

## Facilitating Faculty Getting Started in SoTL: Reflections by Two Carnegie Scholars

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*Abstract: SoTL has been embraced as a viable approach to professional development for higher education faculty. Workshops and programs of various types and lengths have offered guidance and provided mentorship for SoTL novices. Many books, manuals, and websites describe how to undertake a SoTL investigation, but far fewer sources of advice exist for those assisting faculty beginning in SoTL. In this article, two Carnegie scholars reflect on their experiences and lessons learned helping others join the SoTL community. They discuss common characteristics of the new scholars they encountered and the types of assistance, both intellectual and institutional, that the scholars needed. They offer advice and suggest resources for working with new SoTL scholars and describe some of the benefits that accrue from this work.*

*Keywords: Scholarship of teaching and learning, SoTL, faculty development, SoTL scholars, mentoring*

### Introduction

Increasingly, the scholarship of teaching and learning (SoTL) is seen as a valuable form of professional development for college and university faculty (Adams, 2009; Elton, 2009; Fanghanel, 2013; Hutchings, Huber, & Ciccone, 2011; Trigwell & Felten, 2011). A number of books, manuals, and websites describe how to undertake a SoTL investigation. Books written for faculty in any discipline include Bishop-Clark and Dietz-Uhler (2012), Blythe, Sweet, and Carpenter (2017), Gurung and Schwartz (2009), and McKinney (2007). Some “how-to” guides are intended for faculty in specific disciplines. For example, the two volumes edited by Bunce and Cole (2008, 2014) were written for chemists; Dewar and Bennett (2015) targeted mathematicians; Dewar, Bennett, and Fisher (2018) aimed at a broader audience of scientists, engineers, and mathematicians; and Ginsberg, Friberg, and Visconti (2012) addressed those in the disciplines of speech-language and audiology.

Many edited SoTL volumes focus on particular themes and contain examples of SoTL from a variety of disciplines. Huber and Morreale (2002) examined disciplinary styles in SoTL. Gurung, Chick, and Hayne (2009) explored how different disciplines helped students think like disciplinary experts. McKinney (2013) highlighted interdisciplinarity in SoTL. Chick (2018) aimed to reveal critical moments in the doing of SoTL.

However, our literature search turned up far fewer sources of guidance for those taking on roles as mentors or advisors to beginning SoTL scholars. The literature is full of examinations and reflections on peer mentoring in the academy in general, but these rarely reference SoTL. The main discussions of SoTL mentoring in academic journals focus on examples of institutional structures fostering the work (Fanghanel, 2013; Hubball, Clarke, & Poole, 2010; Marquis, 2015; Michael, Case, Danielson, Hill, Lochbaum, McEnery, & Perkins, 2010). The faculty learning community approach to

supporting new SoTL scholars is well-documented (Beach & Cox, 2009; Cox, 2003, 2004). Phillips & Dennison (2015, Chapter 2) offers a template for coordinating mentored groups that can be adapted to SoTL purposes. Some articles also track participant outcomes or concentrate on the results of specific sites or types of mentoring activities (Miller-Young, Yeo, & Manarin, 2018). Challenges to doing SoTL are often mentioned and occasionally an approach a scholar can use to overcome them. Hubball et al. (2010) describes in rather general terms three things that successful mentors should do (modelling SoTL practice, facilitating SoTL research, and enabling SoTL networking). In the Foreword to Phillips and Dennison (2015, p. *xix-xii*), Cox discusses how three well-known structural development theories (Baxter Magolda, 1992; Belenky et al., 1986; Perry, 1970) could be operationalized for mentoring faculty, but we found no source focused on details of the process of SoTL mentoring at a finer grain.

## Background

The authors, both Carnegie scholars but from different cohorts and in very different disciplines (Dewar, 2003–04 in mathematics, and Perkins, 1999–2000 in theater arts), met while mentoring small groups of novice SoTL scholars in the National CASTL (Carnegie Academy for the Scholarship of Teaching and Learning) Summer Institute that had been developed as part of the Carnegie Institutional Leadership Program.

