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Unlocking ePortfolio Practice: Teaching Beliefs

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The Association for Authentic, Experiential, and Evidence-Based Learning (AAEEBL) annual ePortfolio survey focuses on understanding ePortfolio practitioners' teaching beliefs and practices. The action research reported here extends that survey research to a population of emerging educators (i.e., graduate students in education). In addition to surveying the teaching beliefs of the target population as a comparison with respondents to the annual AAEEBL survey of ePortfolio practitioners, the researchers collected data through a sequence of reflective activities with the students. The belief constructs of the survey – teacher-, learner-, and learning-centered beliefs – maintained face and statistical validity. Graduate students were high in all three belief constructs. They particularly prized learner-centered beliefs and practices. Their reflections reveal barriers to embracing, implementing, and in some cases even comprehending, learning-centered practices.

The Association for Authentic, Experiential, and Evidence-Based Learning (AAEEBL) annual ePortfolio survey has attempted to reveal ePortfolio practitioners' teaching beliefs. The action research reported here extends that survey research to emerging educators: graduate students in education who are practicing and advancing or aspiring educators. In addition to the survey of the teaching beliefs of the target population, as compared to the annual AAEEBL survey of ePortfolio practitioners, qualitative data were collected through a sequence of reflective activities to further validate the AAEEBL teaching belief constructs and to explore these research participants' understanding of the constructs and the origins of their teaching beliefs.

Literature Review

The purpose of this section is to link existing theories regarding teaching beliefs to the three teaching belief constructs developed and validated in the AAEEBL annual survey and explored in this study (i.e., teacher-centered, learner-centered, and learning-centered beliefs). In simple terms, the three constructs can be explained as follows: (a) teaching-centered practice involves the faculty member determining what is to be learned and how that learning is to be measured; (b) learner-centered practice involves the faculty member determining what is to be learned but encourages student agency by engaging students more fully in the process of determining answers or solutions as well as affording some leeway as to how evidence of that work might be presented; and (c) learning-centered practice, through which the faculty member promotes agency for learners who join with faculty in determining how the work will be represented and what is necessary to learn. In learning-centered practice, it is presumed that students and faculty will collaborate, employ peer review, network to inform their learning process, create, and feel personal responsibility for their learning. This emphasis on faculty as learners deviates from previous work on learner-centered pedagogies (e.g., Blumberg, 2008; Rogers, 1969; Weimer, 2013). Reports of data analysis from early administrations of the AAEEBL survey confirmed the relationship between teaching beliefs and teaching practice (Brown, Chen, & Gordon, 2012; Brown, Chen, & Jacobson, 2012). This analysis revealed, for instance, that:

- Teaching-centered faculty's teaching beliefs correspond to conventional teaching practices such as lectures, tests, limited faculty collaboration, and presentational uses of technology;
- Learning-centered beliefs correspond to teaching strategies different from those stimulated by teacher- and learner-centered beliefs and entail differences in the understanding of a teacher's role, approaches to collaboration with colleagues and community, and use of technologies than those that characterize teaching and learner-centered faculty;
- The size and sector of an institution associates significantly with the stated purposes of teaching as well as the underlying teaching beliefs.

Precedent for these findings comes from, among others, Flower and Hays's (1980) seminal piece, which concluded that "People only solve the problem they give themselves to solve" (p. 3). Teaching belief constructs explored through the AAEEBL survey and their relationship to teaching practice are, in fact, rooted in this work and decades of other research and reports of practice. The binary taxonomy between teacher and learner-centered teaching drawn by Barr and Tagg

(1995) has done much to deepen discussion of variations in teaching practice. The impact of beliefs about practice is also well documented by Kuh, Kinzie, Schuh, and Whitt (2010), who have drawn on years of data from the National Survey of Student Engagement to identify high impact teaching practices such as research projects, first-year seminars, writing intensive courses, learning communities, internships, and community engagement. This work has confirmed that different practices yield different outcomes for students and affirms the utility of distinguishing between teacher-centered and learner-centered practices.

Wilson and Wineburg (1993) found that teachers' ideas about the nature of learning predict how they will teach, as well as what they hope students will learn. Leinhardt and Greeno (1991, 1994) found that the teaching of history, as an example, ranges from a focus on fact-based recall to broader conceptual approaches that focus on history as consensus-based evidentiary understanding. They outline how these different belief systems shape faculty's teaching practices, learning outcomes, and the perception of history among learners in their classes (Leinhardt & Greeno, 1991, 1994).

Pajares (1992) elaborated in detail how a person's beliefs can determine how this person will perceive, interpret, and organize information. He found that beliefs are often largely presumed, suggesting that decisions about instruction and instructional design are often unconscious (Pajares, 1992). Even implicit teaching beliefs have been found to be integral to teaching practice (Trigwell & Prosser, 1999).

One implication of this previous research is that improvement in teaching practice can be advanced when teachers are assisted in making their implicit beliefs explicit. This approach has several advocates (Ajzen, 1985; Brookfield, 1995; Kane, Sandretto, & Heath, 2002; Pajares, 1992). Initiatives along these lines have had some record of success, notably in identifying how differences in beliefs are associated with theoretical versus practical orientations toward teaching (Nottis, Feuerstein, Murray, & Adams, 2000; Trigwell & Prosser, 2004). Most of that work has focused on pre-service teachers, and measures have tended to be based in dichotomous thinking, distinguishing between traditional teacher-centered beliefs and learner-centered beliefs. Some existing measures of teacher beliefs attempt to isolate constructivist approaches to teaching, such as those drawn from the work of Lave and Wenger (1991), but research on the evolution of constructivism, as it has emerged in the Web 2.0 social networking-rich environment and consistent with learning-centered beliefs, is only now emerging. Frameworks like Moravec's (Kharbach, 2013), which compares Web 1.0, Web 2.0 and Web 3.0, and Crowley's (2013) chart the differences in orientation manifest in Massive Open Online Course (MOOC) practice and, in critical ways, mirror the distinctions in teaching beliefs made in the AAEEBL survey.

