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Beyond Lines on the CV: Faculty Applications of Their Scholarship of Teaching and Learning Research

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Abstract

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Keywords

Application, Applying SoTL, Using SoTL, Impact of SoTL

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Introduction

Writers have discussed the many positive functions or types of potential impact of scholarship of teaching and learning (SoTL) work (e.g., Ciccone, 2008; McKinney, 2007). The most important function of SoTL, however, is to improve teaching and enhance student learning. Yet, specific, concrete applications are not always discussed in the published SoTL literature (McKinney, 2004) and are limited by a number of problems and gaps (McKinney, 2003). Past work tends to discuss or document the impact of SoTL on the faculty engaged in SoTL (e.g., Schroeder, 2005) or on the campus culture (e.g., Cambridge, 2004) rather than to focus on the applications made directly to teaching and learning at various levels. There seems to be a largely untested assumption that such applications are taking place. The purpose of our study was to assess the frequency and type of applications of SoTL results to teaching and learning at our institution. Attitudes about the practical value of SoTL, and supports for and barriers to greater application were also assessed. SoTL is defined here as the systematic reflection or study of teaching and learning made public.

There are multiple possible levels and forms of application of SoTL work (Ciccone, 2008; Huber & Hutchings, 2005; McKinney, 2007). SoTL work can be used to inform and

transform teaching and learning in the classroom, program, department, institutional, discipline, and broader higher education contexts. For example, at the classroom level, SoTL can be used to help with course design or redesign as well as to develop from the process of course design or redesign. Three recent, practical books are relevant sources on this level/type of SoTL application: Bernstein, Nelson, Goodburn, and Savory's guide to course portfolios (2006) and their use in fostering campus collaboration related to enhancing student learning; Richlin's book on constructing college courses (2006); and Wehlburg's book on meaningful course revision (2006). In addition, Savory, Burnett, and Goodburn (2007) offer several examples of classroom inquiry and application of results.

At the program level, SoTL work can guide curricular changes. At the department level, budget requests can be enhanced by referring to SoTL work. At the institutional level, SoTL work might be relevant to strategic planning, program reviews, or assessment processes. Weimer offers some suggestions for administrators related to improving and using SoTL (2006). In many disciplines, SoTL can be used to guide the writing of documents about best practices for teaching and learning in the discipline or to structure teaching workshops at annual meetings.

Application may be of one's own SoTL research results to improve the learning of students. This is important and, perhaps, the heart of SoTL but there is also the value of applying the SoTL work of others. Walvoord (2000) discusses how readers of SoTL can use others' work as a "heuristic" with several possible benefits. These include offering viewpoints and techniques the reader may have never considered; providing a range of diverse ideas such that the reader can pick and try one or two; presenting a theory or model that could be adapted to fit a new situation, context, or culture in which the reader lives and works; and, through many pieces of SoTL work, offering the reader a sense of important patterns common to an area of SoTL work.

Kreber (2007) discusses SoTL as authentic practice. She argues that SoTL scholars should explore "how to create the vital connection between themselves and the 'subject', themselves and students, and students and the 'subject'" (pg. 3). For SoTL to become authentic practice, Kreber states that the work must be rewarding to those involved, rewarded by others, and "geared towards building vital bridges between themselves, their students and the 'subject matter' (broadly conceived), so that SoTL will succeed in enriching the student learning experience" (pg. 3).

Lack of application of SoTL results can be enumerated in terms of several gaps or failures in application (McKinney, 2003, 2007). These gaps include the following:

- discussions of how the results or conclusions of SoTL work can be applied are not included in presented or published work;
- application is rarely at levels other than the individual classroom (e.g., program or institutional levels);
- past SoTL knowledge or literature is often not used to inform or enhance application; and
- involvement of individuals in the application of others' SoTL work is not routine or widespread.

There are some limited data on the application of SoTL work. For example, Cox, Huber, & Hutchings, (2004), in a survey of Carnegie Scholars, included several relevant items. Ninety-three percent of the scholars agreed or strongly agreed with the statement, "I have changed the design of my courses since becoming involved in SoTL." Similarly, 92 percent agreed that "I have changed the kinds of assessments I use in my courses as a result of my participation in SoTL." Finally, 81 percent agreed with the item, "I have documented improvements in my students' learning since becoming involved in SoTL." Sixty-three percent of respondents at one public institution said they had "used SoTL (own or others) to improve teaching and learning" (McKinney et al., 2004).

