensive bibliographies. "Navigating the Web of Discourse on the Scholarship of Teaching and Learning: An Annotated Webliography" (Hakim, 2002) briefly summarizes Internet resources such as organizations, programs, associations, journals, and articles on the scholarship of teaching and learning. Middlesex Community College's website has links to useful resources such as the chronological history of the SoTL movement, how to get involved in the scholarship of teaching and learning, what various universities are doing in the field, plus other resources, readings, and documents. The Carnegie Foundation lists recent Carnegie publications on the scholarship of teaching and learning. And finally, "Scholarship of Teaching and Learning: Selected Bibliography" (McKinney, 2006) provides 11 pages of bibliographic

entries—not annotated—but clearly an up-to-date, comprehensive list of resources in the scholarship of teaching and learning.

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