

THE SCHOLARSHIP OF TEACHING AND LEARNING IN HIGHER EDUCATION
AN ANNOTATED BIBLIOGRAPHY
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PREFACE
by Pat Hutchings

In 1998, The Carnegie Foundation for the Advancement of Teaching launched an initiative known as CASTL: the Carnegie Academy for the Scholarship of Teaching and Learning. Through its higher education program, CASTL aims to advance the development of a scholarship of teaching and learning that will

1. foster significant, long-lasting learning for all students;
2. enhance the practice and profession of teaching; and
3. bring to faculty's work as teachers the recognition and reward afforded to other forms of scholarly work.

This bibliography is a revision of an earlier one, compiled in Spring 1999 to establish a baseline against which progress in the higher education arena might be gauged at the end of our initial five-year funding cycle. It also serves to acknowledge the work that CASTL builds on, and to locate this new effort in the longer trajectory of related developments. Now, as CASTL enters its sixth year, it is clear that the scholarship of teaching and learning has generated important new contributions to research and practice that should be a part of this compilation.

The bibliography has three sections. The first, a definitional one, includes significant statements about the idea of the scholarship of teaching and learning, drawn from various traditions that contribute to its evolving conception. The second section provides examples of the scholarship of teaching and learning; selections here attempt to sample work from a variety of fields, in a variety of forms and media, employing a variety of methods. The third section points readers to resources that can assist them in the doing of the scholarship of teaching and learning.

In all of its three sections, the bibliography is necessarily selective. The desire to have a baseline has led us to limit the list to items from the higher education context - though there is a large and thoughtful body of work at the K-12 level that higher education can learn from. Indeed, much of the work in higher education has parallels or precursors in the K-12 world, and CASTL's K-12 program is fostering further work in this arena. We have also had to limit ourselves to documents that are readily available, excluding many of the fugitive materials (most notably examples) that might otherwise be illustrative. Indeed, one of the goals of CASTL is to make what is currently fugitive publicly available—since publicness is a defining feature of scholarship.

The bibliography is also selective in another way. It is not simply a listing of extant work. It is an attempt to say something about the emerging vision of the scholarship of teaching and learning that stands behind and drives the work of CASTL; to map, if you will, an understanding of its history, parameters, and prospects, and the various lines of work and scholarly traditions that contribute to it. Three themes can be highlighted in this regard.

First, this bibliography serves to define a scholarship of teaching that focuses explicitly on student learning—hence the program title: the Carnegie Academy for the Scholarship of Teaching and

Learning. We want to be explicit about our primary interest in questions about student learning, about what it takes to foster significant lasting forms of student learning, about what that learning looks like, and about the forms of evidence and documentation that will allow the various disciplines, interdisciplines and professional fields that constitute higher education to foster such learning more effectively. With this in mind, our selection of examples in part two of the bibliography focuses on questions about learning, and the resources listed in the third section are, many of them, about the character of student understanding and its assessment. In both, we have included items that deal with a broad range of student learning outcomes, including, for instance, those associated with civic and moral education, and with the ability to live and work in an increasingly diverse global world.

Second, the bibliography reflects a conviction that the scholarship of teaching and learning can and should take different forms. The word "scholarship" will, for many faculty, conjure up the image of a traditional published article, monograph, or book; many will also assume that scholarship about teaching must mean a social science model of inquiry. But, as illustrated by the selection of examples in the second section of the bibliography, a much wider variety of forms and methods and "genres" is now emerging. Thus, we include examples ranging from a book-length study to a pedagogical colloquium by a prospective faculty member; from an online resource, to a protocol for ongoing collaborative inquiry, to a textbook. We have attempted, as well, to represent work from a variety of fields employing a variety of methods: narrative, case study, control group studies, and others. Finally, the examples illustrate the different kinds of questions that scholars of teaching and learning might ask, from the immediate and instrumental (does this new method I'm trying really contribute to my students' learning?), to more theory-building forms of inquiry such as Mina Shaughnessey's classic work on student writing errors. The point is to open up our sense of what is possible and useful. It would be too bad, indeed, if models for the scholarship of teaching and learning were limited in ways that only a few faculty could or would want to undertake.

The third major theme of this document is that the concept and practice of the scholarship of teaching has multiple histories and traditions that can now be built on. It is important to mention at least some of them here, albeit briefly and no doubt too neatly, since they are more bound up with one another than this account will suggest.

For many in higher education, the most salient history begins with *Scholarship Reconsidered*, the 1990 report by Ernest Boyer, writing as president of The Carnegie Foundation. Boyer contends we must "move beyond the tired old 'teaching versus research' debate and give the familiar and honorable term 'scholarship' a broader, more capacious meaning," one that includes four distinct but interrelated dimensions: discovery, integration, application, and teaching. In thus staking a claim for the scholarship of teaching, Boyer seeks to bring greater recognition and reward to teaching, and is also suggesting that excellent teaching is marked by the same habits of mind that characterize other types of scholarly work (he does not sharply distinguish between excellent teaching and the scholarship of teaching). *Scholarship Reconsidered* has given powerful momentum to a wave of reports and recommendations from both campuses and scholarly societies that share this agenda of bringing greater attention and recognition to teaching.

A different history of the scholarship of teaching and learning focuses on a conception of teaching. As represented by the work of Lee Shulman and others, the argument here is that teaching is not just technique (though technique has gotten the lion's share of attention in teaching-improvement efforts) but an enactment of our understanding of our disciplinary, interdisciplinary or professional field and what it means to know it deeply. It follows, then, that teaching needs to be reconnected to scholarship and to the scholarly communities through habits of documentation, exchange, and peer review; such processes are not only essential to a greater valuing of teaching but to the advancement of the profession and practice of the field. As Shulman writes in an AAHE volume on the course portfolio, "a scholarship of teaching will entail a public account of some or all of the full act of teaching—vision, design, enactment, outcomes, and analysis—in a manner susceptible to critical review by the teacher's professional peers, and

amenable to productive employment in future work by members of that same community." For Shulman, the scholarship of teaching may well accompany or engender teaching excellence, but it is not synonymous with it.

Shulman's work is one of the catalysts for another line of work contributing to the scholarship of teaching: developments in peer collaboration and review of teaching. Most notable here, perhaps, is the multi-campus national initiative undertaken by the American Association for Higher Education from 1994-98. Entitled *From Idea to Prototype*, the peer review of teaching project brought together teams of faculty who developed nine strategies for making their work as teachers available to one another, be it for individual growth and improvement, or for personnel decision making. As reports from the project make clear, for many faculty the opportunity to talk with colleagues about their teaching and their students' learning, to be part of a "culture of teaching and learning," and to find collegueship around this important aspect of their professional lives meets a deeply felt need. These faculty do not necessarily talk about their work as the scholarship of teaching but they are in fact moving in that direction: looking carefully at their practice, learning from it, sharing what they're learning with their scholarly peers.

Yet another development is student outcomes assessment, and particularly that aspect of assessment that focuses on the classroom. K. Patricia Cross must be mentioned here as the pioneer, with her several collaborators over the years, of classroom research and CATS (Classroom Assessment Techniques). Though many faculty have been skeptical about external mandates for assessment at the institutional level, the principle that we might be more purposeful about whether our students are learning what we think we're teaching has caught fire in many settings, and is an important theme in the evolving concept and practice of the scholarship of teaching and learning. Indeed, assessment has helped to make the idea that faculty might examine their own practice in its relation to impact a natural, even inevitable, idea - though not an easy one to enact. A challenge in the next few years is to assist such faculty to pursue their questions about student learning through the scholarship of teaching and learning in ways that will make a real difference.

Finally, an important milestone toward current work on the scholarship of teaching and learning is the 1997 Carnegie Foundation report, *Scholarship Assessed* by Glassick, Huber, and Maeroff. Often described as a kind of sequel to the "Boyer report," this volume pulls together, in its six standards for "assessing scholarship in all its forms," many of the developments noted above. Looking at teaching through the standard of "significant results," for instance, the authors ask (as assessment does) whether goals for student learning are achieved but also (as Shulman asks) whether the scholar's work adds "consequentially to the field" and whether it opens "additional areas for further exploration." Similarly, in discussing the standard on "presentation," they note: "teaching and applied scholarship can remain incomplete acts unless presentation at some point reaches beyond students, clients, or the public in order to connect with colleagues," an expectation that puts peer collaboration and review into the picture. Indeed, peer review is a central theme of *Scholarship Assessed*, and the AAHE project on that topic is often cited.

There are other traditions and histories that might be mentioned here: formal educational research (though as suggested by Lee Shulman's overview of "the disciplines of inquiry," cited in the bibliography, that tradition itself encompasses a wide variety of approaches), reflective practice, work in the disciplines--composition studies for example, and chemistry--that have long-standing traditions of scholarly inquiry into matters pedagogical, and work that has been done under the banner of faculty development. In short, faculty undertaking the scholarship of teaching and learning need not start with a blank page. Our hope is that this bibliography will be helpful in filling that page.

