A fantasy in teaching and learning:

Imagining a future for “on-line” teaching portfolios

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Several years ago, Steve Seidel from Project Zero at Harvard University spoke at a forum on assessment with the President of Harvard, Neil Rudenstine. Steve began his presentation by saying AI have a fantasy...in my fantasy, tomorrow, a consortium of colleges including Harvard University announces that they will no longer consider SAT scores in admissions decisions, and instead, will only look at a portfolio of each candidate's work." (Seidel, 1994). The audience roared with laughter. For the remainder of his presentation, Steve proceeded to amuse and provoke them by spinning out his fantasy by describing the possible effects of such an occurrence on the education system.

When I was asked to think about the future of portfolios in the 21st Century, I realized that I too have a fantasy; and, the more I thought about it, the clearer it became that mine may be the only fantasy more ludicrous than Steve=s. In my fantasy, every faculty member at Harvard and many other schools, colleges and universities places a teaching portfolio on-line tomorrow. Now in Steve=s fantasy, it was very important that Harvard was involved because he wanted to think about the residual effects on the rest of the system. But for my fantasy, you can imagine this happening anywhere B in a university, a community college, on a K-12 campus, wherever.

1 This paper was prepared for an invited symposium on Portfolios in the 21st Century organized by Nona Lyons.

To explore this fantasy, I will describe why faculty members -- in higher education and K-12 -- might want to put their teaching in something like an on-line portfolio; what it might look if they did; and what the implications would be for teaching and learning. In conclusion, I will consider what it may take to turn this fantasy into reality.

Throughout, I will draw on the work of the Carnegie Academy for the Scholarship of Teaching and Learning (CASTL) (Hutchings and Shulman, 1999). CASTL provides fellowship programs for faculty in K-12 education, teacher education and higher education. In those programs, faculty from around the country are chosen as Carnegie Scholars and spend one or two years investigating key issues in teaching and learning by documenting their classroom practice. My Carnegie Foundation colleagues and I are working with several of the Carnegie Scholars who are particularly interested in using a variety of media to document their teaching and in presenting what they are learning via the internet.[2]

Why put teaching portfolios on-line?

Faculty members might want to put a teaching portfolio on-line for a number of different reasons. First, some faculty members might want to put descriptions of courses and classroom activities, artifacts like syllabi or lesson plans, student work, and reflections on-line in order to convey their goals and purposes to students, Teaching Assistants, parents or others involved in a course. Access to these common documents could provide insights into the structure and goals

2 While these efforts may take all kinds of forms -- including cases, video documentaries, studies, etc. – for ease of

of the course, a foundation for discussions about expectations, or to share models of high quality work. Second, some faculty members might want to provide easy access to their materials and reflections as part of ongoing discussions with colleagues about program goals, course offerings, or issues of pedagogy and student learning. Third, some faculty might want to share what they are doing in the classroom and what they are learning about teaching with a wider audience that goes far beyond their local campus. Some may do this because they believe they have learned something from which others can benefit; some may do it to solicit feedback or critiques on their teaching from peers; some may do it to seek support or validation for their teaching.

Of course, some faculty might want to do many of these things, and they also might want to take advantage of the ability to use hyper-media to provide a variety of entry-points and frameworks for accessing their teaching materials and reflections. And some might be particularly interested in putting a portfolio on-line to give people access to videos, pictures, databases or other materials that it might be particularly hard to collect and share in an Aoff-line@ format.[3]

What might "on-line" teaching portfolios look like?

If a number of faculty members put teaching portfolios on-line, it would be possible to go to a college, school or department=s web-site and find a wide variety of different views of the teaching and learning taking place there. For example, I might find one faculty member who has

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use I refer to all of them as "teaching portfolios" because they are all organized collection of materials and reflections on one person's teaching practice.

3 It should be noted that there are some good reasons why faculty members might not want to share their work, including issues of intellectual property -- who has it, and how to protect it. However, since this is a fantasy, I will

produced a course portfolio that examines the effectiveness of the design and execution of their course or particular aspects of their pedagogy. For example, Mills Kelly, Associate Professor of History at Texas Tech University, is producing a portfolio that documents the design and effectiveness of a Western Civilization History course he has been teaching over the past several years. He is using the portfolio not only to document what he did in the class and what students learned, but also to examine the effectiveness of his use of the internet and web-based resources in the class (Kelly, 2000).