After the CASTL program ended, the Summer Institute continued for three more years under the name International Institute for SoTL Scholars and Mentors (IISSAM). Like its predecessor, IISSAM was a four-day event focused on mentoring several dozen beginning SoTL scholars for the duration of the program. Institute participants included not only scholars and their mentors, but also other faculty interested in learning about SoTL and faculty developers interested in facilitating SoTL projects on their campuses.

Scholars were placed into mixed disciplinary cohorts of four with one experienced SoTL scholar assigned to “facilitate” each cohort. A distinctive feature of the Institute was the collaborative, supportive atmosphere, wherein scholars reported on their project ideas and received suggestions and feedback from the three other scholars in their cohort and from other attendees at their session, as well as from the assigned “facilitator.” These meetings also provided workshops to develop SoTL research skills and featured plenary speakers to inspire and challenge attendees.

Although called “mentors,” the small cohort facilitators were not expected to undertake responsibility for long-term mentoring. They acted as introductory guides, initially responding to each scholar’s proposed project, and then as facilitators by coordinating the ensuing open discussion process during the Institute and providing a summary of the discussion and any additional advice of their own. After the end of the four-day Institute there was no formal mechanism for further contact. A few scholars contacted their mentors later on, sometimes to ask for comments on a draft of the paper they were preparing for submission to a journal or for help in locating a reference. Though not designed as faculty learning communities per se, these short-term gatherings strove to create a type of community that encouraged positive and supportive interchange where all participants were willing to offer ideas and to entertain suggestions by other attendees, even those in other disciplines. The feedback mechanism built into the structure of the Institute was one factor in promoting this type of sharing. Another was how the group facilitator clarified the process and set expectations both before and at the Institute. However, as Phillips and Dennison (2015, p. 16) noted, not all groups will “bond to a degree that they are ready to begin helping one another work on the concerns or challenges.”

As new group facilitators were brought on board to replace those who dropped out of the role, Dewar was asked to draft a manual to help orient them to the Institute’s somewhat unusual format. Doing that necessitated a consideration of what it would be most important for new mentors

to know, not just about the Institute format, but about the scholars they would be working with, in particular their characteristics and needs. Over time, conversations between the authors about their experiences with new scholars, led them to realize that despite their different disciplinary backgrounds they had much the same view of what mentors could expect to encounter and to find challenging about the task of guiding new SoTL scholars.

This article represents a synthesis of the authors' experiences and perspectives. It begins by describing common characteristics of the beginning SoTL scholars we worked with and the sorts of guidance they sought. It then moves on to a discussion of the types of assistance new scholars may need and ways to provide that assistance. Broadly speaking, these needs fall into two categories: intellectual and institutional. The intellectual needs are framed in terms of challenges novices encounter as they move through the SoTL investigation process. Some, but not all, institutional challenges also reside within the SoTL investigation process. We give a brief description of these as well. Throughout we provide specific suggestions and general resources for engaging with and supporting beginning scholars applicable to both one-on-one and group contexts. The article closes with a discussion of the benefits that accrue to those who attempt to orient new SoTL scholars.

### **Characteristics of Beginning SoTL Scholars**

In our experience, faculty who get interested in doing SoTL and apply to a program that provides mentoring for SoTL projects are inspiring, passionate, and reflective teachers. It was common for the budding SoTL scholars we worked with to have experimented with innovative teaching methods or technology, such as “flipped” classrooms, inquiry-based learning, service learning, incorporating games, journaling, or using classroom response systems or recording devices.

They may or may not be “scholarly teachers” (Smith, 2001), that is, aware of the scholarly literature related to the pedagogies they are using. But they are invested in understanding and improving their students' learning. Faculty seeking mentoring may range from true SoTL novices to faculty having some knowledge or experience with SoTL or SoTL-like projects. As a result, the initial starting points for projects are likely to reflect a wide range of knowledge and experience.

### **What Beginning SoTL Scholars Seek**

All scholars want assistance in moving their project or idea forward. Many come to a SoTL workshop or program with a desire to prove that something they have tried in their classroom “works” or they have an idea they think “will work” and want to implement it and show it was successful. Others arrive with a teaching frustration or problem, something they want to “fix.” Occasionally, their questions concern broader curricular or program-level issues. Some seek help in determining or fine-tuning the research design or methodology that would best address their questions.

