



# Intriguing Links: Electronic Portfolios, Reflection, and Promising Research

*Kathleen Blake Yancey, Florida State University and Co-Director of I/NCEPR*

Electronic portfolio (ePortfolio) practitioners, like their print portfolio counterparts, often identify reflection as the pivot point of portfolio learning, especially when it is defined as both (1) the processes of inquiring into one's learning for purposes ranging from increasing understanding to enhancing learning and (2) the products that demonstrate and articulate those processes and learning. Through such reflective processes and artifacts, students have a voice in accounting for their learning, and from an assessment perspective, with student voices we have a fuller portrait of learning. At the same time, research on the efficacy of reflection can be hard to come by, which is one reason that reflection in ePortfolios has been a continuing topic of research within the Coalition. As their contributions to the new Coalition volume on ePortfolios, *Electronic Portfolios: Emergent Findings about Learning and Engagement*, several campuses—including Thomas College, Virginia Tech, and University of

Nebraska at Omaha, in addition to the campuses referenced below—are researching various aspects of reflection connected to ePortfolios.

One *contextual* area of research on ePortfolio reflection is located in what George Mason University researchers are calling “*thinking sheets*,” which, as it sounds, are spaces specifically designed for reflection, where students record two kinds of thinking: (1) the thinking that goes into the selection of portfolio artifacts and (2) the thinking about what they have learned in the processes of learning and of creating an ePortfolio. One intriguing finding is that when students are explicit about such thinking—as the thinking sheets encourage them to be—they often experience what the researchers are calling “the moment,” which is the occasion when these different learnings come together. How these moments occur—inside of how many thinking sheets and staged at what intervals—are questions researchers are currently pursuing.

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## A Note from the Editors

Welcome to the first edition of the revised I/NCEPR newsletter. As you can see, we have made some changes to the format and “look” of the newsletter—we hope you like it as much as we do!

As many of you know, our plan is to have a theme for each issue—this time it is on Reflection. The articles and review all focus on this issue. We hope you will enjoy reading about the research of the Coalition, taboo phrases in reflection, and how the work of John Dewey is useful to our work with ePortfolios. You will also notice that there is space dedicated to hearing from you—we want to hear what you are doing on your campuses, so please be sure to send us note of your publications, presentations and any other news you would like to let us all know about. The next edition will focus on career

about. The next edition will focus on using one ePortfolio tool or many and the deadline for submitting content is August 17th. We look forward to hearing from you! In addition, if you have ideas for future issues, please let us know.

~Cara Lane (cgiacomini@u.washington.edu)

~Tracy Penny Light (tplight@uwaterloo.ca)

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# Clichés of Reflection in a Design Engineering Seminar

*Helen Chen, Stanford University*

What exactly constitutes “good” reflection in an introductory freshman seminar on design engineering? To answer this question, our research team evaluated weekly reflections submitted by students commenting on their individual and group experiences in their team projects. In our analysis, we observed that similar phrases were often used, perhaps attributable to the fact that students were writing their reflections at the last minute and not considering the broader implications and takeaways of their experiences. We presented these oft-used phrases to students in subsequent iterations of the course as a conversation starter for what comprises a more meaningful and deeper perspective of a design experience. We did not forbid students from using what we jokingly described as the *Taboo List of Phrases*, but should they find themselves using these terms to consider how they could be used more effectively, precisely, and thoughtfully.

*We observed that similar phrases were often used*

## Taboo Phrases about Individual Tasks:

- “very productive and effective”
- “insightful”
- “interesting”
- “creative”
- “put my creativity to the test” & other clichés like it
- “tried very hard”
- “which I thought was great”
- “I learned so much . . .”
- “. . . learn a lot . . .”
- “so much”
- “I learned that things don’t always happen the way you plan them.”
- “not that much I can say I wish had gone differently”
- “we needed more time”
- “went pretty well”
- “running pretty smoothly”
- “most important thing I learned along the way”
- “I learned how to think . . .”/ “I learned more about how to design . . .”
- “I wish I had put more time into . . .”
- “much more engaging”
- “think outside the box” & clichés like it
- “work more efficiently”
- “allowed us to look at design in a new way”
- just paraphrasing the words on the assignment sheet