Figure 1: T. Mills Kelly Web Page
http://www2.tltc.ttu.edu/kelly/Pew/portfolio/welcome.htm

I might also find a faculty member who has documented the teaching of a particular class or key activity. For example, Bill Cerbin, a Professor of Psychology at the University of Wisconsin-LaCrosse has produced an on-line course portfolio for a "problem-based" educational psychology course that he has been developing over the past several years. The portfolio includes materials and analyses of students' understanding for each of the main "problems" in the course, but it also provides detailed descriptions and documentation of one class in which he sought to help his students develop an understanding of the psychological concepts underlying reciprocal teaching – a technique for teaching reading. He focused on this class because in previous years he had found that students often had considerable difficulty overcoming their initial assumptions about why reciprocal teaching can be effective (Cerbin, 1995; Cerbin, 1999).

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not address those issues here.

In order to show how he designed the class to challenge these assumptions and to examine the effectiveness of his efforts, he devotes a page to each of the four main aspects of the activity -- an introductory lecture, an individual writing assignment, small group discussions, and a large group discussion – and to an analysis of the depth of students' understanding following these activities. These pages include links to lecture notes, handouts, assessments and other class materials, audio and video excerpts from the class, and examples of student work.

Figure 2: William Cerbin Web Page
http://kml.carnegiefoundation.org/gallery/bcerbin/

I might find another faculty member who focuses on a key problem or issue she faces in her teaching. For example, Mary Hurley, a kindergarten-1st grade teacher in Oakland, is examining what it really takes to change and improve her classroom practice. As she puts it, she is concerned about the fact that K-12 teachers are constantly being asked to make major changes in their practice, preparing for new tests, using a new curriculum etc. These changes are proposed as if they can be made quickly and easily – almost as if one were changing shirts. In response to this problem, Mary is interested in documenting what changes she has to make over the course of the year in one aspect of her classroom practice -- author=s chair -- in order to make it an effective and powerful learning experience for her and for her students. In author's chair, students take turns presenting stories or pictures that they have produced to their classmates who then ask questions and provide suggestions for revision. While the portfolio is in the early

stages of development, it is likely to include raw video footage of author's chair at different points during the year, a brief video overview of the structure and goals of the activity, Mary's analysis of the effectiveness of the activity and reflections on the changes required to make it effective, and examples of student work and excerpts from Mary's weekly journal.

Insert Figure 3: Mary Hurley Web Page

I might also find the work of a faculty member who has invented a new course or pedagogical approach that other faculty are particularly interested in learning about. For example, Dennis Jacobs, Associate Professor of Chemistry at Notre Dame, has developed a very successful section of an Introductory Chemistry course for students who have often dropped out or done poorly in the traditional sections of the course. The design of the course features cooperative learning, and students in the course have had much lower drop-out rates, higher grades and test scores, and a greater likelihood of graduating with a major in Chemistry or a related field than comparable students in more traditional sections of the course. Dennis has received numerous inquiries about the course, and he is now creating an on-line portfolio that includes a description of the course and related course materials; video clips and reflections to aid those interested in implementing the cooperative learning approach in their own courses; analyses of the students' performance in the course; and an archive of the data he has collected over the past several years.

Insert Figure 4: Dennis Jacobs Web Page

http://kml2.carnegiefoundation.org/gallery/djacobs/

I might find another faculty member who has put on-line the portfolio they submitted as evidence of the quality of their teaching along with links to more recent versions of their courses. For example, I might find something like the portfolio that Randy Bass, Professor of American Civilization at Georgetown University, prepared for his tenure review. Randy designed the site specifically so that he could hand a printed version to his review committee as well as place it on-line for others to see.

