Disciplinary Commons: Brief Summary

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# background

*Disciplinary Commons* is an NSF-funded project designed to encourage educators within the field of computing science to reflect together about their teaching practices, develop a community, and, more broadly, to become more scholarly about their teaching.

In monthly half-day meetings, educators teaching the same class (but perhaps at different institutions) met over the course of one academic year to develop a course-specific portfolio and to discuss a teaching- topics specific to the discipline of computing education.

The first iteration of the project has been completed, with two *Disciplinary Commons* held during the 2005-2006 academic year (one in the Puget Sound region of the U.S. and one in the U.K.). NSF has provided support for another iteration of the project in a different region of the U.S. during the 2009-2010 academic year to pilot broader dissemination of this program.

The University of Washington’s Office of Educational Assessment (OEA) has been contracted to provide evaluation services that will lead to the development of a sustainable evaluation program that could be piloted in 2009-2010 and incorporated into *Disciplinary Commons* as it is used more broadly throughout the U.S. and U.K.

# methods

In the first iteration of this project, nine participants were interviewed at the conclusion of the program and 22 participants completed a brief, end-of-program survey. Although researchers on the project have already analyzed these data, this report provides a secondary, evaluation-focused written summary of the interviews and surveys, specifically addressing program outcomes and goals.

This analysis is organized according to three main topics: 1) Participant beliefs about the *Disciplinary Commons* as a whole; 2) Participant perceptions of the portfolio; and, 3) Participant responses to whether or not they will make changes to how they design, approach, or teach a course as a result of their participation in the program.

##  Participant beliefs about the program as a whole

1. What are your overall impressions about the *Disciplinary Commons?*

In response to this general question, participants were overwhelmingly positive, describing their experience as “fantastic,” “enriching,” and “extremely useful.” On the post-workshop survey, all respondents strongly agreed or agreed that the programwas a good use of their time and they would recommend it to colleagues. Overall, participants commented that the *Disciplinary Commons* provided a collegial and intellectually stimulating community to discuss issues surrounding the teaching of Computer Science.

One participant underscored the value of the *Disciplinary Commons* community, stating:

*Teaching is such a lonely job, really. If you’re on your own in a classroom with a group of students you don’t necessarily know what your colleagues teach or how they teach…we don’t really have forums for discussing our teaching and comparing it.*

Several participants mentioned that the *Disciplinary Commons* experience forced them to go “back to basics” and make their teaching philosophy explicit by critically examine their teaching methods. The exercise also enabled participants to “gain insight into how others think,” sometimes gleaning new approaches and other times validating their own teaching methods by learning that others approach the subject in similar ways. Commenting on the impact of the *Disciplinary Commons,* one participant said:

*It has brought a vibrancy to my teaching. Perhaps “life” is a better term. I was in danger of just going through the motions. [It is] hard to pin down all of the ways participation has had an effect- growing self-confidence, hints and tips, grand ideas, areas of development, incentive to read more literature on teaching.*

While most responses were positive, one participant felt that she/he didn’t have much to contribute given a “lack of experience” whereas another participant reported that she/he offered more than she/he was able to take because of extensive prior involvement in issues surrounding the Scholarship of Teaching and Learning.

1. What was the best thing about the *Disciplinary Commons*?

When asked what the best thing about the *Disciplinary Commons* was, participants overwhelmingly cited the opportunity to be a part of a “community” of like-minded Computer Science teachers. Reflecting this sentiment, survey respondents were most likely to choose “getting to know other teachers who care about teaching issues” as the most valuable part of the *Disciplinary Commons*, followed by “coming to meetings*.”* Moreover, all participants agreed or strongly agreed that they felt “connected” to a network of people in their area who are interested in teaching. Qualitative responses revealed that not only did participants form friendships, there was also talk of possible collaboration in the future.

Several participants also commented on the diverse group of people who took part in the *Disciplinary Commons* including the integration of Community College and University professors (U.S. *Disciplinary Commons*). Reflecting on the value of eclectic perspectives, one individual stated:

*People had tried different things and had come from different backgrounds. Some from industry, some are long time teachers, some new teachers…Just the mix of ideas from their institutions…*

Several participants mentioned that the “regularity” of the *Disciplinary Commons* was extremely beneficial imposing a “discipline” that is difficult to maintain on one’s own given busy teaching schedules. One participant contrasted the continuity of the *Disciplinary Commons* with meetings at conferences which are once a year at best and do not lend themselves to intense examination of teaching methods. Two participants commented that the teaching observation visits were particularly valuable and one simply valued the “time to reflect and discuss.” Finally, one participant took this opportunity to praise the contributions of the U.S. *Disciplinary Commons* facilitator.