- in general, avoid clichés or common sentences in responses
- excuses (for illness, business, or whatever) do not need to be in the reflection

## Taboo Phrases about Group Work:

- “everyone worked hard to meet”
- “discussed our plans thoroughly”
- “different perspectives and ideas”
- “open minded”
- “workload was divided evenly”
- “achieved our goals”
- “everyone worked well together”
- “everyone played an integral role”/“had an equal voice”
- “communicate well with your group”
- “listen to others”
- “work effectively in a group”
- “I feel our group did a good job of . . .”
- “improve on working together”
- “two heads are better than one” & clichés like it.
- “I liked working with a team”

Engaging students in conversation around this list and the importance of linking reflections and evidence has been a useful exercise which has resulted in reflections characterized by greater depth and explanation. In later analyses of student reflections, we found that better reflections often included the use of unique noun phrases that represent the different activities that take place during the process of doing design and learning to do design. Lastly, we, the teaching team, came to the realization that we need to ask better questions in order to elicit more complete and thoughtful responses from the students.

## Context and Reference:

This list was developed by undergraduate researcher Jonathan Gabrio and Helen L. Chen as part of a guiding activity for scaffolding student reflection in *Designing the Human Experience*, an introductory freshman seminar on design engineering at Stanford University taught by Professor Larry Leifer. For more information about this course or the Folio Thinking research program, please contact Helen L. Chen at [hlchen@stanford.edu](mailto:hlchen@stanford.edu).

Chen, H.L., Cannon, D.M., Gabrio, J., & Leifer, L. (2005, June). *Using Wikis and Weblogs to Support Reflective Learning in an Introductory Engineering Design Course*. Paper presented at the 2005 American Society for Engineering Education Annual Conference & Exposition, Portland, Oregon. *2005 ASEE Design in Engineering Education Division Best Paper*

# Article Review: “Defining Reflection: Another Look at John Dewey and Reflective Thinking” by Carol Rodgers

Reviewed by Tracy Penny Light, University of Waterloo

Source: *Teachers College Record*, 104, 4 (June 2002): 842-866.

In this article, Carol Rodgers explores the nature of reflective thinking by returning to Dewey and his criteria for reflective thinking. She does this in response to what she describes as the “cry for accomplishment in systematic, reflective thinking” (843) despite the fact that it is “difficult to distinguish what systematic, reflective thinking is.” For those of us engaged in ePortfolio work, this is particularly important. Most ePortfolio researchers, I think, would argue that reflection is the cornerstone of effective ePortfolio practice. The reflective thinking that students are encouraged to do in order to develop their thinking, competencies, and views of the world and their disciplines is viewed as perhaps the most important part of developing one’s ePortfolio. However, what exactly does reflection look like? How is/should reflection be defined? What evidence is needed to “prove” that students have truly internalized, transferred or had a transformative learning experience as evidenced by their reflections? These are important questions and Rodgers’ look at Dewey is useful in this regard.

Dewey, notes Rodgers, defines reflection as thinking which includes four criteria. They are: 1) Reflection as a meaning-making process. This criterion looks at how learners move from one experience to the next and how they make connections between and among those experiences; 2) Reflection as a rigorous way of thinking. This criterion, for Dewey, was based in scientific inquiry and points to a systematic and disciplined way of thinking; 3) Reflection in community. Here, Dewey points to the need for reflection to happen by and through interaction with others; 4) Reflection as a set of attitudes. These attitudes, or habits of mind, value both intellectual and personal growth for ourselves and others. Indeed, in order for reflection to happen, all four criteria need to be present. What is particularly interesting about these criteria is that they appear to be developmental in nature – all students may not exhibit all criteria at once and may only demonstrate these types of thinking over time. If this is the case, what does this mean for our work as we design and implement ePortfolios on our campuses?

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## Intriguing Links (continued from page 1)

The relationship of *structure* to reflection focuses the general education ePortfolio at IUPUI, which identifies outcomes through a matrix that builds in developmental learning as well as experiential learning. Thus, when a student includes an artifact in his or her portfolio, the process includes identifying where in the matrix it belongs and commenting on that inclusion. This “*matrix thinking*”—which parallels the developmental schema for reflection created at Alverno—sets up other kinds of matrix thinking as well. For example, when a student later includes pieces of work in a discipline-based ePortfolio, she or he engages in a “doubled” matrix thinking, or what we might call multiple mapping: thinking through and with the general education matrix as well as the disciplinary matrix. Such mapping—the ability to see a given artifact in several different contexts—is of course one hallmark of intellectual achievement. How such mapping connects to data on student retention and achievement is a current focus of the IUPUI project.