SECTION I:
DEFINING THE SCHOLARSHIP OF TEACHING AND LEARNING

Bender, Eileen and Donald Gray. 1999. The Scholarship of Teaching, *Research & Creative Activity* (April 1999) XXII:1 and on the Web: [<http://www.indiana.edu/%7Ercapub/v22n1/p03.html>].

This is the introductory article in a special issue of the Indiana University journal *Research and Creative Activity* about the scholarship of teaching. The authors point out that the scholarship of teaching is not the same as good teaching and "teaching our scholarship." The scholarship of teaching "begins where all intellectual inquiry begins, with questions about what is going on and how to explain, support, and replicate answers that satisfy us." It means that "we must use what we learn about student learning as data that justify or require us to change our practices."

Boyer, Ernest L. 1990. *Scholarship Reconsidered: Priorities of the Professoriate*. Princeton, NJ: The Carnegie Foundation for the Advancement of Teaching.

Boyer argues that if higher education is to meet its full range of responsibilities the concept of scholarship must be broadened to include not only basic research but other kinds of intellectual work in which faculty engage. Toward this end, four types of scholarship are proposed: the scholarship of discovery (traditional, basic research); the scholarship of integration (including such work as textbook writing, or synthetic reviews of literature in the field); the scholarship of application (professional service, or outreach, which draws on scholarly expertise); and the scholarship of teaching. For many educators, it was this Carnegie report that introduced the phrase "the scholarship of teaching."

Brookfield, Stephen D. 1995. *Becoming a Critically Reflective Teacher*. San Francisco: Jossey-Bass.

"Critically reflective teaching happens," Brookfield tells us, "when we identify and scrutinize the assumptions that undergird how we work" (xii). He suggests four "lenses" for getting at and investigating these underlying (and often problematic) assumptions, including teacher autobiography, the perspective of students, the perspective of colleagues, and the theoretical literature on pedagogy. Brookfield does not use the term scholarship of teaching but his vision of teachers interrogating their own practice overlaps with emergent meanings of the term.

Cambridge, Barbara. 1999. The Scholarship of Teaching and Learning: Questions and Answers from the Field, *AAHE Bulletin* 52 (3): 7-10.

The author's answers to five frequently asked questions about the scholarship of teaching and learning come from the work of CASTL participants in classrooms and on campuses who have taken preliminary steps to examine teaching practice and deepen student learning. The questions: Does scholarly teaching differ from the scholarship of teaching? Who does the scholarship of teaching? Is this scholarship disciplinary-specific or interdisciplinary? What role do students have in this work? and How do campuses encourage the scholarship of teaching? Cambridge encourages readers to provide their own answers from the cultures and needs of their own setting.

Cerbin, William. 1996. Inventing a New Genre: The Course Portfolio at the University of Wisconsin-La Crosse. In P. Hutchings, *Making Teaching Community Property*, pp. 52-6. Washington, DC: American Association for Higher Education.

In this essay - one of a number he has written on course portfolios - Cerbin describes how he came to see teaching as a sort of laboratory or experiment, subject to scholarly investigation: "I was familiar with teaching portfolios. . . . But thinking about teaching as scholarly inquiry began to lead me in the direction of something I had not seen anyone else doing: a portfolio

that focused on the course rather than on one's teaching. Being a social scientist, I began to think of each course. . . as a kind of laboratory - not as a controlled experiment, but as a setting in which you start out with goals for student learning, then you adopt teaching practices that you think will accomplish these. So the course portfolio was a natural way for me to go, one that followed from my ideas about teaching and learning. I'm not sure I saw this immediately, but one thing I now see is that the course portfolio is really like a scholarly manuscript - not a finished publication, but a manuscript, a draft, of ongoing inquiry" (52-53).

Cross, K. Patricia. 1990. Teachers as Scholars. *AAHE Bulletin* 43 (4): 3-5.

This brief piece begins "with a bold thesis," as Cross says, "that teaching is emerging as one of the most profoundly intellectually challenging aspects of our jobs as college faculty" (3). While pointing to the typically "primitive state" of teaching, she highlights the growing body of research about student learning and argues that improvement depends on shifting our focus from the characteristics of the teacher to the interaction between teaching and learning. Arguing that "the intellectual challenge of teaching lies in the opportunity for individual teachers to observe the impact of their teaching on their students' learning," she foresees the day when faculty will treat their classrooms as laboratories for the study of learning (5). Cross's work on classroom assessment and classroom research provides tools for this kind of study.

Cross, K. Patricia, and Mimi Harris Steadman. 1996. *Classroom Research: Implementing the Scholarship of Teaching*. San Francisco: Jossey-Bass.

Arguing that faculty might usefully investigate their own practice and students' learning, Cross and Steadman provide three extended case studies of how such investigations could be undertaken, along with a culminating chapter on "Designing Your Own Classroom Research." The opening chapter situates classroom research and the scholarship of teaching in the larger context and traditions of research on teaching and learning.

Cutler, William W., III. 1997. The History Course Portfolio. *Perspectives* 35 (8): 17-20.

Cutler describes how historians can use course portfolios to organize and display the scholarly arguments behind decisions about the format and substance of individual courses. He describes different approaches to portfolios and the benefits of building them—both to the individual teacher of history and to the field. *Perspectives* is the newsletter of the American Historical Association. Cutler's own portfolio is available online through the AHA website (see Cutler in Section II).

Diamond, Robert M. and Bronwyn E. Adams, eds. 1995. *The Disciplines Speak: Rewarding the Scholarly, Professional, and Creative Work of Faculty*. Washington, DC: American Association for Higher Education.

This volume contains statements on rewarding faculty work from nine disciplinary/professional societies - religion, history, geography, math, chemistry, the arts, business, journalism, and family/consumer science, plus the National Education Association. A central cross-cutting theme is that teaching is substantive, intellectual work, deserving the time and attention of faculty, careful evaluation, and institutional reward.

Diamond, Robert M. and Bronwyn E. Adams, eds. 2000. *The Disciplines Speak II: More Statements on Rewarding the Scholarly, Professional, and Creative Work of Faculty*. Washington, DC: American Association for Higher Education.

In Volume II the editors have gathered another set of statements that expands the scope of disciplinary/professional scholarship and supports the view of teaching as scholarly work from physics, psychology, civil engineering, teacher education, nursing, medicine, academic and

research librarians, social work education, languages, black studies, women's studies, and science education.

Edgerton, Russell. 1994. A National Market for Excellence in Teaching. *Change* 26 (5): 4–5.

Edgerton argues that "excellent teachers don't have to live out their careers as unknowns, victims of a national market that only recognizes scholars who publish" (4). Building on the idea that teaching is a form of scholarly work, Edgerton proposes three conditions under which a national market for scholars-as-teachers might be established: a visible product representing teaching excellence, peer judgment, and new forms of public recognition.

Edgerton, Russell, Pat Hutchings, and Kathleen Quinlan. 1991. *The Teaching Portfolio: Capturing the Scholarship in Teaching*. Washington, DC: American Association for Higher Education.

Like later AAHE work on the course portfolio, this volume is both a practical guide and a conceptual framework. That is, the vision of portfolios here is based on a view of teaching itself as scholarly, intellectual activity. To see teaching primarily as technique, the authors believe, is to overlook its essential grounding in the teacher's conception of his or her field and what it means to know it deeply. Drawing on the work of Lee Shulman and his research team at Stanford, the authors call for portfolios organized around, and designed to sample, performance on "key tasks of teaching." Eight illustrative portfolio entries - work samples plus reflective commentary - by faculty in a variety of fields are also included.

Fostering a Scholarship of Teaching. 1999. The Carnegie Foundation for the Advancement of Teaching. Oregon: West Peak Media, Inc. [Video recording]

This 18-minute video provides an account of key ideas advanced by CASTL, and brief examples of its early work in several academic settings. It is meant to stimulate interest in the scholarship of teaching and learning, and perhaps serve as a conversation starter for campus and other groups. It is designed to complement other information about CASTL on the Web sites of The Carnegie Foundation: [<http://www.carnegiefoundation.org/CASTL/highered/>] and the American Association for Higher Education: [<http://aahe.ital.utexas.edu>]. (These Web sites are described more fully in Sections II and III.)

Glassick, Charles E., Mary Taylor Huber, and Gene I. Maeroff. 1997. *Scholarship Assessed: Evaluation of the Professoriate*. San Francisco: Jossey-Bass.

This sequel to Ernest Boyer's *Scholarship Reconsidered* provides a framework of six standards for evaluating the range of scholarly work that faculty undertake - be it basic research, applied work, or teaching. The six standards are: clear goals, adequate preparation, appropriate methods, significant results, effective presentation, and reflective critique. Particularly in the emphasis on reflective critique, *Scholarship Assessed* moves toward a view that the scholarship of teaching is more than excellent teaching, suggesting that it also entails practices that lead to new understandings on the part of the teacher, subject to peer review by colleagues.

Halpern, Diane, et al. Scholarship in Psychology. *American Psychologist*, December 1998: 1292-1297.

This report from a task force of eighteen psychologists from institutions across the country contends that the definition of scholarship commonly used in their field no longer fits current realities. They propose that a broader, more precise definition replace the current one, which, they believe, over-emphasizes research. The group suggests five types of scholarly work: a) original research, b) integration of knowledge, c) application of knowledge, d) the scholarship of pedagogy, and e) the scholarship of teaching in psychology.