Figure 5: Randy Bass Web Page
http://www.georgetown.edu/bassr/portfolio/amlit/

Finally, while all of these portfolios are quite elaborate, I might find many faculty members who have produced much simpler collections that simply provide syllabi and lesson plans or student work and a few relevant reflections. For example, as part of an Education Seminar I am leading on different approaches to teaching and learning, I will be creating an on-line portfolio that includes course documents like the syllabus, weekly e-mail reflections on readings produced by students, the students' projects and my comments, and my reflections on what students learned and what changes need to be made in future versions of the course. The portfolio is intended to provide me with a record of a new course and a baseline of student performance for comparison to students' work in future versions of the course, and as a result is not designed to be shard with a wide audience.

Why would on-line portfolios be valuable?

Putting a large number of these kinds of materials on-line could be valuable for a number of different reasons, but one of the key reasons is that making these kinds of materials available via the internet provides faculty with a wonderful opportunity to pursue the scholarship of teaching. In pursuing the scholarship of teaching, teachers endeavor to make (some of) their work and ideas public, to subject them to critical examination, and to exchange them so that others can build upon them (Shulman, 1998).

Today, too often what teachers learn in the relative privacy of their own classrooms and in isolation from peers is simply lost to history. It remains only in the fading memories of the teacher, their former students and whatever scraps of materials survive all of the moves, spring cleanings, and natural disasters that take place over the years. Putting a portfolio on-line is one of the most straightforward ways that faculty can preserve their classroom work and present it for public consideration. Similarly, if faculty members choose to, they can create opportunities for those who view the portfolio to post or send them comments or critiques of the work. For example, Elizabeth Barkley, a Professor of Music at Foothill Community College, is developing an on-line portfolio that documents how she has transformed a traditional music survey course that focuses on classical music into a course that emphasizes contemporary as well as classical music, face-to-face and on-line instruction, and more performance based assessment. As part of that work, she is creating comment forms in which viewers can provide their own thoughts and

reflections on some of the key challenges she is facing in making these transformations.

Making a portfolio public in this way can also enable peers and colleagues to use and adapt activities, projects, rubrics, and examples of student work in their own teaching. For example, Karen Hammerness is working with Linda Darling-Hammond and Lee Shulman to document a course on the Psychological Foundations of Education that they co-taught for teacher education students at the Stanford University School of Education. Faculty often rotate responsibility for the course each year and by documenting the design and execution of the course, they will make it possible for future versions of the course to build on the lessons learned from their experiences.[4] In addition, as more and more faculty members put teaching portfolios (or other forms of their investigations into their teaching) on-line, it can become easier and easier to refer to and link directly to the work of colleagues and peers and begin to build a public record that gives credit and recognition to those who have helped to develop new ideas, practices, and insights.

In the end, as more and more faculty put their work and reflections on-line, we will have increasing opportunities to look across the experiences of many different teachers working in many different disciplines and contexts, to generalize from those experiences, and to develop, explore, and challenge new ideas and theories about teaching and learning. Whether or not we label all these on-line teaching materials – or even all the examples I=ve discussed here – as

4 Documenting the course is all the more important because Shulman is retiring from the Stanford faculty and may

exemplars of "the scholarship of teaching", making these kinds of representations of teaching public can help create the means and mechanisms to help us to learn from teachers= experiences, develop our collective understanding of teaching, and contribute to the advancement of the field.

Truth in fantasy

Could many faculty members around the country put teaching portfolios on-line tomorrow? Technically, the answer is probably yes. Today, almost everybody has the potential to collect a syllabus and student work and produce relevant comments and reflections. Many have these materials in electronic form already, and the technology exists to scan in the rest. Growing numbers of people have the capacity to take digital photos and videos and may soon develop the capacity to create and store vast electronic collections. In the not too distant future much larger groups of people also may have high-speed internet access, and the faculty members of tomorrow are growing up in an era where learning to create web-pages and surf the internet is almost as easy learning to play video games or to change channels on TV. But it will take much more than technology to put teaching portfolios on-line and make them widely accessible. At the same time that we develop the technical capacity to put materials of all kinds on the web, we also have to develop the capacity to make sense of what we put there. In the most mundane terms, we need the time to produce, review, and benefit from the materials we put on-line. With the right technology, it may become faster and easier to do this, but that alone will not be enough.

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not teach the course in this form again.