Another way to estimate the application of SoTL is to look at the frequency and type of application of results by the author(s) of published SoTL articles noted in those articles. One such exploratory study used articles and notes in two issues of *Teaching Sociology*, five years apart (McKinney, 2004). About 50 percent of the articles and notes included a brief discussion of how the authors themselves made or planned to make changes based on what they learned from the study at the local, individual, and class or course levels. Less than a fourth of the papers contained any discussion of application beyond the individual faculty member and classroom, such as discussion of the implications of the findings for other instructors or students in other settings or at other levels.

In summary, there has been previous discussion about application of SoTL results including possible forms of application, how to do application, and some examples of application. Notably, there is limited empirical evidence of application and primarily at the course level. The purpose of this exploratory and descriptive study was to assess the frequency and types of concrete applications of SoTL results to teaching and learning at one institution. Respondents' attitudes about the practical value of SoTL as well as views of supports for and barriers to greater application were also measured.¹ The results from this study add to the very limited public documentation of the application of SoTL and offer readers relevant literature and ideas about methods to assess application.

Research Methods

We used three types of data for this descriptive study. Because the population of grant recipients was small and in order to obtain a sense of SoTL application by a more general (not just grant recipients) population, triangulation was important. Our three types of data involve two different methods (questionnaires, focus groups) and two different populations (SoTL internal grant recipients, all faculty members). Thus, validity in this study relies on the total of the three types of data and the common findings across these types of data and participants. First, there was a self-administered email questionnaire created for this study and sent to a target population consisting of 20 faculty and teaching staff who were recipients of one or more internal SoTL small grants at this institution between 2002 and 2006 and were still available on campus.² After obtaining Institutional Review Board approval, the participants received an email message containing a detailed informed consent statement and the questionnaire as an attachment. They were told their participation was voluntary and confidential, and that they could return the questionnaire via email or campus mail. A follow-up, reminder email was sent about three weeks later.

Of twenty grant recipients still at the university and contacted, ten (50%) completed and returned the emailed questionnaire. Respondents (mean age = 49) had an average of 15.9 years teaching at the college level. Eight of the ten respondents were female (15 of the 20 grant recipients were female). Reflecting the number of faculty in the colleges, the largest percentage of respondents (4 of 10) was from the College of Arts and Sciences followed closely by three from the College of Applied Sciences and Technology. Two people were from the College of Business and one person represented the College of Education. None of the respondents were from the College of Nursing or the College of Fine Arts.

The questionnaire contained demographic items (gender, age, years taught at college level, academic college). The remaining questions were both closed and open-ended and focused on respondents' applications of SoTL results from their locally funded grant study as well as other SoTL work they have done or read. The questions inquired about frequency of application, level of application (e.g., classroom, program, and department), specific examples of application of SoTL results, supports for greater application, barriers to application, and perceptions of the value of application and the frequency of application of SoTL work in the department, college, and university.

The second type of data consisted of qualitative comments from a focus group of four members from the same population of 20 local grant recipients. We held the hour-long focus group in a conference room in an academic building on campus and, with permission, audio recorded and transcribed the conversation. The focus group discussion questions included the following:

1. Please describe, specifically, one change or innovation or improvement, etc. you made to improve teaching and learning that was based on the results or implications from your SoTL grant study. Please describe, specifically, one change or innovation or improvement, etc. you made to improve teaching and learning that was based on the results or implications from SoTL work, yours or others, but other than your SoTL grant.
2. What prevents you from or what are the barriers to doing more application of any SoTL results to your teaching and to improve student learning? What would help you do additional application of SoTL results to your teaching and student learning?
3. What role, if any, does your department or do your department colleagues play in the application of your SoTL work? Do you think your department, college, or the university uses SoTL results for planning or decision making? How often? Can you give an example?