One important implication of the open read-write web (often manifested in learning-centered and ePortfolio practice) is the intentional recognition of student agency, especially in the new context of education where, increasingly, classroom walls and boundaries are blurred. Pruyn (1996) and Jackson (2003) describe the actions of faculty who believed in the importance of nurturing student agency and the design of agency-rich student learning activities. Even earlier, Bruffee (1983, 1995) divided cooperative learning from collaborative learning, presaging the difference between learner- and learning-centered beliefs and practices. In Bruffee's (1983) nomenclature, cooperative learning occurs when students work together on a problem that has been identified or developed by a teacher in order to identify the correct answer (teacher-centered practice). Alternately, students who are presented with an opportunity to identify an issue of their own choosing and who work together to develop an approach to a challenge in an ill-structured domain, are, as Bruffee (1995) defines it, engaged in collaboration. For a thorough discussion of the social construction of knowledge imbued in collaborative learning and support from brain science, see Bransford, Brown, and Cocking (2009).The learning-centered orientation, by other names, has continued to gain ground with the momentum of the open read/write web in blogs, some MOOCs, Personal Learning Environments (PLEs), and ePortfolios. The belief that students, who are increasingly attending multiple institutions and taking non-linear approaches to their education (Selingo, 2013), learn most effectively in an environment that facilitates student agency undergirds the AAEEBL survey's learning-centered construct.

In general, teaching-centered practice tends to correspond to behaviorism. Behaviorism, predominant in the 1960s, relies heavily on an understanding of learning (and behavior) that is observable and driven by various external incentives or stimuli (Skinner, 1978). The incentives, provided by agents, including teachers, who are external to the learner, stimulate a learner's behavior.

The learner-centered belief construct is rooted in research related to cognitivism (Bruner, 1986; Piaget, 1926; Vygotsky, 1962) and constructivism (Dewey, 1933/1998; Kolb, 1984; Montessori, 1948). This research has explored variations in individuals' motivation and the invisible but inferable aspects of learning and has confirmed that learning context shapes learning outcomes and that social interaction influences learning. In the AAEEBL teaching belief constructs, beliefs and practices that allow for individual

differences and cooperative approaches to learning are reflected and represented as learner-centered.

Most recently, practices related to connectivism have gained some prominence. The third construct added to the AAEEBL framework, learning-centered, draws on principles outlined in the descriptions of learning in Web 2.0 (Batson, 2008; Grush, 2008) and connectivism as described by Downes (2006) and Siemens (2004). Siemens (2004) articulated principles of connectivism that extend social constructivism by underscoring that not only is learning influenced by interaction, but the interaction itself is a manifestation of learning. Science has since confirmed that, as Internet use expands, people are re-allocating their mental capacity. Humans are off-loading memory tasks to search engines and to our growing external collective memory (Sparrow, Liu, & Wenger, 2011). Children now raise their hands not just because they may hold an answer to a teacher's question, but because they know where to find it. Teaching beliefs and practices that put a primacy on knowledge generation afforded by the digital world and that promote community-based learning—including teachers as co-learners and co-creators—are represented in the learning-centered construct.

The teacher-, learner-, and learning-centered constructs, then, subsume and extend previous theories. Notably, previous findings from the AAEEBL survey confirm that few teachers are consistently in a single category. A learning-centered teacher does not ignore the role of providing incentives (stimuli, in the language of teacher-centered behaviorists). A teacher-centered practitioner may not discount the agency of the learner, but more likely relegates that agency to occasions beyond the purview of his or her instruction. The constructs of teacher-, learner-, and learning-centered that AAEEBL has developed are general but nonetheless, as our previous research (Brown, Chen, & Gordon, 2012; Brown, Chen, & Jacobson, 2012; Brown, Cho, & Ater-Kranov, 2012) has confirmed, statistically viable (exploratory and confirmatory factor analyses—see Table 1) and useful when presented with appropriate qualification.

The impetus for this research was to extend the AAEEBL survey beyond ePortfolio users in order to understand better the three teaching belief constructs and, particularly, how educators perceive the constructs in their own experience as learners and in their own teaching practice.

Method

Research Questions

Research Question 1: How do graduate students (advancing educators) understand the three belief constructs (both in the survey and upon reflection), and how does their understanding compare to that of ePortfolio practitioners who have responded to the same survey questions?

Research Question 2: When the locus of analysis is the individual respondent, how do individuals vary across belief constructs (e.g., teacher-centered, learner-centered, and learning-centered)? Because past research suggests that individuals hold a mix of all three teaching beliefs, the three belief constructs and various possible combination of constructs are considered: teacher, learner, learning, teacher-learner, teacher-learning, learner-learning, teacher-learning, high in all three, and low in all three. As an illustration, a random sample of 100 faculty at a research institution found that 18% of respondents were entirely teacher-centered, 9% learner-centered, 7% learning-centered, 14.5% high in all three constructs, 11% teacher-learner-centered, 5% teacher-learning-centered, 23% learner-learning-centered; 12.5% were low in all three (Brown, Cho, & Ater-Kranov, 2012).

Participants

A single-site, mixed method action research approach was used with graduate students involved in two semester-long graduate courses offered through the Adult Organizational Learning and Leadership program at a medium-sized, moderately selective land grant university in the Inland Northwest United States. Graduate students in this program aspire to become (or advance as) professional educators in schools, universities, non-profit agencies, companies, and other organizations in which adult learners (defined as anyone 18 years of age or older) are present.

Study participants were 14 graduate students involved in Adult Learners: Foundations and Characteristics (AOLL 573), a beginning core course required for master and doctoral students seeking advanced degrees in Adult Organizational Learning and Leadership (AOLL); and 13 graduate students and the same instructor as above involved in Strategies for Facilitating Adult Learning (AOLL 575), a course required for students to complete the Human Resources Development option of the AOLL degree program. AOLL 575 could also be used as an elective for any AOLL student. These and all AOLL courses are offered online through Blackboard's course management system bblearn. Except for three synchronous meetings held via bblearn's online videoconferencing system, all interactions in both courses were text-based and asynchronous.