Huber, Mary and Morreale, Sherwin, eds. 2002. *Disciplinary Styles in the Scholarship of Teaching and Learning: Exploring Common Ground*. Washington, DC: American Association for Higher Education.

In this collection of essays, ten sets of disciplinary scholars respond to an orienting essay that raises questions about the place of the scholarship of teaching and learning in the disciplines. The scholars “describe the ‘evolution of discourse’ about teaching and learning in their field; the ways in which their discipline’s style of discourse ‘influences inquiry’ into teaching and learning; and the nature and role of intellectual ‘exchange across disciplines’ around such inquiry. In presenting the “sounds and silences” of their field, the authors hope to contribute to a common language for “trading ideas, enlarging our pedagogical imaginations, and strengthening our scholarly work.”

Hutchings, Pat, ed. 1998. *The Course Portfolio: How Faculty Can Examine Their Teaching to Advance Practice and Improve Student Learning*. Washington, DC: American Association for Higher Education.

In 1994, the American Association for Higher Education launched a multi-campus project to develop and test new strategies through which faculty could serve as scholarly peers to one another in teaching as they do in research. The course portfolio was one of these strategies and this volume represents the work of a dozen faculty who, under the aegis of the project, created and tested prototypes of the course portfolio. For readers interested in the scholarship of teaching, Lee S. Shulman’s opening chapter is especially helpful in defining the concepts of scholarship and teaching. Shulman writes, "In sum, a scholarship of teaching will entail a public account of some or all of the full act of teaching - vision, design, enactment, outcomes, and analysis - in a manner susceptible to critical review by the teacher’s professional peers, and amenable for productive employment in future work by members of that same community" (6).

Hutchings, Pat, ed. 2002. *The Ethics of Inquiry: Issues in the Scholarship of Teaching and Learning*. Menlo Park, CA: The Carnegie Foundation for the Advancement of Teaching.

The scholarship of teaching and learning brings with it the need for careful thought and decision making about questions that arise when teachers treat their classrooms as sites for scholarly investigation – questions about informed consent, the use of student work, impact on audiences and policy making, and response to campus and federal regulations on research with human subjects. To explore such questions, this volume presents seven case studies by scholars of teaching and learning reflecting on ethical dimensions and dilemmas in their work. Each case is followed by three commentaries by respondents, including students, with diverse points of view. The goal of the volume is to assist faculty and campuses to think carefully about ethical dimensions of the scholarship of teaching and learning in ways that will strengthen the work and improve students’ learning.

Hutchings, Pat. 1993. *Using Cases to Improve College Teaching*. Washington, DC: American Association for Higher Education.

Cases have the potential to represent the complex, situated character of teaching and learning. Included in this volume are a number of examples of such cases, as well as chapters that provide practical guidance for those who wish to write cases or use them to foster substantive intellectual discussion of teaching and learning. Of particular relevance to the evolving conception of a scholarship of teaching is the second chapter, "The Case for Cases: A Deeper Rationale," which posits that cases reflect a shift in our understanding of teaching from technique to scholarly work. Much of the most important work with cases has gone on in teacher education circles.

Hutchings, Pat. 1996. *Making Teaching Community Property: A Menu for Peer Collaboration and Peer Review*. Washington, DC: American Association for Higher Education.

This volume describes nine strategies through which faculty can make their work as teachers available to one another - be it for individual improvement, for building the collective wisdom of practice in the field, or for personnel decision making. Illustrated by reports from faculty who have used them, these strategies include, among others, teaching circles, reciprocal classroom observations, team teaching, and external peer review. All of these are predicated, as the opening chapter points out, on a view of teaching as scholarly work. Three corollaries unify this vision: teaching as a process of ongoing reflection and inquiry; the need for collegial exchange and publicness; and faculty's professional responsibility for the quality of their work as teachers.

Hutchings, Pat and Lee S. Shulman. 1999. The Scholarship of Teaching: New Elaborations, New Developments. *Change* 31 (5):11-15.

As the title suggests, this article addresses how the concept and practice of the scholarship of teaching has evolved, most recently in the context of the Carnegie Academy for the Scholarship of Teaching and Learning (CASTL), since the idea of the scholarship of teaching first appeared in the early nineties.

Kreber, Carolin, ed. 2001. *Scholarship Revisited: Perspectives on the Scholarship of Teaching*. San Francisco: Jossey-Bass.

Despite growing literature and research, the scholarship of teaching is a subject that has experienced considerable ambiguity, as well as unresolved issues in its assessment and evaluation. With innovative and practical solutions designed to improve the scholarly process as a whole, this paperback presents the outcomes of a Delphi Study conducted by an international panel of academics working in postsecondary teaching and learning and faculty evaluation scholarship. Examining the growth of the scholarship of teaching from different perspectives, the authors identify its important components, define its characteristics and outcomes, and reach consensus on its most pressing issues (publisher's blurb).

Palmer, Parker. 1993. Good Talk About Good Teaching: Improving Teaching Through Conversation. *Change* 25 (6): 8-13.

Palmer diagnoses "some of the deepest dissatisfactions in academic life" as products of the privatization of teaching. This piece describes leadership strategies, discussion topics, and ground rules for "creating a community of discourse about teaching and learning." This process - though Palmer does not explicitly make this link - is a prerequisite for developing the scholarship of teaching and learning - and also, perhaps, is one of its most important consequences.

Rice, R. Eugene. 1996. Making a Place for the New American Scholar. *New Pathways: Faculty Careers and Employment for the 21st Century Project*. Washington, DC: American Association for Higher Education.

The first in a series, this working paper from the director of AAHE's Forum on Faculty Roles and Rewards, frames key questions to be addressed in rethinking and restructuring faculty careers in a rapidly changing America.

Shulman, Lee S. 1993. Teaching as Community Property: Putting an End to Pedagogical Solitude. *Change* 25 (6): 6-7.

The reason teaching is not more valued in academe, Shulman argues, is not because campuses don't care about it but "because the way we treat teaching removes it from the

community of scholars" (6). Thus, he calls for teaching's reconnection to the disciplinary and professional communities in which faculty pursue their scholarly work - a change that would require faculty to document their pedagogical work and put it forward to their peers for review: "We need to make the review, examination, and support of teaching part of the responsibility of the disciplinary community" (6).

Shulman, Lee S. 1997. Disciplines of Inquiry in Education. In R. Jaeger, ed. *Complementary Methods for Research in Education* (2nd edition), pp.3-30. Washington, DC: American Educational Research Association.

Shulman's opening essay in this collection offers a set of "dimensions" (problems, investigators, methods, settings, and purposes) for examining the variety of methods that are part of the repertoire of educational research. His analysis makes clear the wide range of approaches possible and also helps locate the scholarship of teaching and learning within this range.

Shulman, Lee S. 2000. From Minsk to Pinsk: Why a Scholarship of Teaching and Learning? *The Journal of the Scholarship of Teaching and Learning* (JoSoTL) 1 (1):48-52 on the Web: [http://www.iusb.edu/~josotl/search_archives.htm].

Based on a presentation to the American Association for Higher Education (AAHE) at its 2000 annual meeting in Anaheim, CA, this article was published in the first issue of JoSoTL, a web-based interactive journal. Shulman proposes three rationales for the scholarship of teaching and learning: professionalism, pragmatism, and policy. "Scholarship of teaching and learning," he says, "supports our individual and professional roles, our practical responsibilities to our students and institution, and our social and political obligations to those that support and take responsibility for higher education."

Weimer, Maryellen. 1993. The Disciplinary Journals on Pedagogy. *Change* 25 (6): 44-51.

An element of emerging conceptions of the scholarship of teaching is the need for publicness - that faculty must have access to one another's work in order to advance the practice and profession of teaching. New forms of capturing and exchanging the scholarship of teaching are developing, but many fields also have long-standing journals for pedagogical work. To what extent are they - or might they be - outlets for an emerging scholarship of teaching and learning? In this piece, Weimer comments in depth on three of the more well-established of these journals (*Journal of Marketing Education*, *Teaching of Psychology*, and *Journal of College Science Teaching*) and also looks at the character of published discourse about pedagogy more generally. She calls for less imitation of traditional social science and more attention to alternative but rigorous forms and genres for representing what teachers know and do. The article ends with a set of recommendations, which speak not only to the editors of these journals but to faculty wishing to direct their scholarship in this direction.

SECTION II: SELECTED EXAMPLES OF THE SCHOLARSHIP OF TEACHING AND LEARNING

American Association for Higher Education Campus Program WebCenter:
[<http://aahe.ital.utexas.edu>].

This online site serves as a virtual community for participants in the Carnegie Academy for the Scholarship of Teaching and Learning Campus Program. Faculty, administrators, and students at almost 200 colleges and universities share progress reports, activities and programs, resources, references, and threaded discussions about teaching and campus issues. Newcomers to the scholarship of teaching and learning will find the Indiana University Scholarship of Teaching and Learning Tutorial a wonderful resource containing multimedia

modules with photos, graphics, hyperlinks to resources, audio and video clips, and interactive tasks. The WebCenter's Recommendations section builds a record of a visitor's use and will suggest other users, resources, or references that may be of interest. Registration is required, and new users may log in as a guest to explore the site.