Finally, we analyzed the data from several relevant items on a 2007 online questionnaire sent to just over 1,000 of our faculty members about the status of SoTL on our campus (McKinney, et. al, 2008). After one follow-up reminder, we received responses from 152 (15%) of these individuals. The relevant items included several statements to which participants were to respond on a scale of 1=strongly disagree to 5=strongly agree. The items were "Results from SoTL are used in my department;" "SoTL has practical value for teachers;" and "SoTL has practical value for institutions of higher education." In addition, the responses to two open-ended items were analyzed. These items were "What do you see as the benefits, if any, to pursuing the SoTL for faculty, staff, students, institutions of higher

education, and/or the community at large?" and "If you have used SoTL work, please give one example of how you have done so."

Results

Application of SoTL Questionnaire

All ten respondents had applied or used the results and implications of their own SoTL Small Grant study to improve their teaching and/or student learning with half reporting that they had used such results "A Great Deal." The respondents spoke of numerous changes, innovations or improvements made to enhance teaching and learning based on the results or implications from their own SoTL grant work. These were categorized into the following themes or areas of application. Specific examples are also given.

- Environment/situation of class (improved communication, cooperation, and solidarity; learned to effectively handle problems; adapted schedule in on-line class to reflect learner preferences);
- Reflection or feedback to teacher (evaluated course assignments to ensure desired effect; realized importance of student feedback to reevaluate a course);
- Assignments (added a service-learning component to an additional course; changed to fewer lectures and more experiential learning activities); and
- Teacher behaviors to support learning (integrated student experiences into study of culture on international business; used more teacher immediacy behaviors; let students know different reading strategies and related them to learning styles; more often used rubrics for self-assessment by students).

Respondents also indicated that the implications of the results of their SoTL small grant work occurred at several levels including the individual, class/course, and program levels; however, no one indicated implications of their work at the departmental, college or institutional levels.

Respondents offered the following practical advice specifically for enhancing learner autonomy, a focus of the SoTL work at our institution in some years, derived from their SoTL small grant results.

- Use active or experiential learning tasks (hands-on learning; having students use technology);
- Use student self assessment or reflection (students need to learn reading strategies and their own learning style; students should be taught to self-assess and to use that in the future; students can do self placement into a course option); and
- Change teacher behaviors (instructors should emphasize quality of discussions rather than quantity; instructors can use teacher immediacy behaviors; instructors can encourage students to seek information on their own before giving it to them).

When asked whether colleagues had applied or used the results and implications of the respondent's SoTL Small Grant work to improve teaching and/or student learning, six of the ten respondents indicated that this had occurred and gave some evidence for how they knew this (e.g., from direct responses and interactions with colleagues in their own or other departments, from seeing work published on a website that stemmed from their grant work, or from graduate students who were working on a research project related to their SoTL Grant).

Respondents indicated that funding, time for research, and partnering with someone who has similar SoTL interests would help them accomplish additional application of their SoTL grant results to their teaching and their students' learning. They also reported that lack of these same resources hinders them from applying their work to improve teaching and learning to a greater degree. Contextual variables were also noted as supporting and/or hindering applications of SoTL Grant results. These variables included that they were no longer teaching the course that their SoTL Grant concerned or that was appropriate for their SoTL questions, or they had changed positions.

Respondents also indicated that they had frequently used/applied their own or others' SoTL work (other than or in addition to their own SoTL small grant) in an attempt to improve teaching/learning (6 of the 9 who responded to this question indicated that they had "often" used SoTL work in this way and 3 said they "sometimes" had used SoTL work in this way). Seven respondents said they had used the SoTL work of a colleague(s) to help them in their classes. Examples include the following:

- Applied work on teaching social justice.
- Prepared their teacher education students to lead teacher learning in local schools and districts.
- Incorporated a mid-semester learning assessment and adjusted teaching strategies.
- Incorporated ideas from literature on teacher immediacy and learner autonomy into own courses and own SoTL work.

The majority of the respondents indicated that they strongly agree that SoTL has practical value for students (9 of 10 respondents), institutions of higher education (9 of 10), and the community (7 of 10). There was also agreement that SoTL work in one's discipline is important for good teaching but only half the respondents indicated that results from SoTL work were used/applied in their department. Those respondents reported that, based on their observation or experience, their department made use of SoTL results for department decisions (e.g., strategic planning, budgets, program review, curricular reform, etc.) rarely (45%), sometimes (45%), or often (11%). Results regarding such use in their college or the University as a whole were less strong with virtually all respondents indicating their college and the University sometimes to rarely used SoTL in making important decisions. When asked to briefly describe or list concrete, specific examples of how any SoTL results have been used at their department, college, or University level(s) three of the ten respondents indicated SoTL work had been used to improve communication and co-teaching,

assessment, standardization of grading across sections of a freshman general education course, accreditation, and strategic planning.