The goal of both graduate courses is to develop the students' understanding of and appreciation for learning in adulthood. AOLL 573 is designed as a survey course to introduce the philosophical, psychological, social, and economic foundations of adult education and

Table 1
Factor Pattern for Exploratory Factor Analysis of Teaching Belief Instrument Based on Three Factors

	Item	Teacher-Centered Factor 1	Learner-Centered Factor 2	Learning-Centered Factor 3
Teacher-Centered	I use a textbook to plan my course.	.635	-.051	-.039
	Lectures are important models of subject matter expertise.	.813	-.082	.079
	I focus primarily on information students will need to pass the exams.	.560	-.113	-.082
	When evaluating student performance, it is important to consider multiple examples of student work.	-.078	.348	.190
Learner-Centered	Instruction should be flexible to accommodate students' individual needs.	-.343	.627	.016
	I am certain that I am making a difference in the lives of my students.	.234	.396	-.092
	I encourage students to constantly check their own understanding while they are studying.	-.111	.660	.162
	I am good at helping all the students in my classes make significant improvement.	.031	.726	-.083
	My course activities usually require students to work individually.	.332	.133	-.636
Learning-Centered	I encourage students to work together to solve authentic problems that students help identify.	-.014	-.138	.733
	I provide opportunities for my students to critique each others' work.	-.226	-.240	.439
	Many of my assignments require students to work in groups to arrive at correct answers and solutions.	.237	.244	.738
	I assess students' teamwork skills.	.077	.284	.659

characteristics of adult learners. Students in this course are tasked with generating ideas related to adult learning and responding to ideas and theories forwarded by scholars and their peers in the course. Each student completes a capstone project that synthesizes learning in the course relevant to their current or desired career working with adult learners. AOLL 575

> provides participants with an opportunity to reflect upon the underlying structure of their beliefs about teaching adults and learning in adulthood, to broaden and deepen their understanding of adult learning theory, and strengthen their skills in the practice of teaching adults. (Henscheid, 2013, para. 1)

The structure of weekly and culminating assignments in AOLL 575 is similar to those in AOLL 573, but the course puts greater emphasis on developing appropriate strategies for teaching adults in the students' current or desired professional contexts.

A total of 25 graduate students participated in the study (including two enrolled in both courses). Eleven (44%) of the 25 students were male. The instructor (and action researcher) was a female with a Ph.D. in Education and 17 years of experience teaching undergraduate and graduate students. She was in her second year as a Clinical Assistant Professor in the Department of Leadership and Counseling housed in the university's College of Education.

Research Design

Data were collected from quantitative and qualitative sources because "quantitative and qualitative inquiry can support and inform each other" (Miles & Huberman, 1994, p. 396). Research questions 1 and 2 were investigated first with administration of the survey, and then in more detail through the reflective

assignments described below. The study was designed as action research, an investigative technique employing strict research methodologies aimed at solving problems in social contexts. It achieves its objective when researchers provide knowledge leading to actions that are intended to make a positive change in these contexts (Bogdan & Bilken, 2007; Marshall & Rossman, 2011). This attention to problem solving is particularly relevant in contexts such as formal educational settings, in which formative improvement is particularly critical (Marshall & Rossman, 2011; Stringer, 2007; Willis, Inman, & Valenti, 2010). Action research achieves its best results when members of the research team share a stake in the practical outcomes of the inquiry and understand its potential costs and benefits (Stringer, 2007; Willis et al., 2010). As stakeholders in the setting, non-neutral action researchers seek to collaborate with participants in the research in order to influence improvement in organizations. This type of scholarly inquiry "is often conducted in organizational contexts and in education where professionals collaboratively question their practice, make changes, and assess the effects of those changes" (Marshall & Rossman, 2011, p. 23). The action research approach employed for this study consisted of an iterative process of planning; intervention and data collection; data analysis; and reflection (Reason & Bradbury, 2008). Planning for the study and the courses was achieved by the course instructor, who was collaborating with researchers with backgrounds in ePortfolio research, including authorship and analysis of the annual AAEEBL survey. The action research approach was selected as ideal for its potential simultaneously to answer the research questions and to help the instructor and the students achieve the objectives of both courses.

Data Collection

To establish a baseline measure of teaching beliefs, the instructor invited study participants to respond to the AAEEBL survey during the week prior to the beginning of the semester, as described in Appendix A. The survey helped to introduce the teaching belief constructs and begin the process of engaging the participants in reflection on the distinctions among teacher-, learner-, and learning-centered beliefs and practices. The course was designed using the constructs as a lens for reflecting upon students' own learning and their own teaching plans and practices.

The data sources and collection timeline for each of the two study stages are visualized in Table 2, below. Reflective writing assignments were posted in bblearn, where students also submitted their finished work. The survey was administered via the online service SurveyMonkey (http://surveymonkey.com/).

Part I: Baseline Survey Instrumentation

A five-point Likert scale survey was used to measure students' teaching beliefs. Survey respondents were asked to choose one of the following on each item: *strongly disagree*, *disagree*, *neither disagree or agree*, *agree*, *strongly agree*, and *N/A*. Items associated with each teaching belief construct are presented in Table 3. The survey was validated by Brown, Chen, and Gordon (2012). The reliability Cronbach's alpha coefficients for teacher-, learner-, and learning-centered beliefs were .577, .632, and .647, respectively. The overall combined teaching beliefs reliability Cronbach's alpha coefficient was .618 (Brown, Chen, and Gordon (2012). Three criteria were used to determine the number of factors to retain: Kaiser or mineigen greater than 1 (K1); Cattell's (1966) scree test; and Parallel Analysis (PA; Horn, 1965). The results revealed that the teaching beliefs instrument was a three-factor model, with a variance of 34.465%. Exploratory factor analysis was used to determine which items make up the different subscales of the instrument. The result of the exploratory factor analysis revealed that the 13 items divided into three subscales: (a) teacher-centered belief (three items, loadings ranged from .560 to .813); (b) learner-centered belief (five items, loadings ranged from .348 to .726); and (c) learning-centered belief (five items, loadings ranged from .439 to .738). See Table 2 for each of the 13 items. The following two items, drawn from Trigwell and Prosser's (2004) previous work, were added to teacher-centered beliefs for use in Phase 2 confirmatory factor analysis: (a) I design my teaching with the assumption that most of the students have little knowledge of the topics to be covered; and (b) I feel it is important to present a lot of facts to students so that they know that they have to learn for this subject. The confirmatory factor analysis was conducted to determine whether the teaching beliefs instrument was a three-factor model. The results revealed that "teaching beliefs" was a three-factor structure with the overall chi-square (χ^2) = 104.687, df = 69, and p = .003 < .05, TLI = .886 < .95, CFI = .914 > .90, RMSEA = .054 < .06, and SRMR = .0659 < .08. The item "I assess students' teamwork skills" was removed from the model because it loaded on all three factors. Therefore, the teaching beliefs instrument had demonstrated both internal consistency and construct validity (Brown, Chen, & Gordon, 2012). Figure 1 displays the final 14 online survey questions and rating scale.