### **Intellectual Needs**

Scholars at all levels of experience, even seasoned mentors, will always benefit from reflecting on these principles of good practice as a frame for their SoTL work: “(1) inquiry into student learning, (2) grounded in context, (3) methodologically sound, (4) conducted in partnership with students, and (5) appropriately public” (Felten, 2013, p. 121).

What follows is focused at a finer grain, examining the intellectual challenges new SoTL scholars can encounter when they engage in the SoTL investigation process. Participants in a SoTL workshop or program may need help with just a few or all of the phases listed here:

- Developing a researchable question from the underlying teaching problem, frustration, or question
- Undertaking a literature search, the why and the how
- Navigating the IRB process
- Research design: Choosing a methodology
- Determining possible evidence sources, particularly those that already exist within the course or learning situation, and triangulating data
- Constructing surveys (see Fowler, 2013; Rea & Parker, 2014)
- Conducting interviews, focus groups, and think-alouds (see Krueger, 1994; Seidman, 1998; Wineburg, 2001)
- Developing and using rubrics (see Stevens & Levi, 2012)
- Coding data (see Auerbach & Silverstein, 2003; Creswell & Clark, 2007; Taylor-Powell & Renner, 2003)
- Going public
- Finding collaborators

For possible approaches to gathering the types of evidence listed above, we suggest (in parentheses) resources that we have frequently recommended and that beginning scholars have found useful. In separate sections below, we discuss ways to assist scholars to meet the intellectual challenges presented by each of the other tasks listed.

### *Developing a Researchable Question*

The beginning scholars we worked with often had a problem or question that was much too large or somewhat ill-defined and needed reframing or clarifying to make it more researchable. Initially, their question might go well beyond the learning in a single course. In that case, an appropriate suggestion might be to scale it back to a single course at first or to focus the investigation on a very small number of desired outcomes for a course or a program. Often their question could be divided into several related SoTL projects to be pursued sequentially, not simultaneously.

We have found the taxonomy of SoTL questions from *Opening Lines: Approaches to the Scholarship of Teaching and Learning* by Pat Hutchings (2000)—*What works? What is? What could be?*—to be the single biggest “assist” to new scholars developing questions. Introducing this taxonomy leads them to new ways to think about their project design. Here is a quick summary of the taxonomy:

- *What works?* These questions seek evidence to show the effectiveness of a particular method or approach.
- *What is?* These questions examine a situation in an attempt to understand it better and to describe it as fully as possible.
- *What could be?* These questions, sometimes called *a vision of the possible*, attempt to show what is possible in a certain situation, not to argue that it will always happen in such a situation.

The taxonomy is a good way to see the different types of SoTL investigations that can be carried out. It can be very helpful to have these labels, especially to differentiate between *What works?* and *What is?* questions. Investigations often start trying to answer a *What works?* question, but shift to a related *What is?* question. This may happen because more needs to be understood about *what is*

happening before trying to show something *works*. It can also happen because it is not possible to collect the type of evidence needed to answer the *What works?* question.

Another value of the taxonomy lies in its assistance to the researcher in thinking about how to develop a researchable question, and then in choosing an appropriate design and type of evidence to collect. For *What works?* questions, some sort of comparison is needed, either pre/post with the same group or a comparison with a control group. On the other hand, *What is?* questions most often rely on at least some qualitative data.

*What could be?* questions can be the most difficult of the three types for SoTL novices to understand. Using the alternate label for a *What could be?* question—a *vision of the possible*—and talking about it as a case study that simply aims to document that something is a possible outcome (not that it always happens) can help clarify this question type.

A special section of *Teaching & Learning Inquiry* (Block-Schulman & Linkon, 2016) provided four examples of these question types being investigated with arts and humanities methodologies. Karin Marin (2016) examined whether poster sessions can engage students in literary research and analysis (a *What works?* investigation). Stephen Bloch-Schulman (2016) demonstrated how think-alouds could reveal the development of students' philosophical thinking (a *What is?* investigation), while Kathleen Perkins (2016) described a range of *What is?* inquiries which contributed to curriculum development in a program. Lastly, Susan Conkling (2016) contemplated the broad circumstances of musical learning inside and outside the academy (a *What could be?* study).