Focus Groups

The audio-taped focus group data revealed a variety of types of applications. One faculty member indicated that he used SoTL data about feedback on assignments to make adjustments in his class. Specifically, he altered assignments such that additional turn-around time was given for parts of projects and to do library work as students said these were big issues for them in his class. This faculty member also indicated that SoTL pretest data showed that students had “library anxiety” and some students did not know “what floor of the library the material for the discipline was even on.” The faculty member went on to indicate that

“We required...more library consultation with librarians as a response (to SoTL survey data) because we weren’t getting the quality of resources and materials that we wanted them (the students) to have for the papers we were requiring. We gave them hands on with a librarian to sort of facilitate that and hoping that they would then use that knowledge in the extra classes they had, sort of take the fear out of the library which doesn’t seem like a fearful place but for some reason it seems to be.”

This faculty member said that his attributions for poor student performance were called into question after he collected data such that he no longer perceived students to be unmotivated. Rather he ascertained they were overwhelmed with assignments and had poor time management skills.

Another faculty member, in computer science, indicated that her students evidenced a high failure level so she instituted a time management protocol that she systematically studied in a SoTL project. The protocol was found to be highly successful and the results were published in a well-respected journal on college teaching. She was aware that the protocol had been adapted for other courses in other disciplines such as in speech and hearing.

A faculty member in agriculture used SoTL work from an Agriculture Contest Project across multiple classes to make course content revisions to improve student learning. Teams of students raised and sold crops on the University Farm, making all decisions and doing all the labor themselves. He indicated that a sort of “consciousness (about the way the contests enhanced learning about business in agriculture) was raised (across classes).” In this way, his SoTL work had a program level impact.

Finally, a staff member indicated that, based on SoTL data, students were allowed to do on-line self-directed placement into particular levels of freshman writing classes. Success rates of students experiencing three different placement options were systematically tracked in a SoTL project and the good news was that no harm from any of the options was evidenced. Rather, increased student satisfaction at the program level was found in students who did self-directed placement (but not increased grades). The staff member indicated “...it had effects for the program and it had applications for....the discipline.”

In response to questions about barriers to doing more application of SoTL work, focus group participants responded that their own time management was a factor impeding their ability to do SoTL and apply the findings of their work and the work of others in their classes. In addition the following barriers were noted:

- “We don’t share our findings enough;”
- “It is sometimes hard to see how SoTL in another discipline applies to mine;”
- “There are a limited number of people who know what SoTL is and who value it;”
- “There are tenure chase considerations to making this a research agenda, the need to learn new methodologies constrains us somewhat;” and
- “Resources (time and money) are lacking to support this work.”

When asked about what would help them do additional work, the participants gave the same list of things such that adequate time and peer support (reading retreats and writing circles), adequate reward for SoTL in promotion and tenure considerations, and adequate funding of the research itself were essential for them. The group members also discussed university level support of SoTL in the idea of having SoTL grants more often supported through the general university research grant program (in addition to the smaller SoTL grant program).

Some of the responses spoke to weak department and college roles in the application of SoTL but one participant noted specifically that he is now in a chairperson role and, thus, able to promote SoTL at the departmental level and beyond. This participant indicated that program level changes are being discussed in his department such that an experimental class in which a SoTL project tested and supported increased student learning through the use of a seed contest (Agriculture) could become a capstone course for the major.

Status of SoTL Questionnaire- Application Items

Eighty-one percent of the 152 general faculty and instructional staff respondents reported they use SoTL to improve teaching/learning. On a 1= strongly disagree to 5= strongly agree scale, the mean response to the statement “SoTL has practical value for teachers was 4.14 and the mean on “SoTL has practical value for institutions of higher education” was 4.07. Finally, the mean response to “Results from SoTL are used in my department” was 3.21. The number of respondents from various departments limits comparisons, however, a significant difference ($p < .05$) by college was found for “Results from SoTL are used in my department” such that those in the Colleges of Education, the Library, and Nursing reported stronger agreement with this statement than those in the Colleges of Arts and Sciences, Applied Science and Technology, Business, and Fine Arts.