Babb, Marcia and Pat Hutchings. 2002. The Scholarship of Teaching and Learning: Idea and Impact. *HERDSA News* 24 (1): 7-9.

This article in the journal of the *Higher Education Research and Development Society of Australasia (HERDSA)* looks at two contributions to the scholarship of teaching and learning supported in part by the Carnegie Academy for the Scholarship of Teaching and Learning. The first - an example from the fellowship program - describes the work of David Pace, an associate professor of history and Carnegie Scholar, who is investigating why his students have difficulty mastering the basic skills of thinking like an historian. His research includes interviews with history faculty, testing new pedagogical models and assessments with his students, and extensive outreach to open his work to evaluation and further development. The second example, from the Campus Program, looks at ways Western Washington University has begun to transform its culture using the scholarship of teaching and learning to inform reform efforts in the general education curriculum, faculty development, and venues for student participation.

Bass, Randy. 1997. Hypertext Syllabus Builder, *The Heath Anthology of American Literature*: [<http://www.georgetown.edu/bassr/heath/syllabuild/courses/pedagogy.html>].

This site is an online companion to the Heath Anthology, edited by Paul Lauter. The Hypertext Syllabus Builder, designed and edited by Randy Bass, will be germane for those interested in the scholarship of teaching and learning in American literature courses. As faculty choose to teach literature from multiple contexts and cultures, they are introducing new teaching methods and strategies. Included in the site are accounts by faculty across the country of the rationale, conduct, and impact of their courses.

Bass, Randy. 1998. American Literary Traditions, *Course Portfolio*, Georgetown University: [<http://www.georgetown.edu/bassr/portfolio/amlit/>].

Bass has developed a hypertext course portfolio for his American Literary Traditions course at Georgetown University. Writing in the 1998 AAHE volume on course portfolios (see Hutchings in Section I), Bass notes, "I chose to write a portfolio for American Literary Traditions because I created the course with the intention of testing a set of assumptions about new approaches to teaching an introductory American literature course. Specifically, I wanted to introduce new technologies...and I wanted to see if these technologies, in combination with other pedagogies and methods, could successfully support an approach to American fiction that emphasized the complexities of literature and narrative form, but in a way very accessible students who were new to the subject" (91). Two key elements of the portfolio are sections on "pedagogical intentions," and an extensive examination of evidence of student learning. Bass notes, "Writing the course portfolio...has given me an opportunity to reflect seriously on two semesters of experimentation both in the context of my own professional development and as a contribution to the field of teaching American literature" (91).

Bass, Randy. 1999. The Scholarship of Teaching: What's the Problem? *inventio* 1 (1): [<http://www.doiit.gmu.edu/Archives/feb98/rbass.htm>].

A professor of American Studies at Georgetown University, Bass explores here his shift from seeing "my teaching as a problem (or failure) to seeing 'in my teaching' a set of problems worth pursuing as an ongoing intellectual focus." A crisis in his teaching led him to the realization that he didn't really know much about student learning, and that he needed to be more "intentional" about designing his courses and teaching to the learning goals he had for

his students. He recounts the thinking behind his decisions as he investigated his teaching practice and evidence of student learning. The preceding two entries for Bass provide further details of his research and its applications.

Bernstein, Daniel J. 2000. Course Portfolio on Learning (Psychology 461/268), *KML Gallery*, The Carnegie Foundation for the Advancement of Teaching: [<http://kml2.carnegiefoundation.org/html/gallery.php>].

In this course portfolio, Bernstein reports on changes he made over three semesters in a psychology course on learning. By changing the assessment from short abstract essay questions to problems that asked students to apply concepts in new contexts, and by providing web-based opportunities for students to identify what makes some answers better than others, Bernstein succeeded in getting more students to achieve higher levels of understanding. The portfolio includes examples of assessments used, graphs reporting his results, and students' final exams.

Blum, Lawrence. 1998. Can We Talk? Interracial Dialogue in the University Classroom. *Change* 30 (6): 27-37.

In this narrative account of his experiences leading a graduate-level seminar on Race and Racism, Blum describes the challenges he faced in helping students cross racial barriers and learn from one another. The piece is structured around a series of journal entries he wrote over the course of the semester to document and reflect upon the progress of class discussions about race and identity. This approach results in a representation of practice that is highly contextual and concrete but that also allows Blum to reflect on the significance of the experience in generalizing ways.

Byrnes, Heidi. 1995. One Department's Faculty Hiring Experience. *AAHE Bulletin* 47 (9): 7, 9-10.

The term "scholarship" typically connotes published work, but the scholarship of teaching may also assume other kinds of public forms and manifestations. A new format for focusing on teaching in the hiring process in the German department at Georgetown University might, for instance, be considered an example of the scholarship of teaching. Drawing on Lee Shulman's concept of the "pedagogical colloquium" - a public presentation on the teaching of the field, parallel to the research colloquium expected of most faculty job candidates - Byrnes describes a model her department has employed: the candidate first talks about his or her intellectual history, then provides a brief description of recent scholarly work, concluding with reflection on teaching practices; finally, audience members engage the candidate in discussion about the material presented. Byrnes reports the positive effects this approach has had on hiring decisions and departmental culture.

Cambridge, Barbara. 2000. The Scholarship of Teaching and Learning: A National Initiative, *To Improve the Academy*, 18: 55-68

This essay provides an overview of the work of the Carnegie Academy for the Advancement of Teaching (CASTL). It features examples from individual, campus, and disciplinary work. *To Improve the Academy* is the journal of the Professional and Organizational Development in Higher Education Network (POD) of individuals who run teaching and learning centers

Cambridge, Barbara L., and Anne C. Williams. 1998. *Portfolio Learning*. New Jersey: Prentice-Hall, Inc.

Portfolio Learning is a textbook. It is an unusual textbook- one that can be seen as an example of the scholarship of teaching and learning - in that the authors are explicit throughout about the inquiry-based pedagogical framework behind the design of the textbook. It is their account of how composition theory and research-based understandings of how

writers move from novice to expert are enacted in a particular kind of teaching-and-learning context. Moreover, *Portfolio Learning* is built around an instance of the authors' own scholarship of teaching and learning: a longitudinal case study of the experience and learning of an actual student in a portfolio-learning course.

The Carnegie Academy for the Scholarship of Teaching and Learning (CASTL) Web site: [<http://www.carnegiefoundation.org/castl/highered/>].

The CASTL Web site, situated on The Carnegie Foundation for the Advancement of Teaching site, lists the Carnegie Scholars in the CASTL fellowship program with links to snapshots and summaries of their projects. These project descriptions are brief, but many provide links and email addresses for additional information about the scholars' investigations – a number of them ongoing – of their teaching practice and their students' learning. Also on this site are reports from scholarly and professional associations that received small grants from CASTL in support of scholarship of teaching and learning activities. To receive periodic news about CASTL, visitors may subscribe to the electronic mailing list.

Cerbin, William. 1995. Connecting Assessment of Learning to Improvement of Teaching Through the Course Portfolio. *Assessment Update* 7 (1): 4-6.

This piece argues for "learner-centered evaluation" and illustrates what such evaluation would look like through an excerpt from Cerbin's own course portfolio (which is otherwise unpublished, though it has been widely circulated), focused on a classroom activity employing student groups. Cerbin's effort in the portfolio is to discover and document whether and to what extent students grasp the key concepts he endeavors to teach. In keeping with the spirit of scholarship, he is less concerned with proving that his teaching is successful than with uncovering problematic aspects of the teaching and learning process, and exploring issues.

Chism, Nancy Van Note, Jane M. Fraser, and Robert L. Arnold. 1996. Teaching Academies: Honoring and Promoting Teaching Through a Community of Expertise. In Menges and Svinicki, eds. *Honoring Exemplary Teaching. New Directions for Teaching and Learning* 65 (Spring 1996): 25-32.

One of the strategies campuses might use to foster a scholarship of teaching is the "teaching academy," defined by Chism and colleagues as "a group of faculty who are considered excellent or highly interested in teaching and who have been tapped by their institutions to engage in advocacy, service, or advising on teaching matters" (25). Examples from ten campuses are briefly summarized here, and an eleventh, at The Ohio State University, is described in detail. At its best, the teaching academy model would seem to be a structure for support of the scholarship of teaching, for instance when (as the authors report of some examples) goals include the creation of community among teachers and the fostering of research on college teaching and learning.

Coppola, B. P., S.N. Ege, and R.G. Lawton. 1997. The University of Michigan Undergraduate Chemistry Curriculum. 2. Instructional Strategies and Assessment. *Journal of Chemical Education* (74): 84-94.

As indicated by the journal title, chemistry is one of the fields with an established history of scholarship on teaching and learning issues. As indicated by the article title, Coppola and his co-authors focus on the University of Michigan chemistry program, which initiated work on a new curriculum in 1989. What makes the piece an example of the scholarship of teaching and learning is its distance from the usual "show and tell." It is an analytical piece, deeply embedded in practice, drawing on related work and advancing a model for learning in chemistry that is potentially relevant in multiple settings.