1. What was the worst thing about the *Disciplinary Commons*? What would have made it more valuable?

Participants were most likely to mention the significant time commitment required to attend sessions and complete the assignments given their already demanding teaching positions. When attendance was not consistent and/or participants failed to complete the homework, it made it difficult for them to engage fully in the *Disciplinary Commons* and negatively impacted those who attended regularly. Several participants felt that the *Disciplinary Commons* as a whole was too short, and one participant felt that a protracted *Disciplinary Commons* might be less demanding.

Some participants reported that the structure of the portfolio project wasn’t working well for them. Specifically, two participants felt that they were lacking the “big picture” up front, making it difficult for them to complete the incremental tasks. Two participants felt that the feedback structure was “too complex” and, very often, participants did not follow the prescribed format. Moreover, one of the two added that she/he lacked “an appreciation for the real audience” which made it difficult to provide constructive feedback. Finally, one participant suggested a “portfolio defense” to make them accountable for a high-quality finished product (See the following section for a more in-depth analysis of participants’ perceptions of the portfolio).

Some other issues mentioned by one participant each included: “Slow” or “stagnant” sessions; the challenge of critically analyzing one’s own teaching methods; readings were not integrated into the sessions; crowded rooms; long travel times (UK *Disciplinary Commons*).

One participant each had the following specific suggestions to improve the *Disciplinary Commons*:

* Periodically summarize topics/discussions and re-emphasize the goal
* Discuss more about “why” certain teaching methodologies are recommended over others
* Focus the *Disciplinary Commons* more towards how to conduct research on your own teaching
* *Disciplinary Commons* should be a two-year program
* Have two types of *Disciplinary Commons*: one for directors of teaching and one for everyone else

## Participant perceptions of the portfolio

1. What do you think about your portfolio?

When asked this question, participants’ qualitative responses were largely mixed. While most participants felt that it was a “good exercise,” they were likely to report that it was the *process* of putting the portfolio together as opposed to the culmination of the final product that was most helpful. Participants said that the exercise enabled them to analyze the assumptions underlying their teaching, often clarifying what they would like to achieve as educators. As one participant put it:

*I think the need to produce a portfolio meant that I was forced to look at different areas of how I teach, the context and the content and assessment and all these kind of things. So that forced me through a process of reflection. What do I do? Why do I do it? Is there a need for change in these areas?*

On the post-workshop survey, most respondents reported that they found it helpful to work at different levels (e.g., private, protected and public). However, two participants struggled with the different audiences, finding it difficult to go back and forth between the portfolio as a personal, reflective document and an instructive document for public consumption. For example, one participant reported that she/he has a “good start” on her/his portfolio but needs to remove “reflective stuff” that would not be appropriate for a public audience. Another participant reported that she/was not “open and free with it” because she/he knew that it would become a public document.

Some participants mentioned that it would have been helpful to have a better conceptualization of the portfolio as a whole at the onset of the project. As one participant stated:

*The most challenging part of the process was to understand the overall “story” of the portfolio. Having done this once, however, will help me realize one needs to (eventually) have a holistic view of the portfolio, rather than viewing it as a collection of pieces.*

Another participant went on to state that it may not be possible to completely understand the portfolio upfront, reporting that the “process” was imperative. She/he added that “you have to go through cul-de-sacs, wrong turns” in order to construct a portfolio.

1. What was the most significant change you made to your portfolio during the *Disciplinary Commons*? Why did you make that change?

When asked this question, several participants stated that their own teaching philosophy was clarified as they worked through their portfolios. One participant reflected on adjustments made to her/his portfolio:

*There may have been one or two places where certain philosophical orientations became more clear and I was able to say, “Oh this doesn’t fit anymore.”*

Two participants mentioned that the purpose of the portfolio itself became more apparent as they progressed through the program. One participant said that she/he had to “rework” the objectives so that they could be measured and another participant said:

*I think the underlying realization was the purpose of the portfolio as a reflected document and once that purpose of self-reflection and dissemination of the reflection rather than the content itself was clear, then the role of the artifacts just sort of fell out from that.*

One participant each mentioned the following in response to the most significant change made to her/his portfolio:

* Justified teaching methods by adding “evidence” (e.g., videotaping lectures)
* Portfolio lacked a “clear vision”
* Didn’t make many changes and needed an extension to finish it
1. What plans, if any, do you have for your portfolio now?