In response to an open ended question, “What do you see as the benefits, if any, to pursuing the SoTL for faculty, staff, students, institutions of higher education, and/or the community at large?” 93 of the 152 respondents listed 99 benefits. Of these, 62 fell in the category ‘to improve teaching and learning’. Respondents were also asked, “If you have used SoTL work, please give one example of how you have done so.” The 63 responses included the following categories: ‘Changed something about teaching/course as result of others’ work’ (40); ‘Changed something-but the source of the SoTL used was not clear’ (13); and ‘Changed something as a result of own SoTL work’ (10). Several quotes from various respondents of examples of SoTL applications of different types follow.

"I read the education journals in chemistry and try to apply some of what has been published, recently the incorporation of the 'Molecule of the Week', into my fundamentals course."

"Created learning activities based on the published work of other historians on teaching history."

"Nothing published (and this is what I should work on)...but in my own teaching, obtaining informal and formal comments from my students on various activities and getting their feedback on them, and then making changes accordingly."

"Developed a performance-based (that is, dramatic) assignment through input from a few SoTL workshops."

"From attending the workshops before each semester, I have learned new ways to put together writing projects; in turn, assignments were re-thought and re-written to better reflect my expectations. I've learned more ""theory"" about certain teaching styles and have tried to apply these things to syllabi, homework, and presentations/lectures."

"Keeping detailed results of each iteration of the senior project allows me to make succeeding versions better (I hope)."

"I compared two sections of a course, one which used a new pedagogy and one which did not. I compared the answers to questions at the end of the semester and decided to use the new pedagogy again because of the demonstrated enhanced learning."

Results Common Across Multiple Methods/Data

Summarizing the main findings common to two or three of the data types, then, faculty recipients of internally funded SoTL grants as well as faculty overall at our institution reported positive attitudes about SoTL and its practical value to improve teaching and learning. In addition, respondents reported fairly high levels of using SoTL work –their own and/or others-- to improve teaching and learning. The grant recipients, more specifically, indicated applications related to changes to the class environment or situation, new or additional reflection by or feedback to the instructor, changes in assignments, and changes in teacher behaviors. The applications provided in all three sources of data as well as the responses to attitude items, however, indicate that SoTL is used at the classroom, and sometimes the program levels, rather than at the department or college or institutional levels. Finally, respondents indicated increased funding, more time, collaboration with colleagues and students, and certain situations (e.g., teaching a particular class) would all be supports for greater application of SoTL results.

Discussion

One strength of this exploratory, local study on the application of SoTL results is the use of three sources of data and the common findings across these data types. The results of this study of faculty application of SoTL work, however, should be viewed taking into consideration the nature of the respondents. Some of the data comes from a small group of

SoTL grant recipients. It is likely that such instructors are more aware of and interested in SoTL work and its uses than those not receiving SoTL grants. The remaining data comes from a survey of faculty members overall but there could be a response bias in who completed this survey with instructors more aware of and interested in SoTL being more likely to respond. Thus, the degree of application found in this study could be an over estimate relative to a probability sample of all instructors. On the other hand, the results may represent an increase in scholarly teaching on our campus as a result, perhaps, of recent changes in graduate training, institutional support and expectations, faculty member priorities, and values in the broader higher educational scene. Our results, showing high levels of application at the course level, support those found by Cox et al. (2004). They surveyed Carnegie Scholars (who received funding and peer support to do SoTL work) and found 80 to 93 percent of the scholars agreed with positive statements about making applications from SoTL work.

Respondents reported applying not only their own original SoTL results but also the findings of SoTL studies conducted by others. This finding fits with Walvoord's (2000) arguments about the benefits of using the SoTL work of others. Kreber's (2007) ideas about authentic practice and the importance of interpersonal connections and reward (among other things) to create this authentic practice relate to two of the supports for application noted by the respondents in this study: funding and collaboration.