The taxonomy shouldn't tie anyone up in knots; rather it should act as a helpful guide when playing around with the question in the beginning and then thinking about how the investigation might proceed. As previously noted, an investigation that starts with one question type may morph into or generate other questions. In fact, it is a good exercise for those starting in SoTL to be encouraged to generate both *What works?* and *What is?* questions related to their topic of inquiry.

When helping scholars develop questions, we have introduced them to the idea that certain SoTL questions can transcend disciplines, meaning they can be taken from one field and restated as viable question in another field. For example, a question about how students' understanding of "sociological imagination" evolves as they go through a sociology curriculum is really a question about developing understanding of a signature method within the discipline and could equally well be posed for "proof" in mathematics or the "scientific method" in biology. Investigating how future teachers define a discipline provides another example: (a) How do future K–12 teachers describe—*fill in a discipline* (e.g., history or geography)? (b) How does their description compare to that of experts in the field? (c) How much can a single course shift future teachers' views toward that held by experts and what in that course is responsible for the shift? These examples can also provide material for a discussion of where each question fits into the SoTL taxonomy.

In addition, new SoTL scholars may benefit from an introduction to taxonomies and models for describing various aspects or components of learning (e.g., Alexander, 2003; Anderson & Krathwohl, 2001; Baxter Magolda, 1992; Belenky, Clinchy, Goldberger, & Tarule, 1986; Dewey, 1934; Fink, 2003; Perry, 1970). Facilitators can also suggest frameworks for exploring students' disciplinary understanding such as "decoding the disciplines" (Pace & Middendorf, 2004) and "threshold concepts" (Meyer & Land, 2003). These taxonomies, models, and frameworks often prove helpful when refining questions and later when analyzing the data collected.

### *Undertaking a Literature Search: The Why and the How*

If publishing the results in a peer-reviewed journal is a goal, then at some point it will be necessary to undertake a literature search so as to situate the work within what is known on the topic. Faculty who have never done an educational literature search may dread this aspect of doing the scholarship of

teaching and learning. SoTL beginners may be tempted to postpone the task, but facilitators can make them aware of the benefits of doing it early in the project. A literature search done at the outset can influence the framing of the question, guide the selection of the course or population to study, suggest instruments or methods for gathering data, and help avoid repeating the work or mistakes of others. Facilitators can share their approaches to searching the literature and also encourage scholars to seek out the expertise of colleagues from the social sciences or education or campus librarians for doing educational literature searches. The Taylor Institute for Teaching and Learning at the University of Calgary (2016) has an online tutorial for conducting a literature review (Taylor Institute, 2016). Facilitators can certainly suggest a specific article or two if they have familiarity with the literature, but their role is not to find citations. Rather it is to model how to do so. It is important for the scholar to take ownership of this effort.

### *Navigating the IRB Process*

Depending on their disciplinary field, beginning SoTL scholars may be unfamiliar with or even unaware of the special considerations that apply when conducting “human subjects research.” The facilitator can explain that since SoTL often involves making public the work of students, teachers, or other people associated with teaching and learning, it is considered research with “human subjects.” Because of past abuses in medical trials of human subjects from vulnerable populations, the United States, Canada, and many other countries have regulations regarding human subjects research. Most colleges and universities have a group, typically called an Institutional Review Board (IRB), that is responsible for insuring these regulations are being followed on that campus. Researchers submit an application describing their research project to the local IRB for review and approval. Making sure that subjects are fully informed and give their consent is the ethical core of the process. Facilitators can help SoTL scholars come to view the IRB process as something to value rather than just another hoop to go through. In fact, it represents an important aspect of acknowledging and honoring the critical role students play in SoTL research.

Facilitators should be aware that the IRB process can vary greatly from campus to campus. Prior to collecting any evidence, it is vital that scholars learn about their own institution’s process, rules, and deadlines. We have known scholars who had to postpone their data collection a whole semester while waiting for the IRB approval to be granted.

Scholars whose institution does not have an IRB can see if IRB resources are available through professional organizations or partnerships with faculty at other institutions.