Compression: Inventing new forms for representing teaching

In addition to developing new technologies, we also need to invent simple ways to compress, frame, and represent the information contained in portfolios and other forms of documenting teaching. While it is possible to imagine many different forms and formats for putting materials on-line, having some simple, commonly-understood ways of storing and presenting the documentation of teaching may make it much easier both for those who wish to put their materials on-line to do so, and for those who come across those materials to make sense of them. For example, in an essay about course portfolios, Lee Shulman (Shulman, 1998) suggested that there might be four key forms those portfolios might take: the course anatomy, the natural history of the course, the course ecology, and the course investigation.

Building on this work, I can imagine a variety of different kinds of collections of teaching materials and reflections that may eventually have some easily recognizable forms.

Figure 6: Possible formats for teaching portfolios

	Key sections
Anatomy To establish a permanent record for later comparisons; for historical purposes etc.	Rationale for program/course/activity goals and design; Overview of key parts of the course/activity (e.g. introduction, classes, assignments, assessments); Reflections on each part; conclusions and implications for future teaching. Key links: student evaluations, TA reflections etc.
Review of learning To determine what students= have learned in a program/course/activity (without focusing on determining what contributed to those outcomes).	Description of learning goals; Evidence of student learning (student work etc.); Analysis; Conclusions and implications. Key links: alternative interpretations, data sets
Evaluation To understand how well the outcomes of a course have been achieved and the role of the teacher, pedagogical approach, or course design in producing those outcomes.	Goals and Rationale; Summary of outcomes, Summary of analysis of teaching and implications. Key links: data sets, corroborating evaluations
Investigation To pursue a key question/issue of teaching and/or learning.	Framing of question/issue; Study description; Summary of findings and implications. Key links: References to relevant studies, data sets
Evolution To understand how/why a teacher/course/activity etc. developed.	Overview of key phases; Reflection/analysis on each phase; conclusion and implications.
Guide To enable others to develop a similar program/course/approach.	Justification of value of the approach; Expected outcomes; Description of key parts of the approach. Key links: Assessments, student work samples

Each one of these forms could follow a basic structure. They could include:

- A Atop layer@ that provides an overview of the key sections
- A Asecond layer@ that provides details and examples
- A Athird layer@ that provides links to references, artifacts, or further resources.

In this manner it would be possible to review materials relatively quickly while still allowing a reader to go further in depth should they so choose. Thus, one could choose to read just the abstracts, go straight to the materials, or focus on sections of particular interest. Another possibility would be to organize materials in several different forms and allow viewers the flexibility to choose which form to follow or simply to explore on their own. For example, Dennis Jacobs' portfolio may organize his materials and reflections into a course anatomy, a course guide, and a course evaluation, each with it's own layers of overview, details and examples, and supporting links.

Of course, this is far from an exhaustive list of possible formats. In particular, it does not even touch on the possibilities for the development of more aesthetic forms for the representation of teaching such as narratives, montages, or sketches all of which could provide markedly different ways of thinking about how to organize materials on teaching. Furthermore, it=s important to acknowledge that, over time, forms and formats can become too conventional, constraining the very representations and learnings that they seek to produce in the first place. But we cannot start breaking conventions until we have some; so despite the dangers, it may be

worthwhile to try to imagine and produce some standard formats that might help to smooth the way for putting teaching portfolios on-line.

Comprehension: Learning to read teaching

At the same time that we develop common forms and formats for sharing teaching and learning in on-line portfolios, we also have to develop our capacity to read and comprehend these materials as well. If portfolios are to be more than the bulletin boards of the future -- the places where teachers tack up their syllabi and lesson plans and display students= pictures and projects -- then we have to make interpreting portfolios and the many materials they can encompass a more natural activity and a regular part of teaching, going to school, and learning about what goes on in classrooms (Hatch, 1998).

Teachers and other experts, who have viewed many portfolios, read countless cases, seen numerous videos, or surfed the growing number of web-sites related to teaching may have some ideas about which ones they like and which ones they do not. But despite the efforts of the National Board for Professional Teaching Standards and others, it still seems like there are few widely recognized or accepted criteria for determining the quality of teaching or the value or usefulness of the products designed to capture their expertise (Raths, 1999). In fact, there are few more commonly or widely accepted means for determining the accuracy and value of portfolios, cases, and videos of teaching than there are for determining the worth of materials about teaching that can be posted by anyone on the world-wide web.