On the post-workshop survey, the majority of respondents reported that they would either “definitely” or “probably” continue working on their course portfolio. By and large, participants reported that they would use their portfolio for their own purposes (e.g., course preparation) as opposed to public dissemination. One participant felt that the portfolio is a much richer document than it appears when read by others. She/he said:

*I guess the hardest thing is when I look at it or when I look at sections of it, it reminds me of the sessions that we had that led to it and conversations and things we read, but none of that comes across when you just look at my little component portfolio.*

However, the majority of participants in both *Commons* reported that they had shared parts of their portfolio with someone not participating in the *Commons* project. Moreover, in qualitative responses, two participants mentioned that they viewed the portfolio as a useful public document. For example, one participant felt that it would be helpful to give to someone else who is planning to teach the course. Another participant hoped that the portfolio will show other colleagues the complexity of teaching Computer Science and make their teaching philosophy more readily available to their students.

## Participant views on changing practice as a result of participation

1. Will you make changes to how you design/approach/teach your course as a result of participation?

Participants unanimously reported that they would make changes to their classes as a result of participation in the *Disciplinary Commons*. More generally, participants said that they would be more reflective and critical of how they design their courses (e.g., syllabus construction, assessment). One participant mentioned that she/he needs to “let go of the ego” and “make more use of existing resources.” One participant summed up her/his new attitude, stating:

*This year I feel a different person in my teaching because I know that I’m trying things out, and some of them will work. I feel a bit more rejuvenated in my attitude to, you know, innovation and just having a go at things and asking students instead of sort of saying, “oh, well, they’re not really interested…”*

Participants specified many changes that they were considering implementing including making expectations more clear, gathering more student feedback, introducing a “freeform” piece of work, considering small group work away from the computers, encouraging more interaction between student and professor, implementing peer review and making lectures more interactive. One participant said that she/he needed to add reminders to her/his portfolio to remember to try out specific techniques.

It is important to note that some participants mentioned that there is little flexibility in how the course is designed, for example, because they are part-time instructors or they are not module leaders (e.g., in the UK).

# Evaluator notes

As outlined by Tenenberg and Fincher (2007), the program goals of the Disciplinary Commons are twofold:

1. To *document* and *share* knowledge about student learning in Computer Science classrooms.
2. To establish practices for the scholarship of teaching by making it *public, peer-reviewed*, and amenable for *future use and development* by other educators.

In reference to the first goal, participant feedback makes it clear that the opportunity to regularly meet and *share* with other Computer Science teachers who are interested in issues of teaching and learning was by far the most valuable aspect of the *Disciplinary Commons* experience, filling a noticeable void in their professional development.

Expanding upon the “sharing” aspect of this goal, the data revealed an important and striking outcome: the development of a strong and vibrant community. Participants found their interactions re-energizing as they were exposed to fresh teaching perspectives. What’s more, some participants reported that they planned to stay in touch with their colleagues and/or collaborate with them on future projects.

In regards to *documentation*, the data suggest that the *process* of critically examining their views on teaching and learning and documenting those in the portfolio proved to be extremely valuable. Participants reported that the exercise served to unearth the philosophy underlying their teaching and reflect on what is working and what might need to be reassessed. However, on the whole, instructors were more likely to value their portfolios as *personal* documents to improve their own teaching as opposed to public documents to be used by other educators.

The second goal focuses very much on making these documents public, possibly as a resource for other educators. The data suggest fairly strongly that at least for this first iteration, participants did not think the portfolios were amenable to such dissemination. It should be said, however, that although the Disciplinary Commons did not necessarily lead to publication of practices related to scholarship of teaching, it certainly effected change in the way the participants’ perceived their own teaching practices. If the over-arching goal is to enhance teaching and learning, then the Disciplinary Commons experience contributed to this goal on a participant-by-participant basis.

In sum, the course-portfolio served as a vehicle for personal reflection and community-building through collaboration. While it did not necessarily serve as a public vehicle for increasing scholarly teaching among other educators, it did lead to substantive change in computing education for all the educators involved. In terms of dissemination, it may be more useful to publish the *process* of developing course portfolios as opposed to the portfolios themselves.

# recommendations for follow-up Questions

Another important function of this report is to inform both short- and long-term assessment of the impact of Disciplinary Commons. A survey will be administered to the participants who provided data for this re-analysis; and based on the summary above, the evaluation team recommends the questions below be addressed in the follow-up survey.

* Have you kept in touch with any of your *Disciplinary Commons* colleagues? If so, in what capacity? Have there been collaborations? Have these resulted in published work or conference presentations?
* Have you returned to your portfolio since completing the *Disciplinary Commons*? If so, have you made changes?
* Have you used your portfolio for course construction? If so, how?
* Have you made any concrete changes to your teaching as a result of participation in the *Disciplinary Commons*? If so, how? Was it successful? How do you know?
* Have you made your portfolio available for others to use? If so, in what capacity?
* Have you constructed a portfolio for another course?