Of course, an investigation conducted just for the instructor’s own benefit and knowledge, never presenting or publishing the results, would not require a review. While such an investigation might be very useful for the scholar, it would not be able to add to the academy’s knowledge base on teaching and learning.

### *Research Design: Choosing a Methodology*

SoTL, as a field of inquiry open to scholars from any discipline, did not arrive on the higher education scene with a “signature” methodology. In fact, what constitutes acceptable evidence for a SoTL study is an ongoing conversation in the SoTL community. However, social science methodology came to occupy a privileged role, something which Chick (2013), Grauerholz and Main (2013), and Bernstein (2018) acknowledged and questioned. As a result, scholars from fields such as the arts and humanities may feel particularly disadvantaged or insecure. When seeking to answer a *What works?* question that emanates from practice (the usual entering point in SoTL), even a scholar who is comfortable with conducting empirical studies is likely to encounter some difficulties. Two such difficulties are the

impossibility of obtaining a control group and being unable to claim generalizability to other settings, instructors, or institutions.

Facilitators can address these concerns and discomforts in several ways:

(1) They can ask if it is possible to base comparisons on pre/post data rather than on experimental and control group data. Another alternative is to set the *What works?* question aside and to pursue a related *What is?* question.

(2) In reality, the highly sought-after generalizability of results in educational research may be unattainable due to the impossibility of controlling all factors that influence learning (Grauerholz & Main, 2013). As Shulman (2013) reminded the international SoTL community, it is no minor accomplishment to “know a small part of the world as it really is.” Beginning scholars will appreciate knowing that situated studies, the kind often done in SoTL, do have value.

(3) Scholars outside of the social sciences will be heartened to learn that they can use disciplinary tools that they are familiar with. For example, to examine and document student understanding, a literary scholar could apply the technique of close reading to student work or student reflections (Bass & Linkon, 2008; Chick, 2013). Citing Scholes (1985) and Blau (2003), Chick (2013, pp. 22–30) discussed in considerable depth and clarity how Scholes’ description of the close reading process—*reading, interpretation, and criticism*—translates to interrogating a student work artifact with Blau’s corresponding questions: *What does it say?* (What are the facts expressed by the student?), *What does it mean?* (What inferences we fairly and intelligently draw from these the facts?), and *So what?* (What applications do these meanings suggest? and What theory do they generate or challenge?).<sup>1</sup> In addition, Chick (pp. 23–24) pointed out parallels between close reading and grounded theory for analyzing qualitative data (Glaser & Strauss, 1967). Scholars in other fields, not just literature, would benefit from Chick’s discussion of “close reading” as a methodology applicable to SoTL.

(4) Early on in the development of SoTL scholars even those in disciplines steeped in empirical studies struggled with both practical and ethical problems related to research designs based on comparisons. Carnegie scholar John Holcomb’s story (Holcomb, 2002) of a statistician wrestling with the orthodoxy of a control group and the responses to his dilemma from professors of law, educational psychology, and sociology found in Hutchings (2002) can be thought provoking and valuable for scholars.

### *Sources of Evidence and Triangulating Data*

Frequently, scholars need assistance with ways to collect evidence, especially ways that go beyond test scores, course grades, or student surveys. If they are unfamiliar with “triangulating data,” the facilitator can explain how multiple (at least three) data sources (i.e., triangulation) solidifies the intellectual rigor of the inquiry.

Some will be comfortable with collecting and analyzing quantitative *or* qualitative data, but rarely is a scholar initially comfortable with *both*. They may need to be convinced that there is value in utilizing both types of evidence, and reassurance that—despite being unfamiliar with one type—this is something they can do, perhaps in collaboration with others. Facilitators can support scholars by telling their own stories of journeys into the unfamiliar when it came to collecting data.

Once the question has been refined and methodological approaches have been considered, the facilitator can prompt the scholar to list readily available sources of data that might yield insights into that question. The most immediate sources for gathering qualitative data may already exist in course assignments such as essay papers, application projects, journal entries, problem solutions, or lab reports. Quantitative data may include test or assignment scores, course grades, scores on

<sup>1</sup> Chick’s helpful interpretations of Blau’s questions are given in parentheses.

standardized scales, survey results, completion rates, or persistence measures. Whenever the students' coursework can also serve as evidence, both scholars and their students will reap savings in time and effort.