Cox, Ana Marie. 2001. A Professor at Notre Dame Sparks a Quiet Revolution in How Chemistry Is Taught, *The Chronicle for Higher Education* (May 25, 2001): [http://www.nd.edu/%7Eprinfo/news/2001/5-25z.html].

Unhappy with the high rate of student failure in his general chemistry class, and believing that he had an obligation to help all his students, Jacobs took this retention problem - typically not considered a problem but a good filter for majors and pre-med - and turned it into an opportunity for inquiry. He designed an innovative course for the "at-risk" students in which they had the same content at the same pace as students in the regular course, and added peer-tutoring, interactive lectures, and more homework. The retention rate went up, and so did the commitment of other science faculty on campus to provide learning experiences that would help more students succeed. See the entry for Jacobs below for more information about his course.

Crossroads Research Project: Pedagogy, Theory, and Practice in the Information Age, *American Studies Crossroads Project*: [http://www.georgetown.edu/crossroads/conversations/].

Crossroads is, as this site tells us, "a faculty study project on using technology to teach all areas of culture and history related to interdisciplinary American Studies." Of particular relevance to the scholarship of teaching and learning is the "conversations" section of the site - a forum for faculty to share and interact around case studies of teaching practice. In their complexity and "situatedness," these case studies might be seen as cousins to course portfolios; the on-line discussion of them can be seen as the development of a scholarly community of discourse around issues of teaching and learning with technology. The site also includes examples of "ways to gauge student encounters with technology-enhanced pedagogies and practices". The Crossroads Project is directed by Randy Bass, American Studies faculty member at Georgetown University.

Cutler, William W., III. History 67, The United States to 1877, *A Course Portfolio 1996 and 1997*, American Historical Association: [http://theaha.org/teaching/aahe].

Cutler's portfolio - on the American Historical Association Web site - documents and examines how his choice of the three intellectual themes of freedom, diversity, and migration shapes lectures, discussions, assignments, and examinations in an introductory survey course in American history. The portfolio explicitly examines evidence of student learning. Additionally, Cutler includes the "pedagogical diaries" of his two TA's in order to build in different perspectives on class events, to enrich his account of the course, and to mitigate subjectivity.

Foster, Charles. 2002. The Scholarship of Teaching in Theology and Religion: A Wabash Center Advisory Committee Conversation, *Teaching Theology and Religion*, 5 (4): 192-200.

This is an edited version of a conversation in which six members of the staff and Advisory Committee for the Wabash Center for Teaching and Learning in Theology and Religion discussed the meaning of the scholarship of teaching in theology and religion, and implications for student learning and teaching practice when a culture of teaching exists. An interesting thread in the conversation is the role of their disciplinary journal on teaching in fostering a vocabulary and genre of writing about the scholarship of teaching.

Healey, Mick. 1999. Developing the Scholarship of Teaching Geography in Higher Education, paper presented at the *Improving Student Learning International Conference*, University of York, and the *National Council of Geography in Higher Education Annual Conference*, Boston: [http://www.chelt.ac.uk/gdn/confpubl/boston.htm].

Healey is professor of geography and director of the Geography Discipline Network based at Cheltenham and Gloucester, England. His intention here is to stimulate a discussion of the extent to which progress has been made in developing a scholarship of teaching in

geography. He argues that teaching has a role in the progress of geography, in building new knowledge in the field, and that geography education networks have a vital role to play in encouraging geography faculty to develop a scholarly approach to teaching and student learning.

Hutchings, Pat, ed. 2000. *Opening Lines: Approaches to the Scholarship of Teaching and Learning*. Menlo Park: The Carnegie Foundation for the Advancement of Teaching.

This collection of essays features eight faculty from the Carnegie Academy for the Scholarship of Teaching and Learning (CASTL) who are investigating issues in the teaching and learning of their fields. Each case documents the *doing* of this investigative work – methods and approaches, reflection and analysis. Hutchings provides an introduction that examines crosscutting themes from the cases, and Carnegie Foundation president Lee Shulman a concluding chapter looking at the future of this work. An accompanying CD-ROM contains documents and artifacts from the cases, including syllabi, samples of student work, videotaped interviews with students, and assessment tools. This is a rich resource for both new and experienced teacher-researchers.

Jacobs, Dennis. 2001. Cooperative Learning in General Chemistry, *KML Gallery*, The Carnegie Foundation for the Advancement of Teaching:
[<http://kml2.carnegiefoundation.org/html/gallery.php>].

This site presents the development and impact of cooperative learning activities in a large section (>200 'at-risk' students) of General Chemistry. It provides access to his methods and analyses, and includes data documenting students' performance in the course and in more advanced science courses, course materials, and videotapes illustrating cooperative problem solving in small groups. Graphic representations of his course transformation are juxtaposed with video clips showing students at work.

Kelly, T. Mills. Western Civilization, *A Course Portfolio*, American Historical Association:
[<http://theaha.org/teaching/aahe>].

Kelly's portfolio documents two sections of an introductory Western Civilization survey course in which he compares student results to determine whether or not online source materials transform student learning. (One section got all their source materials online, and the other section got traditional print materials.) His portfolio includes the syllabus, samples of student work, student and peer evaluations, comparisons of the results, and some conclusions about the impact of new media on teaching and learning. For peer review of his research, Kelly includes a comment section for visitors to the site.

Kelly, T. Mills. November, 2001. Toward Transparency in Teaching: Publishing a Course Portfolio, *Perspectives online*:
[<http://www.theaha.org/Perspectives/Issues/2001/0111/0111not1.cfm>].

In conjunction with the presentation of his history course portfolio on the American Historical Association Web site (see preceding entry), Kelly posted this essay explaining why he decided to make his teaching so public: "Opening up the classroom to the scrutiny of an audience of anyone with a Web browser entails certain risks. Teaching is normally a private activity...A portfolio like mine...invites the entire world to pass judgment on my teaching. For my own reasons and in my own professional context, I found complete transparency desirable."

Knowledge Media Laboratory (KML) Gallery, The Carnegie Foundation for the Advancement of Teaching: [<http://www.carnegiefoundation.org/KML/>].

The Knowledge Media Laboratory (KML) focuses on one of the newest problems in education: the use of emerging technologies and new media to develop, advance and distribute knowledge of teaching and learning. The KML is developing tools, resources, forums for online presentation and virtual workspaces that support the efforts of faculty members who are documenting their teaching and exchanging their learning with others. In the KML Gallery, viewers can browse a number of multi-media representations of scholarship of teaching and learning projects from higher ed and K-12 faculty.

Maier, Francis H. and Mary Kay Thompson Tetreault. 1994. *The Feminist Classroom*. New York: Basic Books.

An extended study of women's studies classrooms in five universities, this book explores the following questions: How do gender and diversity shape teaching, learning and the production of knowledge? What forms of interaction emerge when such diversities occur? Using ethnographic methods, Maier and Tetreault study the work of seventeen professors who are experimenting with feminist pedagogies in their classrooms. In keeping with feminist frameworks for analysis, Maier and Tetreault approach the study not as distanced, objective observers but as personally involved researchers whose social and political positions shape their research questions.

Martsof, Donna. 1998. A Course Portfolio for a Graduate Nursing Course. In Hutchings, ed. *The Course Portfolio: How Faculty Can Examine Their Teaching to Advance Practice and Improve Student Learning*, 25-28. Washington, DC: American Association for Higher Education.

Martsof's piece in this volume is one of nine case studies by faculty who have used course portfolios to "examine their teaching and improve student learning." The portfolio itself is not included in the volume but the case study provides quite a full picture of it, and illustrates why it is indeed an example of the scholarship of teaching and learning. Martsof discusses, for instance, her interest not only in reflecting on and documenting her teaching of a key course in the Kent State University nursing curriculum (she undertakes the portfolio with an upcoming tenure decision in mind) but putting forward her "fairly unorthodox approach to the teaching of nursing theory to colleagues at the national level." The organizing principle of the portfolio is Martsof's goal of helping students get beyond a view of nursing and a way of knowing that is "particularistic, tradition-based, and focused on the "doing" and the "bottom line." The portfolio both documents and, Martsof says, improves her success in moving students to a deeper level of understanding.

Passow, Eli. 1995. Exercises 1, 2, and 3. In *From Idea to Prototype: The Peer Review of Teaching: A Project Workbook*. Washington, DC: American Association for Higher Education.

As part of a national project on the peer review of teaching, participating faculty completed three "exercises" (see entry for Hutchings, *From Idea to Prototype* in section three) in which they examine their own practice in a key course. Eli Passow, a mathematician at Temple University, examines a basic math course, in terms of design, implementation, and results. The three exercises together constitute a sort of course portfolio in which Passow makes and supports an argument for a particular course design based on his conception of the field as students in the course need to understand it. Passow's exercises are behind tab 4.

Rhem, James, ed. Carnegie Chronicle in *The National Teaching & Learning Forum*. Westport, CT: The Oryx Press.