The finding across these three data sources that the vast majority of SoTL applications are at the course level with some at the program level but rarely at the department, college or institutional levels is not surprising. The history of SoTL is that it is work at the classroom level –classroom inquiry, scholarly teaching-- as well as discipline-specific. This is also the level at which faculty have the most control and often the most vested interest to readily make changes based on SoTL work. Yet, as noted by various writers (e.g., Ciccone, 2008; McKinney, 2007), the impact of our SoTL work is limited if we fail to learn from it and apply it at these broader levels. Huber and Hutchings (2005) discuss the critical importance of creating and supporting a teaching commons—social, physical, and intellectual spaces at various levels such as departments, institutions, organizations, and nations. Recently, however, there has also been discussion and debate on the pros and cons of the role of the discipline in SoTL and interdisciplinary SoTL. Some of this debate was captured in brief essays in a recent issue of *The International Commons* (2008).

This movement to add cross-disciplinary and interdisciplinary SoTL efforts and, thus, application of SoTL beyond the local classroom and department levels, requires a cultural shift for many departments and schools. Involving more faculty and staff in SoTL at any level and in reading SoTL work is necessary but not sufficient for such application. Helping people become aware of SoTL results in other disciplines can be increased by improving library holdings of SoTL journals and SoTL discipline-based journals, by sponsoring interdisciplinary SoTL learning communities or SoTL grant teams, and by creating a website of local SoTL results from all disciplines for faculty use. Using existing processes and initiatives is one way to integrate the application of SoTL at these more macro levels (e.g., strategic planning, budget process, accreditation, and curricular reform). Those who establish forms and processes for budget requests can require that such requests be justified with the results of relevant SoTL research or can make that optional but can privilege those requests that do so over those that do not. Similarly, administrators or committees reviewing department or college strategic plans can require a section on how results of SoTL studies lead the authors of the plan to the vision and action items they

propose. Outlines and forms for program reviews, for internal purposes or accreditation, can include questions on the relevance of SoTL work to the characteristics, goals, and strengths of the program.

Our results also imply that resources, broadly defined, are critical for the application of SoTL work. These resources include time to create and make applications; funding for additional related research or for course redesign, creating new assignments, etc.; collaborations with others such as colleagues and students to help analyze and implement applications; and special situations or opportunities (e.g., being assigned to teach a particular class or having a particular role on a curriculum committee). Those on campuses working to increase the use of SoTL to improve teaching and learning should design opportunities for faculty and staff that meet these needs. Such opportunities, some of which do exist on many campuses, include small grant programs with requirements and funding for time to create applications or conduct follow-up studies (e.g., course reassignment, summer salary); funds for conference travel or publication costs to make the SoTL results public for others to apply; appropriate recognition in the institutional reward structure for improving one's teaching and student learning by applying SoTL results; resources for SoTL circles or communities for sharing and discussion of applications; and local outlets for making the SoTL studies and implications public such as a campus SoTL research symposium or publication.

Future research is needed on application of SoTL work. Studies similar to that reported here should be replicated at other institutions and in cross-institutional samples. Improving the methods used to try to measure the application of SoTL beyond the classroom level is important. In addition to questionnaires and focus groups, we can gather data on this issue through individual face-to-face interviews, by analysis of grant recipient internal post-project reports (if required), and by analysis of course or teaching portfolios. Additional research to identify supports for and barriers to SoTL application is needed. Finally, a focus on how to obtain greater breadth of involvement in the application of original or others' SoTL work to improve teaching and learning is critical.

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¹ Though SoTL work generally focuses on student learning and development, the purpose of this paper is to look at faculty applications of SoTL work. Thus, this paper is about an issue in the field of SoTL. The results related to student learning from the various, specific SoTL studies supported by the grants have been and are being written up, presented, and published by the grant recipients in various outlets. In addition, we are part of a writing team working on a chapter for an edited volume that will have some of the results related to student learning. Brief reports or web snapshots of some of these projects and the student learning results can be found at <http://www.sotl.ilstu.edu/examples/>.

² The focus of these SoTL grants was on student engagement, values in our institutional strategic plan or some aspect(s) of learner autonomy, broadly defined. Proposals were solicited, via fliers mailed to faculty and on-line announcements, from faculty-staff-student research teams and were then reviewed by three faculty from a variety of disciplines with experience doing SoTL. The top rated SoTL proposals were then funded for one year with a small grant (about \$4,000 to \$5,000). Each funded team sent at least one team member to participate in a monthly research circle/community with members of the other funded teams for that year. All teams were obligated to make their work public in a variety of ways.