A facilitator should encourage the scholar to design the most viable set of sources for the project. Which sources are readily available for collection? Are they aligned with the research question? Does the scholar want to collect data from participants with certain qualities of age, gender, or background? Will the evidence provide sufficient data to respond to the question? Will additional time and effort be needed to, for instance, develop and administer a pre- and post-intervention test or survey? Does the researcher have access to the equipment, expertise, or funding required to set up and record focus groups or interviews? Are other faculty involved as co-researchers, data collectors, or evaluators? If expenses are involved, are funding sources available? All of these issues affect which data can realistically be collected.

As researchers are rarely conversant with approaches used outside their own disciplines, the facilitator will need to direct the researcher to easily assimilated guides to the various methods of data collection and analysis. Our bibliography lists several of these guides. Creswell and Clark (2007) is an approachable guide to mixed methods projects that utilize both quantitative and qualitative approaches. Our beginning scholars have appreciated the following suggestions: Rea and Parker (2014) and Seidman (1998) for survey and interview protocols, respectively; Auerbach and Silverstein (2003), Creswell and Clark (2007), and Taylor-Powell and Renner (2003) for grounded theory analysis; and Stevens and Levi (2012) for creating projects with rubrics that speak to the researcher's inquiry.

Besides suggesting accessible resources for gathering and analyzing evidence, the facilitator can help the scholar broaden the list of possible evidence. For instance, an instructor in the arts and humanities might wish to discover how well his or her students are mastering a particular disciplinary idea or skill. The facilitator might first point out the data that could be gathered by having students apply that idea in response to an essay question for a paper or on a test, or demonstrate the skill in a performance or design project. This may involve refining or recrafting the assignment to align with the inquiry question as well as suggesting viable analytical measures or rubrics for the resulting data. Secondly, the facilitator might explore with the scholar additional sources (surveys, interviews, focus groups, etc.) that could augment the inquiry. On the other hand, when a STEM (Science, Technology, Engineering, or Mathematics) instructor is considering using quantitative data from an assignment or test, the facilitator can suggest that a rubric could be developed to obtain a more detailed assessment of learning than just a single grade. The facilitator can also suggest how to enrich that data with qualitative material dealing with the learning process itself derived from "think-alouds" or recorded group problem solving exercises.

Facilitators can alert scholars to practical aspects such as time and money constraints involved in collecting and analyzing certain types of data. Transcribing interviews and video-taping or recording focus groups or interviews may require time, equipment, lab space, and possibly fees for others' services. Besides the costs involved in gathering data, analytical difficulties can arise with some collection means. Interview transcripts, for instance, could run to hundreds of pages and contain disconcerting transcription errors (i.e., "getting a head shot" might be rendered as "getting shot in the head"). While there are software programs to help organize and analyze data, time is required to convert data that was not captured in a digital format. In order to have balanced inter-rater reliability, multiple evaluators may need to be engaged (and possibly paid) for performance and design critiques. A facilitator cognizant of these sorts of pros and cons can guide scholars to the most suitable data avenues for their particular inquiries and circumstances.



### *Going Public*

The likelihood of publication may be increased if, early on, scholars begin to think about the most desirable audience or venue for publishing their work. A fairly comprehensive list of options for publishing SoTL can be found at the Center for Excellence in Teaching and Learning at Kennesaw State University in Georgia (see <https://cetl.kennesaw.edu/teaching-journals-directory>). The list is searchable by discipline or topic and might also help locate appropriate literature for their studies. Some factors to consider when choosing a journal include whether the journal focuses on research or practice, whether the article is appropriate for a single or multi-disciplinary audience, and whether the reputation of the journal amongst one's peers is a matter of importance for one's career.

The same Center also maintains a searchable directory of conferences related to teaching and learning (see <https://cetl.kennesaw.edu/teaching-conferences-directory>). Scholars may want to consider whether they would prefer a single or multi-disciplinary audience for their paper, whether the conference will publish a proceedings, and whether travel support will be available.