Survey responses were analyzed through both individual questions and a respondent's combined responses. Underlying the analysis is the recognition

Table 2
Data Collection Timeline

Research stage	Data source	Participants	Time data collected
Stage 1	Survey	30 graduate students who enrolled in two higher education classes	September 4, 2013
Stage 2	Documents (Student reflections and student peer coding of reflection using belief constructs and further reflection)	25 graduate students who enrolled in two higher education classes	September 15-22, 2013

Table 3
Components of Teaching Beliefs Survey

Category	Item
Teacher-Centered Belief	1. It is important to present facts to students to provide a foundation for the subject. 2. I focus on information students will need to pass exams. 3. I design instruction with the assumption that most students have little knowledge of the topics. 4. I use a textbook to plan my instruction. 5. Lectures provide important models of subject matter expertise.
Learner-Centered Belief	6. The courseware helped me to acquire a deeper understanding of the content knowledge. 7. I learned a lot from this program. 8. Learning from this courseware is difficult for me. 9. It is hard for me to find information related to the questions.
Learning-Centered Belief	10. I always knew where to go next when using this courseware. 11. I always knew where I was when using this program. 12. The design of the courseware caused confusion in me. 13. I often felt lost when browsing the courseware.

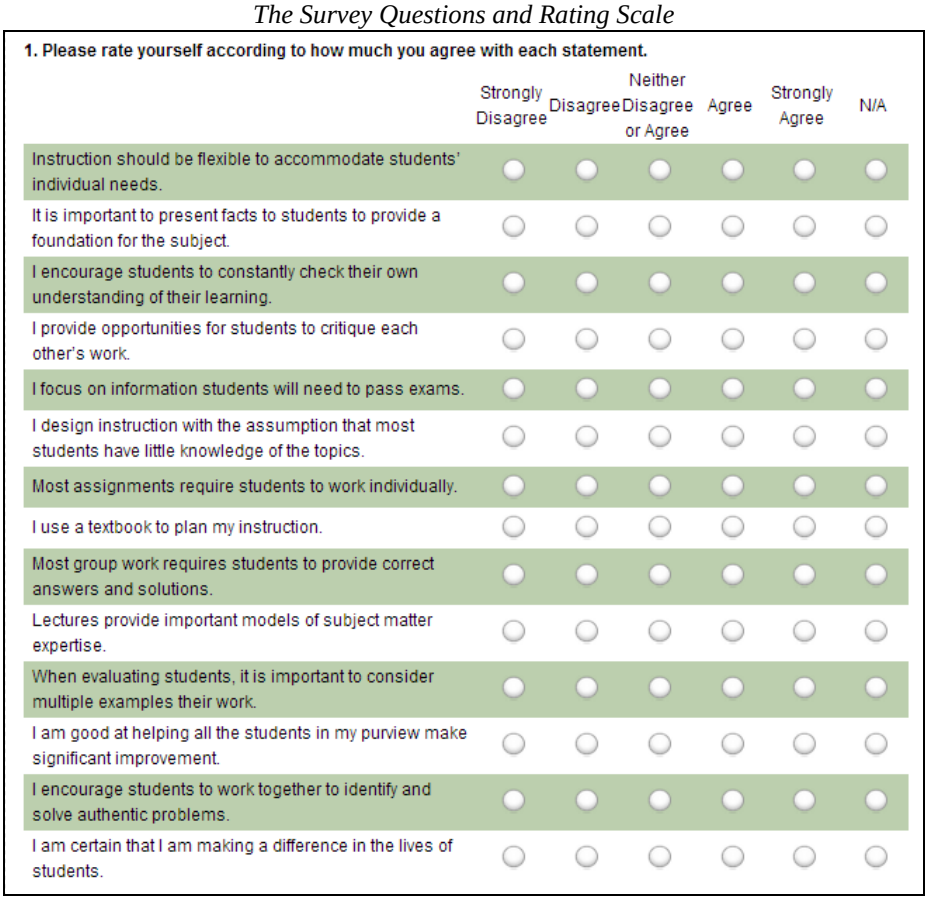
that belief constructs are fluid, context dependent, and, as previous research has indicated and as noted above, infrequently held uniformly by individuals. The analysis therefore presumes that it is the aggregate responses in the context of the research that is of interest.

Further, it is the tendency of beliefs among ePortfolio practitioners who responded to earlier administrations of the AAEEBL survey that has yielded the most useful insights. Previous research by Brown, Chen, and Jacobson (2012) reported that ePortfolio practitioners have, in general, different belief profiles than faculty randomly surveyed across an institution. It appears further that ePortfolio practice is associated with increased percentages of beliefs that are learning- rather than teacher-centered. It is understood that a convenience sample among previous respondents to the AAEEBL annual survey reflects an association, not a causal relationship.