The Carnegie Chronicle, a special section in *The National Teaching & Learning Forum*, offers articles by CASTL participants about their teaching-learning research. Recent pieces include

one by Carnegie Scholar Janette Benson about teaching with technology to Generation E students; and a piece by Patricia Owen-Smith about her classroom journey from the lecture to multiple pedagogical methods. Other articles in *The Forum*, a subscription newsletter about teaching and learning in higher education, meet Rhem's objective of providing "a conversation about teaching...embracing a wide diversity of cross-disciplinary concerns."

Ritchie, Joy, and Amy Goodburn. 1996. Collaborative Inquiry in the Teaching of Writing Theory and Practice at the University of Nebraska-Lincoln. In Hutchings, *Making Teaching Community Property*, 73-76. Washington, DC: American Association for Higher Education.

Often the scholarship of teaching and learning begins with a specific question (see, for instance, Randy Bass's account of the impetus for his course portfolio above) but this example by Ritchie and Goodburn stems primarily from a view of teaching: "We have become more strongly convinced that teaching at its best is not an isolated, solitary act. Good teaching and good theory, as bell hooks reminds us in *Teaching to Transgress*, are always collaborative...Our collaboration emerges directly and intrinsically from our philosophies about teaching and research as fundamentally dialogical activities" (76). In this spirit they set out to examine and more deeply understand their practice through an ongoing process of examination and reflection grounded in journals, conversation, examination of student work, and reciprocal visits. The process itself is an example of the scholarship of teaching, but it is worth noting that Ritchie and Goodburn's work led to several grant-funded projects with larger audiences.

Scholar.Teaching, NCA and the Scholarship of Teaching Web site, National Communication Association: [<http://www.natcom.org/Instruction/stl/home.htm>].

The National Communication Association (NCA) has a dedicated section on its Web site for scholarship of teaching and learning activities. The association has taken an active role in integrating a scholarly approach to teaching and learning into its association structure and activities, work with faculty and campuses, and with other scholarly associations. NCA received a small grant from CASTL for an extensive range of activities, and both the proposal and final report are available on the Web site, along with a selection of other materials about ongoing and new ventures.

Sharkey, Stephen. 1993. Social Structure and Personal Freedom. *Change* 25 (6): 30-37.

Sharkey's is the first in a set of essays (all in this issue of *Change*) aimed at exploring student learning of difficult concepts in sociology. Using a case-study approach, Sharkey captures the frustrations he experienced in attempting to press students in an introductory course to comprehend the concept of social structure. The pieces that follow, all written by other sociologists, respond to Sharkey's essay with commentary, criticism, and research that shed light on student reaction to the material. Although the four commentaries were written independently, as a collection they provide a model of how a peer group focused on the scholarship of teaching might function.

Shaughnessy, Mina. 1977. *Errors and Expectations*. New York: Oxford University Press.

In this classic study of students who enrolled in the CUNY system when an open admissions policy was enacted, Shaughnessy examines students' errors as writers as a reflection of their approach to and understanding of the writing process. Errors are framed not as random mistakes but as windows into student thinking. As an example of the scholarship of teaching and learning, this study can be characterized as empirical, theory-building (Shaughnessy posits the teacher as mediator between languages that students bring to class and the language of the academy) and highly significant in the history of thought and practice in literacy and composition studies.

Symposium on the Scholarship of Teaching and Learning in Political Science. 2002. *PS Online*: [<http://www.apsanet.org/PS/june02/transcript.cfm>].

In its electronic journal, *PS Online*, the American Political Science Association (APSA) has provided an innovative approach for engaging its membership in a discussion of the scholarship of teaching and learning. The journal sponsored an online symposium with an edited transcript of a roundtable from the 2001 annual meeting; an essay exploring “what can be classified as STL work in political science,” introduced by a Carnegie Scholar and political science professor; an annotated bibliography of scholarship of teaching and learning literature aimed at political science faculty new to the discussion; and a call for responses and suggestions from the readers about the symposium materials.

Syverson, M.A. Beyond Portfolios: The Online Learning Record. Computer Writing and Research Lab, University of Texas at Austin: [<http://corax.cwrl.utexas.edu/cac/online/99/syverson/index.html>].

The Online Learning Record extends a successful existing model of evaluation and assessment into online environments. It is currently in use in computer-based writing courses at the University of Texas at Austin to document student progress and achievement, using an eight-page form, and a selection of student work, prepared over the course of a semester or school year. Syverson explains: “The Learning Record provides a way of accounting for learning that is richer and more meaningful than standardized testing, yet provides much more consistency and comparability across student populations than conventional portfolio assessment. It can serve as the sole record of students' achievement, or it can be used to inform and support conventional grading. For the first time classroom and large-scale assessment are seamlessly matched through the learning record system, allowing teachers and administrators to share best practices for improving teaching and learning.” The site – for both students and teachers – is easy to navigate and comprehensive, providing a detailed description of the model, sample forms, examples, developmental scales, and references.

Visible Knowledge Project (VKP), Center for New Designs in Learning and Scholarship, Georgetown University: [<http://crossroads.georgetown.edu/vkp/>].

VKP is a five-year project investigating questions about technology in the context of teaching and learning. More than 70 faculty on 21 campuses are conducting, as the site explains, “structured inquiries into student learning, pedagogical innovation and technological integration.” Many of the projects are represented here; you will also find a resource section with a scholarship of teaching and learning glossary, a resource kit to assist groups and individuals in doing this work, and several bibliographies.

Wright, John. 1996. A Collaborative, Comparative Study of Student Learning in Chemistry at the University of Wisconsin-Madison. In Hutchings, *Making Teaching Community Property*, 79-81. Washington, DC: American Association for Higher Education.

Wright's work began with a problem in his analytical and equilibrium chemistry course: Even his A students could not, he found, transfer their learning from one setting to another. Attempting to remedy this situation, he transformed his class by incorporating student groups, and a more project-based approach. To evaluate the effectiveness of this new approach, Wright assessed outcomes in his course (as judged by 25 faculty trained as external reviewers) and compared them to outcomes in a course taught in the traditional manner.

SECTION III:
RESOURCES FOR FACULTY UNDERTAKING THE SCHOLARSHIP OF TEACHING AND LEARNING

American Assembly of Collegiate Schools of Business (AACSB). 1997. Peer Review of Teaching: A Strategy for Improving Teaching and Learning. Producer, AACSB. [Videocassette]

Participants in this network-quality videoconference discuss strategies for documenting and reviewing the scholarship of teaching, and the experiences of business schools participating in the American Association for Higher Education (AAHE) national project From Idea to Prototype: The Peer Review of Teaching. Contact AACSB at 314-872-8481 to ask about obtaining a copy of the videotape.

American Association for Higher Education Website: [<http://www.aahe.org>].

AAHE's Teaching Initiatives program "seeks to help campuses improve teaching and learning by creating a culture in which teaching and learning are the subject of serious discussion, debate, and inquiry among faculty and others committed to educational improvement." Currently, the program's primary effort is the CASTL Campus Program (see AAHE in Section II), but other important lines of work on the site relevant to the scholarship of teaching and learning are the Peer Review of Teaching and Portfolio Projects.

Angelo, Thomas A., and K. Patricia Cross. 1993. *Classroom Assessment Techniques: A Handbook for College Teachers* (2nd edition). San Francisco: Jossey-Bass.

This hefty but well-organized, user-friendly volume suggests strategies that faculty can use to collect feedback from students in order to assess the effects of their teaching and to make appropriate adjustments. Each strategy is illustrated with examples from a range of disciplines. This volume operates on the premise that faculty can use classroom assessment and classroom research to answer their own questions about their students' learning.

Barr, Robert B., and John Tagg. 1995. From Teaching to Learning - A New Paradigm for Undergraduate Education. *Change* 27 (6):12-25.

In keeping with the development of a scholarship of teaching and learning, Barr and Tagg call for a shift from an "instruction paradigm" (which they believe characterizes most of higher education) to a "learning paradigm" in which all aspects of the institution's work would be driven by and assessed in light of impact on student learning. "The learning paradigm envisions the institution itself as a learner - over time, it continuously learns how to produce more learning with each graduating class, each entering student" (13). This is not a "how-to" piece but it may provide a helpful framework for action by faculty undertaking the scholarship of teaching and learning.

Benson, E. and W. Haney, T. Ore, C. Persell, A. Schulte, J. Steele, I. Winfield. 2002. Digital Technologies and the Scholarship of Teaching and Learning in Sociology, *Teaching Sociology* 30: 140-157.

The authors of this paper are sociology teachers, but the ideas here are more broadly relevant than to just the teaching of sociology. What they say about the growing use of digital technologies in higher education and specifically how these new technologies are affecting student learning is important to all those concerned with the lag between understanding the effects of technology and its growing use. Presented here is a synthesis of the relevant research from a range of disciplines about ways that digital technologies motivate and hinder teaching and learning. The authors conclude with implications of future technological developments within the context of the scholarship of teaching and learning. Readers will find an examination of computer-mediated pedagogy, the use of multimedia in classrooms, access

and the digital divide, student and instructor self-concepts, learning styles, and institutional contexts.