Also, we recommend that facilitators encourage scholars to construct a timeline for critical "action items" such as completing the literature search, submitting an IRB application, collecting data, analyzing data, choosing a conference or journal, writing a draft article, etc.

### *Finding Collaborators*

This short introduction to some practical aspects of mentoring SoTL scholars has mentioned seeking help from others several times. SoTL work is not confined to individual disciplines. Much can be learned about doing SoTL by collaborating with others both within and outside of one's own discipline. Depending on their disciplines, new SoTL scholars may have little experience with productive collaborations among far-flung disciplines.

However, by its very nature, unless the scholar has a background in education research, SoTL will be "cross-disciplinary" work. New scholars in any field will be heartened by Anthony Ciccone's (a professor of foreign languages and literature) description of his journey into unfamiliar territory (taxonomies, learning theory, and methods for coding dating) when investigating a *What is?* question about first-year students' ability to engage in and appreciate complex thinking (Ciccone, Meyers, & Waldmann, 2008). In this work he partnered with a social scientist from communications (Renee Meyers) at his own institution because of her experience with qualitative data analysis. Collaborators may be found in one's own department, ranging from colleagues who would be willing to collect data in their classes to those who sign on as co-researchers. Faculty development centers, instructional technology units, or institutional assessment offices are other possible locations on campus to make connections.

Further afield, conferences with sessions on teaching and learning, whether sponsored by single or multi-disciplinary organizations, can provide opportunities to find potential collaborators. The usual advice for networking within one's own discipline—to ask questions, get contact information, and follow-up later—pertains to SoTL as well.

Facilitators can help scholars develop a collaborative mindset for doing SoTL. Discussing examples from their own or others' SoTL work can be beneficial. One author (the mathematician) would often share the inspiring example of a film animation instructor she knew. The instructor, desiring to help her students more successfully transition from 2D to 3D animation, connected with a faculty member in dance to learn about Laban movement analysis for understanding body movement. This led to their collaboration on a SoTL project. In addition, mentors can indicate that, increasingly, SoTL scholars are taking on students as co-investigators (Werder & Otis, 2010).

## **Institutional Challenges**

Some of the previously described intellectual challenges awaiting new SoTL scholars within the SoTL investigation process are institutional as well. For example, the IRB process is institutionally situated and, as we have noted, varies from place to place, both in its format and in what assistance is available to help new researchers understand the process. Other institutional structures and support (or lack of it) that can affect the success or failure of developing SoTL scholars include library resources for literature searches and handbooks for doing specific types of educational research, technology hardware and software support for collecting and analyzing data, and travel support for attending or presenting at conferences. Facilitators working with a group of new scholars, whether from the same or different campuses, can initiate a discussion among all scholars of possible resources that might exist and where they might be located. For example, funding for project expenses may be sourced from departmental or college budgets or from institutional or disciplinary association grants.

Of course, having specific programs for SoTL at faculty development centers or in faculty learning communities can make a huge difference. But, perhaps one of the most difficult challenges facing new SoTL scholars not arising from the investigation process itself is whether and how the work will be valued and evaluated at their institution and, especially, within their own department. Will it “count” for tenure and promotion and merit raises? Is it “expected” as part of their portfolio of work as a non-tenure track “teaching professor”? Institutions and departments will have very different answers to these questions, and scholars should be encouraged to seek clear guidance on these questions and to obtain documented answers.

## **Closing Thoughts**

Scholars, like anyone else, benefit from encouragement as much as they benefit from information. The original Carnegie scholars program, and the summer institutes that followed it, developed a well-deserved reputation for providing a positive and nurturing environment. When a scholar’s proposed project presents difficulties or possesses flaws, facilitators have to rise to the challenge of providing helpful suggestions and phrasing these in a supportive way.

Working with new SoTL scholars provides many rewards. We have gained new professional connections, learned about new (to us) teaching and research methods, been energized in our own SoTL work, and traveled to new campuses and cities. But, best of all, there is the deep satisfaction that comes from seeing a scholar’s project take shape, and watching the scholar grow in confidence about undertaking scholarly inquiry into teaching and learning.

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