Procedures. In the study reported here, every graduate student enrolled on the first day in each course was invited to respond to the survey. All complied, which therefore indicates that there is no sample bias per se. Rather, there is a response bias in that respondents are all from a population pursuing advanced degrees in education at a research institution in the inland northwest. It is the insight into the teaching beliefs of this population—this bias—that is of interest in this research. While 30 graduate students completed the survey, only 25 remained in the courses to participate in subsequent reflective activities. Post hoc analysis of the characteristics of students who did not remain in the courses demonstrated little difference between the population of leavers and those who remained. All 30 survey responses, therefore, were included in analysis of survey data.

Data analysis. Following completion of the survey, responses were analyzed in two ways: first, to review the distribution of teaching beliefs relative to each question or item; and, second, to understand the distribution of teaching beliefs among the sample population. First, when the locus of analysis is by question (item), how do responses reflect the three belief constructs, and how does the distribution

Figure 1
The Survey Questions and Rating Scale



1. Please rate yourself according to how much you agree with each statement.

	Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree	N/A
Instruction should be flexible to accommodate students' individual needs.	○	○	○	○	○	○
It is important to present facts to students to provide a foundation for the subject.	○	○	○	○	○	○
I encourage students to constantly check their own understanding of their learning.	○	○	○	○	○	○
I provide opportunities for students to critique each other's work.	○	○	○	○	○	○
I focus on information students will need to pass exams.	○	○	○	○	○	○
I design instruction with the assumption that most students have little knowledge of the topics.	○	○	○	○	○	○
Most assignments require students to work individually.	○	○	○	○	○	○
I use a textbook to plan my instruction.	○	○	○	○	○	○
Most group work requires students to provide correct answers and solutions.	○	○	○	○	○	○
Lectures provide important models of subject matter expertise.	○	○	○	○	○	○
When evaluating students, it is important to consider multiple examples their work.	○	○	○	○	○	○
I am good at helping all the students in my purview make significant improvement.	○	○	○	○	○	○
I encourage students to work together to identify and solve authentic problems.	○	○	○	○	○	○
I am certain that I am making a difference in the lives of students.	○	○	○	○	○	○

compare with ePortfolio practitioners who have responded to the same questions? Second, when the locus of analysis is the individual respondent, how do individuals vary across belief constructs and how does that distribution compare with ePortfolio practitioners?

Part II: Intervention Reflective Activities

Following administration of the survey, students were asked to complete three assignments related to the teaching belief constructs and to the genesis of their own beliefs about what "good" teaching means. The first assignment, given to students in both courses, asked the students to reflect on who taught them what good teaching means. They were asked to describe in 400 words the behaviors of teachers, in any setting, that had the most powerful impact on their notions of good teaching. This assignment (labeled Assignment #2) is offered as Appendix B. The second assignment in AOLL 573 (Appendix C) asked these students to conduct a comparison of teaching beliefs and behaviors among two well-known educators (Malcolm Knowles and Stephen Brookfield) and themselves. In this creative writing/media assignment, they were tasked with describing what good teaching meant for the scholars, what it means to them, and what life experiences might have shaped these philosophies. The second assignment in AOLL 575 (Appendix D) asked students to describe in 1,000 words an instance in which they had received short-lived and superficial skill development and to describe how they would redesign that experience into an opportunity for learning to last beyond a single course. They were asked to justify their choices based on teaching-belief constructs. The final assignment in the sequence, shared by both courses, was each student's opportunity to code a peer's writing on the two previous assignments, using the teaching belief constructs to analyze their findings and draw conclusions, and to describe their own beliefs relative to the writer's beliefs (Appendix E).

Data analysis. As an iterative process, creation of the above assignments was based on preliminary, descriptive statistical analysis of survey data and the instructor's assessment of student writing using the Association of American College and University's (AAC&U, 2014) VALUE Critical Thinking Rubric. As

described below, scores on the rubric were used to guide coding of reflective exercise data. In a norming exercise held during each course's initial synchronous meeting, students were instructed that a 2.5 or higher rating (on a 4-point scale) constituted acceptable work. Use of this standard supported instructor feedback on the students' work and informed data coding by the instructor and a second researcher. In particular, this standard was used as the basis for a decision to discard from analysis vague statements made by students about teaching beliefs or behaviors. The result of this determination is described in greater detail under "Findings."

Three codes were assigned to student writing on four assignments—one each for teacher-, learner-, and learning-centered belief constructs—by two sets of raters, the students and two members of the research team, including the course instructor. In total, 79 pieces of student writing, ranging from 400 to 1000 words each, were analyzed.

Results

Part I: Survey Results

Survey results were rendered first, by item or question (What was the overall variance in the way graduate student emerging educators responded to questions relative to the three belief constructs?) and, second, by respondent (How are emerging educators' belief profiles distributed across the belief constructs, and how do those profiles compare with those of ePortfolio practitioners?). Participants responded to 78 questions; not all of those surveyed responded to all questions analyzed for beliefs. The distribution of beliefs by question, as depicted in Figure 2, illustrate a relatively even spread among the three constructs, with a slight inclination toward learner-centered perspectives.

Survey results were calculated as a percentage and then compared with results from the 2012 and 2013 AAEEBL response. This comparison yielded differences across the three populations: ePortfolio practitioners who responded in 2012 and 2013, and graduate student participants in this survey. Graduate students were slightly more inclined to reflect teacher-centered thinking than were ePortfolio practitioners (32%, compared with 24% and 20%) and slightly less likely to reflect learning-centered responses (30%, compared with 35% and 38%).

When belief profiles are aggregated and allocated to individual respondents, the population profile indicates that graduate students are high across all three belief profiles (see Figure 3).

In sum, the results by respondent showed that the emerging-educator graduate student population was generally learner-centered, more likely to tend toward teacher and learner-centered beliefs, and notably less likely than practicing ePortfolio educators to tend toward learner- and learning-centered beliefs. Notably, the emerging educators were much more likely to hold beliefs that are high in all three categories. Given the limited number of respondents, tests for statistical significance were not run.

The reflective activities were introduced to shed light upon these tendencies and to reveal in some detail how emerging educators understand the belief constructs.