Bernstein, Daniel J. 1996. A Departmental System for Balancing the Development and Evaluation of College Teaching: A Commentary on Cavanagh, *Innovative Higher Education* 20 (4): 241-248.

Bernstein coined the phrase "teaching circles" and established their use at the University of Nebraska. This piece deals not with the mechanics of teaching circles but with their place in a larger set of departmental activities and practices, both formative and summative. He describes a longitudinal, multi-year process, which begins with the creation of a climate in which there are regularly scheduled occasions for peer conversation and interaction about teaching issues.

Bransford, John D., Ann L. Brown, and Rodney R. Cocking, eds. 1999. *How People Learn: Brain, Mind, Experience, and School*. Committee on Developments in the Science of Learning, National Research Council. Washington, DC: National Academy Press.

This book-length report summarizes important developments in the science of learning. Accessible to a non-specialist audience, the book examines such topics as differences between novices and experts, conditions that improve students' abilities to apply knowledge to new circumstances and problems, the design of learning environments, and teacher learning. It provides a thorough grounding in contemporary theory and research, and highlights important implications for teaching. The text is available online at: [<http://books.nap.edu/html/howpeople1/>].

Brown, John Seeley. 2000. Growing Up Digital: How the Web Changes Work, Education, and the Ways People Learn. *Change* 32 (2): 11-20.

Brown, chief scientist at Xerox and director of its Palo Alto Research Center, proposes that the World Wide Web has only just begun to transform society, and that educators have an opportunity and challenge to use the Web to shape a new "learning ecology" in which "the Web becomes not only an informational and social resource but a *learning medium* where understandings are socially constructed and shared....and learning becomes a part of action and knowledge creation"(14). For educators concerned about the mushrooming misuse and underuse of technology in education and supportive of a scholarship of teaching and learning, this article provides thoughtful ideas and examples for constructing rich environments for learning. Many of these ideas appear in Brown and Duguid, 2000, *The Social Life of Information*, Cambridge: Harvard Business School Press.

Cambridge, Barbara L. 1996. The Paradigm Shifts: Examining Quality of Teaching Through Assessment of Student Learning. *Innovative Higher Education* 20 (4): 287-98.

Cambridge argues that learning is the chief goal of teaching and that faculty can thus assess teaching through analysis of student work. She is particularly interested in the power of involving students in this process, and describes three practices that bring together faculty, faculty peers, and students as partners in examining and assessing teaching and learning. Both student and teacher portfolios play a role in what she proposes.

Center for New Designs in Learning & Scholarship (CNDLS), Advanced Study of Teaching and Learning, Georgetown University: [<http://candles.georgetown.edu/advanced.htm>].

CNDLS is at the heart of Georgetown University's efforts to integrate learning, technology, and research. One of its key functions is to serve as a local and national center for the advanced study of teaching and learning. To that end the Center has developed a range of scholar-in-residence programs for research, reflection, and conversation. The Website has an extensive statement about its mission and areas of focus. Faculty and graduate development

offerings may be of particular interest to other campuses because of the strong focus on the scholarship of teaching and learning. The Center also hosts two major initiatives around learning, teaching and technology: Visible Knowledge Project and Crossroads Research Project, which are described in Section II of this bibliography.

Coppola, Brian, 2000. Writing a Statement of Teaching Philosophy, AAHE WebCenter, in "Resources," [<http://aahe.ital.utexas.edu>].

Coppola makes the case that the act of writing a statement of one's teaching philosophy is a powerful tool for clarifying purposes and guiding choices. The reflectiveness of the process impacts pedagogical practices. Coppola offers practical and philosophical guidelines for crafting a statement, and uses examples from authentic statements to illustrate categories and ideas. Although Coppola is a professor of chemistry, experienced and novice educators in all fields will find this useful as a way of examining one's teaching practice.

Donald, Janet. 2002. *Learning to Think: Disciplinary Perspectives*. San Francisco: Jossey-Bass.

This book explores different approaches that disciplines take to learning, and considers how these approaches could be applied to student intellectual development. Three questions guided the exploration: the kind of learning environment the discipline provides; the knowledge and higher-order thinking processes, according to the discipline, that are important for students to learn; and how best to cultivate these thinking processes. Donald conducted her research at five research universities in a broad spectrum of disciplines - physics, engineering, chemistry and the life sciences, psychology, law, education, and English literature and language. In the final chapter she offers strategies for promoting students' intellectual development in and across disciplines.

Duffy, Donna Killian, and Janet Wright Jones. 1995. *Teaching Within the Rhythms of the Semester*. San Francisco: Jossey-Bass.

A rare look at the unfolding of the teaching and learning process over the course of the semester, this volume is especially pertinent to the second component of course portfolio design and to the scholarship of teaching and learning that looks at the ongoing interactions of a course. Additionally, Duffy and Jones recount their use of portfolios as a dynamic tool for faculty development - a way of charting the progress and impact of classroom assignments and activities.

Golin, Steve. 1990. Four Arguments for Peer Collaboration & Student Interviewing: The Master Faculty Program. *AAHE Bulletin* 43 (4): 9-10.

The New Jersey Master Faculty Program pioneered the use of reciprocal classroom visits (in combination with student interviews and reflective writing/consultation) as a way for faculty - working in pairs - to examine and learn from their own teaching practice. Golin, who served as director of the program, provides both a rationale for its effectiveness and a brief step-by-step protocol. Evaluation of the program after five semesters (and participation by 300 faculty) indicates that faculty make major changes in their teaching as a result of the program.

Hakim, Musa Abdul. 2002. Navigating the Web of Discourse on the Scholarship of Teaching and Learning: An annotated Weblibliography. Association of College & Research Libraries: [<http://www.ala.org/acrl/resjuly02.html>].

Hakim - reference librarian at E.H. Butler Library, SUNY-Buffalo State, New York - has updated the first edition of this guide assembled to facilitate access to Web-based information on the scholarship of teaching and learning. It contains a sizeable sampling of organizations

and associations, programs, electronic journals, articles, tutorials and other resources about the many conceptions and forms this work has taken.

{The word “Webliography” first appeared publicly in the June 1995 issue of the journal *American Libraries* in a column by Karen Schneider about how librarians were using and creating resources on the Internet. It was probably coined by Steven Harris in 1994 while working on lists of useful web sites at Louisiana State University. The word was reported in 1997 in the “New Words” section of the journal *American Speech*, 72:424. Harris is now English literature librarian at the University of Tennessee.}

Huber, Mary T. 2001. *Balancing Acts: Designing Careers Around the Scholarship of Teaching*, *Change* 33:4 (21-29).

Huber discusses the careers of four scholars at doctoral and research universities who have made scholarship of teaching an important part of their academic work. A book length treatment of these case studies is in progress, and publication is planned for 2003.

Hutchings, Pat, ed. 1995. *From Idea to Prototype: The Peer Review of Teaching: A Project Workbook*. Washington, DC: American Association for Higher Education.

Readers will find in this spiral-bound workbook a collection of materials, examples, and tasks developed through a multi-university national project on the peer review of teaching. Faculty seeking to examine their teaching practice may be especially interested in the “three exercises” (behind tab 3) which provide a protocol for reflective writing about three components of teaching: 1) the syllabus, as a reflection of the scholarly argument behind the design of the course; 2) the activities through which that design is enacted from week to week; and 3) evidence of student learning. Many faculty in the project used their written responses to these exercises as the basis for a course portfolio; many also used them as occasions for reflective discussion with colleagues.

Indiana University Scholarship of Teaching and Learning Tutorial on the American Association for Higher Education Campus Program WebCenter: [<http://aahe.ital.utexas.edu>].

This tutorial is a “primer” ... “a useful grounding in the whole domain of SOTL-related topics” and a rich source of materials and faculty projects. Multimedia modules with text, photos, graphics, hyperlinks to other resources, audio and video clips, and interactive tasks make this a very practical site “that accommodates a broad continuum of familiarity and experience with the scholarship of teaching and learning.”

inventio: creative thinking about teaching and learning. Fairfax, VA: Division of Instructional and Technology Support Services (DoIT), George Mason University: [<http://www.doit.gmu.edu/inventio>].

A peer-reviewed electronic journal, *inventio's* first issue in February, 1999, focused on the scholarship of teaching and learning – definitions, and ways that campus practices, policies, and conditions work for or against a scholarship of teaching. Randy Bass’s article *The Scholarship of Teaching: What’s the Problem?* In this issue would be excellent reading for anyone questioning the intellectual basis for researching teaching practice. In the Spring of 2001 the first national issue addressed disciplinary boundaries in the scholarship of teaching and learning. Future issues will feature articles related to excellence in learning and teaching. Past issues are archived and accessible on the Web site.

The Journal of Scholarship of Teaching and Learning (JoSoTL), Indiana University South Bend: [<http://www.iusb.edu/~josotl/>].