One response to this problem is to try to establish formal means of peer review of teaching for the purposes of hiring and promotion, publication, or grantmaking. But such formal means of peer review in teaching cannot be established without building on and further developing many more informal opportunities for teachers to examine one another=s work. In fact, in many ways, the formal mechanisms for the peer review of scholarship in a wide range of disciplines have grown out of the informal processes of information and idea-sharing that have always been a key aspect of the generation and exchange of knowledge:

> In the broadest sense of the term, *peer review* can be said to have existed ever since people began to communicate what they thought was new knowledge. That is because peer review (whether it occurs before or after publication) is an essential and integral process of consensus building and is inherent and necessary to the growth of scientific knowledge. (Kronick, 1990, p. 1321)

Thus, while some of the formal mechanisms of peer review were first used for the publications of the Royal scientific societies in England in the eighteenth century, those societies first fostered the development of communities of scholars in which the informal review and exchange of ideas could take place on a regular basis.

Seen from this perspective, it is only after teachers at all levels have had significant opportunities to see the work of their peers, to discuss it with their colleagues, and to try to build upon it themselves, that they will be able to make the most effective judgements about which examples and representations of teaching are likely to advance the field. Putting teaching materials on-line and exploring different forms and formats for presenting those materials may

play a unique role in the development of those informal discussions because they are one of the only ways to make the teaching that goes on in one classroom accessible to peers far beyond the local campus.

Fantasy on demand

Every faculty member at Harvard does not need to create a teaching portfolio and put it on-line in order for this fantasy to come true. But the world of teaching and learning would be remarkably different if many faculty members all around the country did. Nonetheless, we have a long way to go before this fantasy comes true. Beyond developing means of compression and new capacities of comprehension, we have to create new demands. Portfolios are never going to do a better job of measurement than standardized tests. Rather then trying to create alternatives or substitutes for standardized tests, we need to be creating a new market -- a market in which people demand the kind of information, ideas, and insights they can get from portfolios and other organized collections and investigations of teaching.

How do we do that? There are no simple answers, but if we can=t find ways to encourage some faculty members to experiment with making their teaching public in a variety of different ways B regardless of whether we label those experiments the scholarship of teaching or call the products portfolios B there will never be a demand for new views of teaching. However, if some faculty, schools, colleges and universities do make their teaching public, many people will be in a much better position to recognize good teaching when they see it; and they will be in a

much better position to recognize the contributions of the teachers and the value of the institutions that produce such teaching.

In Steve Seidel's fantasy, when Harvard and the other members of the consortia demanded the submission of student portfolios as part of the application process, he imagined chaos throughout the land as students, parents, teachers, admissions officers and others all scrambled to figure out what those portfolios should like and how to produce them. In this fantasy, however, there is no chaos. In fact, for the first time, students and their families across the land will get a glimpse of what really goes on inside the classroom. I can imagine real estate agents referring prospective home-buyers to school web-sites where they can see the kinds of classes and work their children will be involved in, not just the average test scores of other students. I can imagine college students and their parents who are trying to decide which courses to take and which colleges to attend surfing through examples of pedagogy and student work not just skimming a course catalog, examining the average scores from student evaluations, or looking at the rankings in *US News and World Reports*.

As some schools and colleges make the teaching that goes on inside them public, students and their parents may well begin to expect and demand the opportunity to view the teaching that goes on in others. It is this kind of demand that requires changes in priorities. Those changes in priorities, in turn, can create changes in the ways time is spent. With new demands to see what is really going on in classrooms, K-12 teachers may be able to shift some of their time so they can

document their teaching and reflect on students= learning. Similarly, it is this kind of demand that can begin to influence the formal and informal reward systems and provide some new incentives for faculty in higher education to focus on their teaching and give teaching the attention it deserves. In the end, this may be a fantasy, but it may be a fantasy worth pursuing.

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