Part II: Reflective Activities Results

As described above, writing for all student assignments was initially reviewed by students in the courses, who coded examples of the three belief constructs provided by their peers. Similarly, student reflection was also coded by two researchers, including the teacher of the two courses. During coding by the research team, categories were assigned, and through a process of data reduction, some 40 categories emerged. Data reduction allowed researchers to identify emerging themes, categories, and patterns, to test emerging hypotheses against the data, and to combine categories. Both indigenous (the language of the respondents) and analyst-constructed typologies (Marshall & Rossman, 1989; Patton, 1990) were used, as displayed in Table 4.

When reliability is calculated as percentage agreement, the two researchers agreed on 236 out of 239 total teaching-belief reference statements, or 98% of the time. Researchers and graduate students (i.e., emerging educators) agreed on 156 of 239 reference statements, or 65% of the items.

Out of 82 disagreements between the researchers' and graduate students' ratings, 40 (48%) were in behaviors that students identified as learning-centered and researchers did not. Twenty-four (29%) were in the teacher-centered column. Nineteen (23%) were in teaching-centered identifications. At the same time, of the behaviors and other manifestations of teaching beliefs that students identified, only 55 of 239, rightly or wrongly, were categorized as learning-centered. Researchers identified only 15 of 239 teaching behaviors or expressed beliefs as learning-centered. That constitutes 6% of total identified teaching practices. Less exposure to or experience with learning-centered education, it appears, means less agreed-upon evidence of practice and/or less reliability or stability of the construct.

Discussion

The two-fold purpose of this research was (a) to extend the scholar and practitioner current understanding

Figure 2
Graduate Student Teaching Belief Distribution/Survey Question

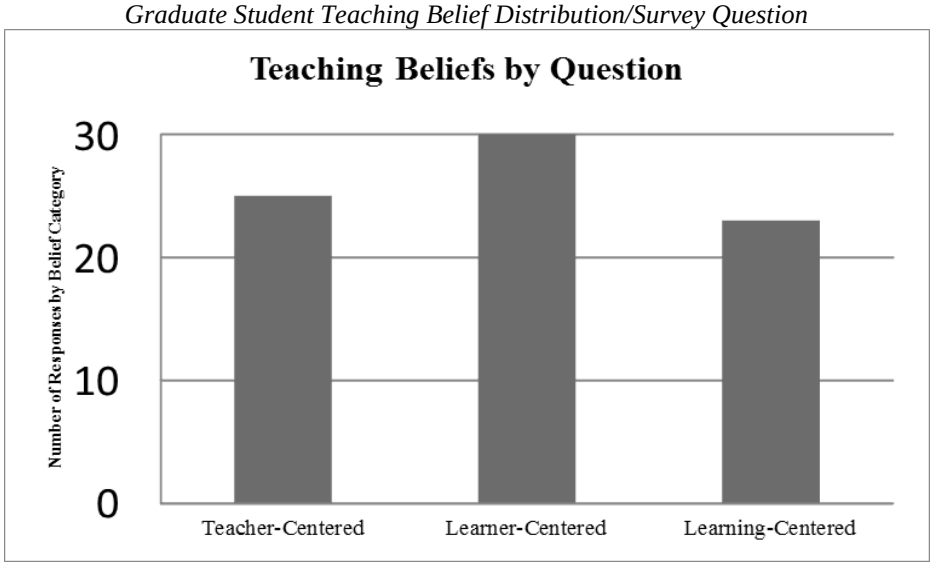
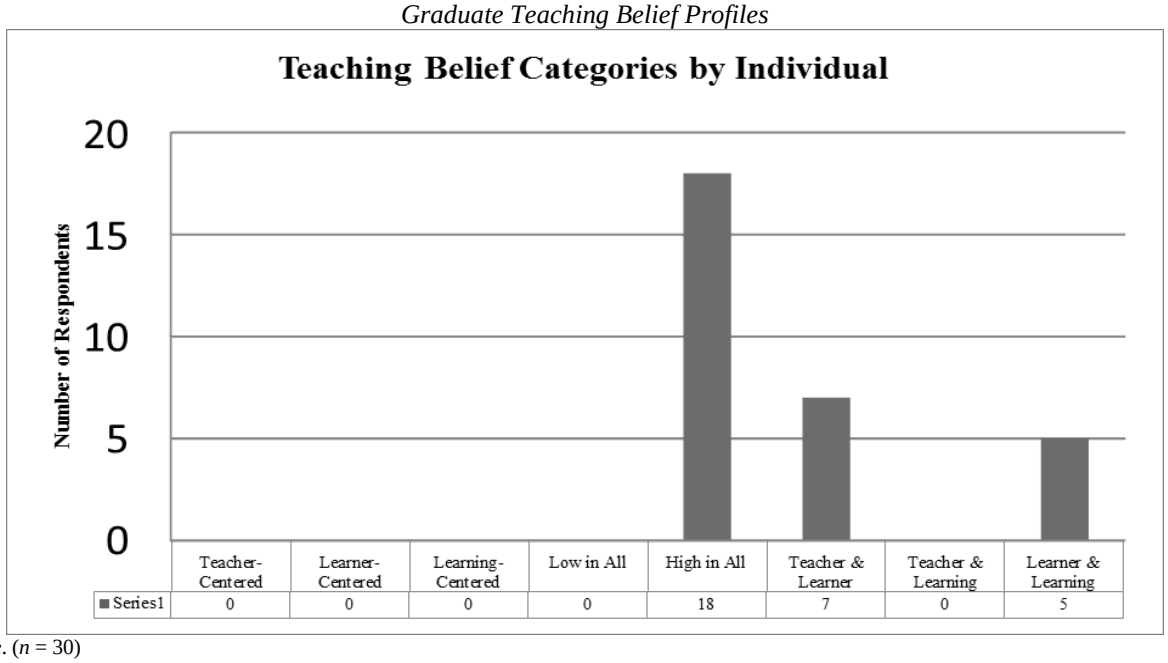


Figure 3
Graduate Teaching Belief Profiles



Note. (n = 30)

of teaching beliefs being developed among ePortfolio practitioner respondents to the annual AAEEBL survey; and (b) using an action research approach, to provide graduate students aspiring to or advancing as professional educators an opportunity to reflect on their own teaching beliefs and attendant behaviors.