Another kind of structure distinguishes the NSF-funded ePortfolio project at Clemson University, where researchers in psychology are mapping the kinds of connections students make in their ePortfolios. Beginning students, they have found, tend to create a very simple hub-and-spokes or starburst model, with a single large node linking all artifacts. More advanced students create a much more *complex portfolio structure*, with several large

nodes and many arteries linked to them. In this finding, Clemson echoes a similar finding at St. Olaf College, where ePortfolios that were deemed stronger evidenced a more complex set of relationships/links between artifacts—and both findings seem related to the mental maps differentiating novice and expert learners. As important, in the more advanced Clemson ePortfolios, the individual large nodes and their associated links seem tailored to address the needs and interests of particular *audiences*. In other words, the suggestion is that including multiple audiences as part of an ePortfolio exerts a positive effect on students’ mapping of disciplinary relationships. The relationship of such structures to other indices of learning is a focus of this project.

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What is interesting in all these projects is the way, through each individual focus, they help us understand reflection anew. At the same time, as we read across these research projects, we begin to see patterns—in the structures supporting reflection, in the connections and contexts students create, in new ways of thinking and demonstrating—and that too is a value of Coalition work.

## Member News: Presentations and Publications

**Glenn Johnson, Pennsylvania State University**  
"Perceived Value and Persistence of Web Publishing Skills: Implications for e-Portfolio Systems" will be published in the next issue of the *International Journal on E-Learning* 6:3(2007). Authors: Glenn Johnson, John A. Dutton, Pei-Hsuan Hsieh, and Khuro Kidwai from Pennsylvania State University. Research has demonstrated that student control of their learning is an important factor that supports meaningful reflective learning. The Penn State personal Web space system emphasizes personal control over this learning space and requires students to acquire basic Web publishing skills. In this research we explore students' perceptions of the Web publishing skills they learned. In particular we investigate the students' perceived value of Web publishing skills and the extent to which these skills persist. Then, based on these findings we review the implications regarding the utility of introducing these skills within other online learning contexts, such as ePortfolio systems, where meaningful reflective learning is a main objective.

**Cara Lane, University of Washington**  
"The Power of 'E': Using e-Portfolios to Build Online Presentation Skills," by Cara Lane from the University of Washington, was published in the Feb/March 2007 issue of *Innovate* (<http://innovateonline.info>). The article discusses student attitudes toward ePortfolios and argues for the usefulness of ePortfolios as a means for students to develop professional and academic presentation skills. At the ED-MEDIA World Conference this June (<http://www.aace.org/conf/edmedia>), Cara Lane and Janice Fournier will present findings from the University of Washington's research on the use ePortfolios in beginning composition courses.

### **Mary Zamon, George Mason University**

We facilitated a roundtable discussion at the American Educational Research Association meeting in Chicago (April 2007). The paper was well received and the idea of Thinking Sheets generated discussion on collecting data in general and the pros and cons of other methods like talk aloud or video. I think the feedback and questions we received in Omaha and other places helped us address up front potential concerns. Thank you to everyone for that! Debra was approached and asked if we were considering a paper for the next year's meeting. We are considering where we want to go with this project. This is the abstract: "Assessing the Learning Potential of E-Portfolios in Graduate Education through Thinking Sheets." This case study examined thinking processes of six students of education during creation: struggles with technology, attention to directions, and progression from Bloom's knowledge level to higher order thinking skills. However, students demonstrated higher order levels less frequently than expected. The study indicates there may be a common progression, with an identifiable moment when students see the possibilities and connections ePortfolios

can afford. Suggestions for programs offering ePortfolios are offered.