This Web journal provides an electronic forum for the scholarship of teaching and learning. Recent issues include articles on active learning and critical thinking. A special focus issue on the scholarship of teaching is due in 2002. Authors and readers worldwide are invited to submit articles, resources, and comments. Manuscripts may be submitted anytime; the site has a rubric for evaluation for reviewers and authors. JoSoTL is published irregularly; support comes from Indiana University South Bend and the University Center for Excellence in Teaching, and there is no subscription fee.

Leamson, Robert. 2000. Learning as Biological Brain Change. *Change* 32, 6: 34-40.

Leamson, a professor of biology, makes a compelling and easy-to-read case that new discoveries about the biological basis of learning have important implications for all teachers in higher education. He lays out the biological evidence, a new brain model of learning developed from the evidence, the role of emotional involvement in learning, and the implications he sees in all of this for designing a pedagogy that produces learning. This article is adapted from a larger study of what first year students need to succeed in college: *Thinking About Teaching and Learning: Developing Habits of Learning with First Year College and University Students*, Stylus Publishing, 1999.

Learning and Teaching Support Networks (LTSN) in the United Kingdom: [<http://www.ltsn.ac.uk>].

The LTSN is a network of 24 subject centres and a single "Generic Centre" that promotes learning and teaching in the UK. The centres are housed in higher education institutions, and offer subject-specific expertise to members throughout the UK. They are also part of the coordinated network run by the Generic Centre to share resources and information about learning and teaching across subject boundaries. The website contains a recently published series of generic guides on important issues and practices in assessment that would be useful to higher education faculty in any setting.

Malik, David J. 1994. Peer Review of Teaching: External Review of Course Content. *Innovative Higher Education* 20 (4): 277-86.

Malik recounts efforts in the chemistry department at Indiana University Purdue University Indianapolis to institute a new approach to the evaluation of teaching, designed to supplement student ratings and to provide the kind of external scholarly perspective employed with research. Materials sent out for review (by senior faculty in the department), include course descriptions, syllabi, and reflective memos. Malik also reports on the usefulness to the department of new insights and different perspectives gleaned from external reviewers' comments.

Mezirow, Jack and Associates. 2000. *Learning as Transformation: Critical Perspectives on a Theory in Practice*. San Francisco: Jossey-Bass.

Fifteen top scholars and educators in the field of transformative learning join Jack Mezirow to "review the core principles of transformative theory, analyze the process of transformative learning, describe different types of learning and learners, suggest key conditions for socially responsible learning, and explore group and organizational learning." They support their perspectives with the latest research, and cite examples from their own experiences. A number of CASTL participants report that this volume has given them conceptual strategies and practical tools for helping their students understand the personal frames of reference – the assumptions and attitudes – that shape their thinking and behavior.

Morehead, Jere W., and Peter J. Shedd. 1996. Student Interviews: A Vital Role in the Scholarship of Teaching. *Innovative Higher Education* 20 (4): 261-270.

Morehead and Shedd argue that rich information from students, about their learning and their experience in a course, is a key source of evidence that should be used to document and review teaching. Additionally, the authors tell the story of their own use of interviews as grist for rethinking and reshaping practice.

Nelson, Craig E. 2000. How Could I Do Scholarship of Teaching and Learning?: Selected Examples of Several of the Different Genres of SOTL, [<http://php.indiana.edu/~nelson1/GENRES.html>].

Believing that good practices of good faculty should be made public, Nelson has created a selective and rich collection of resources for understanding and doing the scholarship of teaching and learning. His groupings and annotations are idiosyncratic, based on years of teaching, and a deep commitment to pedagogy and student learning. This would be a useful site for faculty wondering how to begin investigating their teaching practice, as well as for those looking for a resource on a specific topic in this area.

Perry, William G. Jr. 1999. *Forms of Intellectual and Ethical Development in the College Years: A Scheme*. Jossey-Bass Publishers: San Francisco.

Originally published in 1970, this landmark book established a framework for characterizing cognitive development across genders and cultures that has remained the cornerstone for much of the student development research that followed. Perry uses a nine-stage model that moves students from a simplistic, categorical view of knowledge to a more complex, contextual view of the world and themselves. His work demonstrates that the nature of intellectual development rests as much on the processes educators use as on the content.

Prosser, Michael, and Keith Trigwell. 1999. *Understanding Learning and Teaching: The Experience in Higher Education*. Buckingham, United Kingdom: Open University Press.

Prosser and Trigwell argue that university teachers can improve the quality of student learning by determining how students perceive their unique learning situations. The authors draw upon the considerable body of educational research into student learning in higher education developed and published over the past three decades. A sampling of chapter titles includes: A model for understanding teaching and learning in higher education; Students' prior experience of learning; Students' perceptions of the learning situation; Students' approaches to learning; and Students' learning outcomes.

Shulman, Lee. 1995. Faculty Hiring: The Pedagogical Colloquium: Three Models. *AAHE Bulletin* 47 (9): 6-9.

Having proposed the idea of the pedagogical colloquium in an earlier piece ("Teaching as Community Property" in Section I), Shulman here suggests three protocols for its conduct. "One of the puzzlements about the pedagogical colloquium," he writes, "is what, exactly, we would want the candidate to talk about" (6). Three possible models are presented: the course narrative, in which the candidate explains the shape or "argument" of a selected course/syllabus; the colloquium in which the candidate talks about how to teach a key concept or idea in the field; and the dilemma-centered colloquium, in which the candidate reflects publicly on some problematic aspect of teaching, e.g., the right balance between breadth and depth. These models might be useful frameworks for inquiry in a variety of settings - not only faculty hiring.

Shulman, L.S. 1999. Taking Learning Seriously. *Change* 31, 4: 11-17.

To take learning seriously, Shulman says, one must create a scholarship of teaching in which the successes of learning are professed, understood, and enhanced, and its pathologies treated. He identifies the pathologies as *amnesia*, *fantasia*, and *inertia*: "we forget, we don't understand that we misunderstand, and we are unable to use what we learned" (12). Shulman proposes that these pathologies of learning can be remedied through scholarly investigations of teaching practice that are exchanged and built upon to foster deep and lasting learning by students. This article was adapted from an address given at the AAHE National Conference on Higher Education in Washington, DC. in March, 1999.

Tomorrow's ProfessorSM Listserv, Stanford University Learning Laboratory:
[<http://sll.stanford.edu/projects/tomprof/>].

Under the sponsorship of Stanford's Learning Laboratory, the listserv - "desk-top faculty development, one hundred times per year" - is a twice per week set of postings on higher education sent electronically to subscribers. The website has instructions for subscribing. Of particular interest is the area called Tomorrow's Teaching and Learning, with postings for promoting contemporary thinking on ways to improve teaching and learning. A search of the archive for that area produces more than a hundred postings with such titles as Learning from Teaching, The Scholarship of Teaching, Creating a New Taxonomy of Higher-Level Learning, and Scholarly Reflection about Teaching. One can access the archive without subscribing at, <http://sll.stanford.edu/projects/tomprof/newtomprof/>

University of Wisconsin Teaching Assistant Program:
[<http://www.cae.wisc.edu/%7Etafellow/homepage.shtml>].

Like many programs, the College of Engineering at the University of Wisconsin–Madison sees considerable turnover among TAs, making it difficult for the program to learn from and build on teaching practice from semester to semester. To address this problem, a group of TAs proposed and pioneered the use of course portfolios. For a complete description of the program, the handbook, and TA reflections, go to:
http://www.cae.wisc.edu/~tafellow/tafellow_96_97.shtml.

Wiggins, Grant and McTighe, Jay. 1998. *Understanding by Design*. Association for Supervision and Curriculum Development: Alexandria, Virginia.

The authors have provided both an exploration of what is meant by "understanding" and a process for designing curricula and assessments to enhance understanding. The authors propose that teachers work backwards when planning a course or unit of study, starting with a determination of what evidence of student understanding will be required to meet the learning objectives, and then what knowledge and skills will be needed to provide that evidence. They offer six indicators of student understanding to use in the design process: explanation, interpretation, application, perspective, empathy, and self-knowledge, and provide concrete, practical ideas for curriculum, assessment, and instruction. Excerpts from a companion workbook (McTighe and Wiggins) can be viewed online:
<http://www.ascd.org/framebooks.html>].

The *Understanding by Design* Exchange – an interactive website for the development and peer review of curriculum units – contains an electronic template for unit design, tutorials, a searchable database of curriculum units, and an ask-the-authors section. Units posted to the database can be peer reviewed by subscribers and UBD experts. There is an annual subscription fee: [<http://www.ubdexchange.org/default.html>].

Wiske, Martha Stone, ed. 1998. *Teaching for Understanding: Linking Research with Practice*. San Francisco: Jossey-Bass Publishers.

This book is the product of a six-year collaborative research project of school teachers and researchers at the Harvard Graduate School of Education. Although it focuses on pre-collegiate teaching, it is applicable to university-level teaching as well. According to the TfU model, there are four fundamental elements in teaching for understanding – generative topics that afford possibilities for deep understanding in a subject, goals that explicitly state what students are expected to understand, performances of understanding through which students develop and demonstrate understanding, and ongoing assessment. The book provides interesting examples of these elements from actual classrooms and examples of student performance. This volume would be valuable for any instructor who views better student understanding as a primary goal of the scholarship of teaching.