Survey results indicate that these graduate students rate high in all three belief constructs. This profile is somewhat unusual. By comparison, only 14.5% of randomly selected faculty members involved in a previous study (Brown, Cho, & Ater-Kranov, 2012) were high in all three. In the 2013 AAEEBL survey only 38% of ePortfolio practitioners were high in all three, but 60% of graduate students were high in all. Our initial speculation is that these findings reflect graduate student enthusiasm.

In the educational research tradition, the review of student reflections and peer coding raised as many questions as it answered. First, there is some

Table 4
Response Coding and Reliability

	Response category	Teacher	Learner	Learning	% Agree
1.	Teacher lectures and facilitates focused class discussion ("Memorize facts and death by PowerPoint").	10	6	0	63%
2.	The Teacher "allowed us to interact with peers and ask questions."	2	7	3	58%
3.	Students lead discussion (according to teacher parameters).	0	2	2	50%
4.	Teacher is entertaining/enthusiastic.	1	2	2	20%
5.	Teacher directs methods, proxemics "reason to the correct answer."	6	3	1	60%
6.	Teacher models learning (meta; NOT teacher as a model) and provides authentic examples.	6	14	3	61%
7.	Teacher imparts/shares/bestows mastery of knowledge, shows (why neglected).	9	2	3	64%
8.	Teacher defines scope of learning (including critical thinking).	8	3	2	61%
9.	Teacher provides guidance, feedback, coaching (advises).	2	11	2	73%
10.	Teacher is encouraging and supportive and compassionate, empathetic, listens, "above and beyond" (affect, mentoring) personal connection, "truly cared."	4	16	2	73%
11.	Teacher encourages understanding multiple perspectives.	0	1	2	33%
12.	Teacher withholds purpose of activity.	2	0	0	100%
13.	Skill training, role playing, practice	3	3	3	33%
14.	Teacher maintains rigorous expectations is strict	3	0	1	75%
15.	Small group discussion/work (teacher instigates cooperative groups; "We were allowed to interact with our peers and ask questions.")	0	2	3	20%
16.	Class is repetitive ("always the same").	4	0	0	100%
17.	Watching videos	1	0	0	100%
18.	Rote learning/multiple choice tests				
19.	"All the questions have standard answers."	3	0	0	100%
20.	Student responsible for own answers and making course content relevant	0	2	1	66%
21.	Students encouraged to be creative (outside box thinking)	0	2	0	100%
22.	Content coverage trumps learning ("If you did not understand what you were learning you were in trouble because the class was on a time schedule not on a learning schedule.")	1	0	0	100%
23.	Hands-on learning opportunities	0	1	3	25%
24.	Real life application (often collaborative)	0	6	0	100%
25.	Teacher encourages student to make connections with own aspirations	0	0	1	100%
26.	Teacher guides analysis, making connections, creating systems and models	2	0	0	0%
27.	Teacher starts with needs of learners or adapts to performance/values student opinion/perspective and unique purposes (individualized; "She [knew] that the classroom was full of students who do not fit into a single profile, with students having different personalities and experiences in life.")	2	20	6	71%
28.	Students make their own choices ("wander through process")	0	0	2	100%
29.	Teacher is authority/unapproachable	2	1	0	66%
30.	Teacher designed course around comprehensive and integrated activity	0	1	0	100%
31.	Teachers facilitates field trip/tour	1	2	1	50%
32.	Teacher initiates conversation outside of class	0	1	0	100%
33.	Teacher gives students skills to succeed on own	0	0	1	100%
34.	Teacher promotes self-guided strategies and shared responsibility	0	0	1	100%
35.	Teacher promotes student reflection/metacognition	0	0	3	100%
36.	Authentic surveillance	1	0	0	100%
37.	Students customize own curriculum, self-directed, the curriculum was shaped by the students, helping them learn the material they wanted to rather than what the teacher wanted to teach about a subject.	0	1	4	80%
38.	Students teach class (and teacher)	0	1	2	66%
39.	Community field work (defined by teacher)	1	0	0	0
40.	Teacher encourages questioning of authority	0	0	1	100%
	TOTALS	74	110	55	

recognition among graduate students, as well as researchers, of the implicit irony in looking for learning-centered practices within the confines of an institution of formal learning. Even collaborative learning exercises during which students are permitted to work together to solve problems or generate knowledge are in some respects "teacher-centered," as evidenced by one participant's comment that he was "allowed [by the teacher] to interact with our peers and ask questions." Another student, reticent to learn history, was grateful for the teacher who "taught in such a way that I was forced to engage with the events and the stories I was reading as if I had been there."

The evidence also suggests that the teaching belief construct is imbued with considerable connotation (Consider the story of the principal who drops into a class to observe an instructor who has the class engaged in collaborative group work: "I'll come back when you are really teaching," he quips.)

Consistent with directions given in the students' assignments, codes were applied by the researchers as much as possible to activities that students described in concrete terms. In reviewing the Critical Thinking Rubric used for assessing their work, these students had been introduced to the standard of evidentiary proof that would be used in the class. At the 2.5 level, the rubric suggests that evidence should be described clearly enough to allow for its evaluation and analysis. Despite this, a number of students used vaguely worded platitudes to describe good teaching. For instance, students made statements such as "Good teaching is important if one is to learn to work hard in order to get anywhere in life," or, "In Mr. [X's] class, his respect was something we had to earn." In addition, general descriptions provided by students were not coded if they lacked evidence of teacher agency. For instance, observations such as "The learner is self-directing" occasionally were presented without reference to what a teacher said or did to elicit self-directed learning.