### **Helen Chen, Stanford University**

Cohort One members (shown left to right above) Carl Young (North Carolina State, formerly Virginia Tech), Helen Chen (Stanford), Yves Labissiere (Portland State), Bill Rickards (Alverno), and Barbara Cambridge (not pictured) shared their research at AERA 2006 in San Francisco, CA. The symposium was titled, "Studying the Roads We Make: The National Coalition for Electronic Portfolio Research" and was led by Bill Rickards with Joanne Carney of Western Washington University as our respondent.



### **Darren Cambridge, George Mason University**

This summer I am presenting our work in several venues. May 18-20, I shared some of the ideas I previewed in Omaha about networked and symphonic selves at Computers & Writing in Detroit. At the Sakai/OSP conference in Amsterdam, June 12-15, I will discuss preliminary results of George Mason's work with leadership portfolios with Melissa Peet, who will talk about similar work at the University of Michigan. Shortly before our next meeting in July, I will be co-leading the Writing Program Administrators Assessment Institute in Tempe, AZ, for which I will be drawing on much that I have learned from the Coalition members over the last four years.

### **Jill Lumsden, Florida State University**

Lumsden, J., Lenz, J., Ford, C., & Reardon, R. (2007, April). *E-Portfolios: Using campus partnerships to promote student learning and career development*. Presentation at the NASPA/ACPA Joint Meeting, Orlando, FL.

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## Member News: Announcements and Updates

### **Helen Chen, Stanford University**

Using ePortfolios for Teaching, Learning, and Assessment, <http://wallenberg.stanford.edu/institute.html>. ePortfolios are more than just a technology: they imply a process of planning, keeping track of, making sense of, and sharing evidence of learning and performance. Participants will address issues and challenges relating to ePortfolio adoption and implementation, examine a range of case studies and tools, and develop a plan for putting ePortfolios into practice on their own campuses. Featured experts: John Ittelson, CSUMB; Tracy Penny Light, University of Waterloo; Toru Iiyoshi, The Carnegie Foundation for the Advancement of Teaching. Dinner speaker: Gordon Bell, MyLifeBits project and Microsoft Bay Area Research Center. Date and Location: August 16-17, 2007, Stanford University, Stanford, CA. Registration Deadline: July 31, 2007.

### **Barbara Cambridge, I/NCEPR Co-Director**

Cohort IV of the Inter/National Coalition for Electronic Portfolio Research will be constituted of institutions primarily from the UK. The call for applications was issued within the UK and to other countries in the European Union for inclusion in the 2007-2010 cohort, which will hold meetings in England. Applications will be reviewed in spring 2007 for the start of cohort work in fall 2007. The Centre for Recording Achievement in the UK, through support from the Higher Education Academy, is collaborating with the co-directors and associate director of the Inter/National Coalition to provide leadership for Cohort IV. Members of the new cohort will be announced in the summer.

### **Ruth Cox, San Francisco State University**

San Francisco State University has launched <http://eportfolio.sfsu.edu> as a clearinghouse site for the campus. We are currently supporting a range of student ePortfolio developments including the use of SFSU webspace to create ePortfolio sites, pilots using eFolio (Mn.), Taskstream, and the KEEP toolkit. We welcome dialogue and examples from other institutions using similar strategies and tools. Examples of 2006 students sites: Business using SSFU templated Portfolios (<http://userwww.sfsu.edu/~yiu>), Health Education using eFolio (<http://anishamoore.sfsu.myefolio.com/>), and English Education using KEEP toolkit (<http://tinyurl.com/2lohog>).

### **Ruth Cox, San Francisco State University**

Announcing the formation of "The Digital Teaching & Learning Consortium" (DTLC), a membership organization of educational institutions working together to develop and support high quality, low-cost, technology-based environments and activities. Our consortium includes faculty, administrators and technical staff from California Community Colleges and California State University Campuses in the Bay Area. The DTLC

goals include, but are not limited to, uniting people committed to improving student successes and transitions between academic institutions, collaborating as the academic technology landscape changes, creating an economy of scale around specific technologies, supporting students and faculty using these technologies, and creating an organic, public knowledge base of effective teaching and learning practices. For more information, please contact Kevin Kelly, [kkelly@sfsu.edu](mailto:kkelly@sfsu.edu)

### **Nancy Gross, La Guardia Community College**

There is a flourish of ePortfolio activity here at LaGuardia Community College in NYC:

- This academic year about 100 faculty and 6500 students have been working on ePortfolios
- We are running a new year-long professional development seminar for faculty titled "ePortfolio in the Professions." Faculty are working with students to demonstrate professional competencies on their ePortfolios
- We are in the process of adding a reflection section to our ePortfolio website with resources for both students and faculty to support reflective practice
- Students and faculty will present their work with ePortfolios at a biannual ePortfolio Showcase scheduled for June 8<sup>th</sup>
- We are in the midst of planning an ePortfolio conference to be held at the college on November 3, 2007. More news coming soon.

### **Kathleen Yancey, I/NCEPR Co-Director**

Cohort III will meet on July 19 and 20, 2007 and Cohort II will meet on July 20 and 21, 2007. Cohort III members are cordially invited to hear final reports from Cohort II on July 21, Cohort II members are welcome to come for July 19, and Cohort I members are encouraged to come whenever they are able. The meeting will be held at George Mason University.

## Send us news!

We are now accepting news items from I/NCEPR members for the September Issue!

Send your 100-word contributions to Cara Lane ([cgiacomini@u.washington.edu](mailto:cgiacomini@u.washington.edu)) or Tracy Penny Light ([tplight@uwaterloo.ca](mailto:tplight@uwaterloo.ca)).

**Deadline: August 17**

## “Defining Reflection” Review (continued from page 3)

This definition with its inherent criteria, Rodgers argues, is necessary in order to design learning experiences (in her case in teacher education) where reflection can be developed as a process and then put into practice. She argues that “because reflection is a particular, defined way of thinking, it can be practiced, assessed and perfected”(864). Early evidence from the University of Waterloo suggests that this is indeed the case. Students early in their education seem to have little knowledge or experience with reflective thinking. Therefore, we need to scaffold this process for them, helping them to learn as they go along. We have found Dewey’s criteria are useful for coding student ePortfolios in order to determine where, when and how students are developing their reflective thinking skills and to effectively design learning experiences that will allow us to best support students in developing these abilities. This, of course, has implications for our work as we wrestle with how to implement ePortfolios effectively and for what purpose. Helen Chen’s article on taboo phrases in

reflection, for instance, points to the need to clearly define for students what reflection is and to help them learn how to think about their learning (see page 2). It also has repercussions, I think, for wider curriculum design. For instance, where should opportunities for students to develop this kind of thinking be introduced in a program and what scaffolding do we need to provide to ensure that students have opportunities to practice and receive feedback on their reflections? Defining what we mean by reflection is crucial for the success of our ePortfolio initiatives, particularly in terms of research on this topic. Without clearly defining what we mean by reflection and what it should “look” like in practice, it is difficult to design learning experiences and, in turn, to evaluate those experiences to determine our success. This article is an excellent starting point for all of us as we think through how we define reflection and how those definitions affect our learning goals for ourselves and our learners.

## Publications and Presentations (continued from page 4)

*Tom Edwards, Thomas College*

Thomas College was a member of the Council on Independent Colleges’ (CIC) “Transformation of the College Library workshop just held in Cleveland. We reported how we are using portfolios in conjunction with SAILS assessment to evaluate information literacy skills. On May 3-5, Professor James Libby gave a formal presentation at the CIC conference, “Business and the Liberal Arts: Integrating Professional and Liberal Education,” in Chicago. His remarks focused on the use of the e-portfolio in the senior-level internship seminar to demonstrate student learning across the curriculum.

*Cara Lane, University of Washington*

I/NCEPR research is featured in the Innovate-Live Spring Seminar Series: “e-Portfolios: New Opportunities for a Timeless Instructional Strategy.” Are ePortfolios more than an instructional strategy? Promise abounds on all fronts, but can an ePortfolio be both student-centered and institutionally valuable at the same time? This seminar will consider all of these questions in an attempt to evaluate the real promise—and peril—of ePortfolios. Seminar Leader: Glenn Johnson, Pennsylvania State University. Panelists: Philip Burlingame and David Babb from Pennsylvania State University, Cara Lane from University of Washington, and Vicki Lind from the University of California, Los Angeles. The seminar will take place on June 6, 2007 at 4:00 PM eastern standard time. You can register for this free event at: <http://www.uliveandlearn.com/PortalInnovate/>



inter/national coalition for

**electronic portfolio research**

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