Such phrases were not included in the researchers' analysis of data, but they do inform the interpretation as they highlight the amorphous nature of people's teaching beliefs and underscore the influence of affect, which clearly complicated the students' efforts to code the work of their peers. One pronounced finding in this study is that many students consider teacher-centered practice undesirable or bad and learner and/or learning-centered practice—whatever it may mean—as good. Caring, comedic, or entertaining educators, even when they lecture, were often rated as learner- or even learning-centered. The opening line of one graduate student's reflection on the coding she had done of her peer's work is indicative: "To a great degree, we become who we are and believe what we believe by learning from who we like." This primacy of affect in describing good teaching is echoed by another student, who said when he thinks of a good teacher, he "thinks of someone who empathizes with and relates to their students in order to assist them in developing knowledge or skills." In some cases, tough love by a teacher is better than none at all, as illustrated in this student's comment:

> But above all else, he loved to bestow knowledge on others. However, he didn't simply give knowledge and then ignore those he gave it to. He would bestow pride in them by testing them while they were under physical or mental stress.

These findings partially explain why the researchers identified 13 ratings that demonstrated a lack of intra-rater reliability. In these cases, students contradicted their own ratings, occasionally in adjacent sentences, when coding their peers' writing. When it was appreciated as learning-centered, a lecture was understood to be valuable if the teacher "showed he cared" by doing "what he needed to do to spread wisdom." An unapproachable or authoritarian teacher might be considered, by the same student, to be displaying teacher-centered behavior in their lecturing. In defense of this confusion and the implications for reliability, it may be useful to remember, as Shirkey (2013) observed, "If it's impossible to create a completely coherent categorization, even when you're doing something as physically related to essence as chemistry, imagine the problems faced by anyone who's dealing with a domain where essence is even less obvious" (para. 17).

Interestingly, what the researchers considered teacher-centered behaviors often received a mix of learner and learning-centered codes from the students. The discrepancy seems to lie again with the students' perception that direction from the teacher was given with positive intent. The tone and the extent to which a teacher may value the students' process and support the development of their learning are, to these emerging educators, what indicates the educator's teaching belief. The strongest areas of agreement among researchers and graduate students was recognition that meeting students where they are and adapting according to their performance—individualizing instruction to the extent it is possible—reflects a learner-centered belief and practice.

Implications

The study reported here has implications for researchers, teachers, and faculty-development and instructional-design professionals. Researchers seeking to extend the work of the AAEEBL survey, with administration of it to new populations, are welcome to do so and encouraged to contact the authors for support in designing future studies. Testing the face and construct validity of the survey with new populations would deepen understanding of the teaching beliefs and practices across groups. The action research approach employed here provided a powerful, and appropriate, opportunity for formative improvements in the teaching and learning experiences of the instructor and students who collaborated in conducting the study. As designed, the research was seen by students as engaging in "something real" and relevant to development of their professional identities. Ongoing informal comments and end-of-term student course evaluations reflected highly positive responses to the action research approach. Teachers of emerging educators are

especially encouraged to help students make their teaching beliefs explicit. Results of this study indicate that this population may need special support to widen their toolkit of teaching strategies beyond those compatible with teacher- and learner-centered beliefs. Teachers, academic departments, colleges, and entire institutions could benefit from reflecting on individual and collective teaching beliefs and attendant practices through participation in this or similar surveys. Faculty development and instructional design professionals could adopt similar approaches to uncover their own, or their clients', teaching beliefs as part of development activities or prior to design of an individual course or entire curricular or co-curricular program.

Limitations

Caution should be exercised in generalizing these findings to other contexts. As noted above, early administrations of the AAEEBL survey have suggested that differences in teaching beliefs and practices exist across institution types. Participants in this study were engaged primarily in online coursework leading to an advanced degree in adult organizational learning and leadership, administered through a medium-sized, moderately selective land grant institution in the inland northwest. The instructor is a veteran teacher of graduate students, with longstanding professional ties to the researchers. And finally, this was the first administration of the AAEEBL survey to a population not composed of ePortfolio users, those individuals for whom the survey was originally designed. The researchers believe, however, that items in the survey are conceived broadly enough to be of use in understanding teaching beliefs and practices of educators at all levels and in a variety of contexts.

Conclusions

Though graduate student comments suggested that teacher-centered beliefs might be considered less desirable than others, it is not the intent of the research or the viewpoint of the researchers to suggest that a belief profile progresses developmentally from teacher- to learner- to learning-centered, or that these categories reflect the quality of teaching. We understand that the constructs indicate a scaffolding that develops as needs change in different teaching and learning contexts. From the researchers' perspective, a steady diet of teacher-centered practice is as problematic as unmediated learning-centered practice.

The paucity of data related to learning-centered beliefs and behaviors from the student writing was a surprise to the researchers. Few students recounted instances in which good teachers had promoted agency among learners to help determine how academic work would be represented and what should be learned. Rare were those instances when students said they had collaborated to generate new knowledge, employed vigorous peer review, networked with others in and out-of-class to inform their learning process, or were encouraged to create or embody their own learning. These students were not blind to the fact that they had missed out on learning-centered experiences. As suggested above, some wondered if it was even possible in formal learning environments. Others had just never seen it. One student expressed the timidity others also confessed to with her acknowledgement that she

> would get lost without teachers' guidance. I [am] so used to meeting teachers' expectations. It will take time for me to learn to make my own learning plan—even to find my own needs and interests. At the same time, I do admire and agree [with] the importance of [learning-centered approaches] and would love to be able to explore and contribute my own perspectives.

The authors of this study consider this quiet sentiment from one beginning graduate student at one university as a clarion call to educators everywhere and at every level. An increasingly networked Web 2.0 world demands explicated teaching beliefs and a range of intentionally designed teaching practices appropriate to this new world.

References

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action control: From cognition to behavior* (pp. 11-39). Berlin, Germany: Springer Verlag.

Association of American Colleges and Universities (AAC&U). (2014). Critical thinking valid assessment of learning in undergraduate education rubric. Washington, DC: Author. Retrieved from www.aacu.org/value/rubrics/CriticalThinking.cfm

Barr, R. B., & Tagg, J. (1995). From teaching to learning—A new paradigm for undergraduate education. *Change: The Magazine of Higher Learning, 27*(6), 12-26. doi:10.1080/00091383.1995.10544672

Batson, T. (2008, March 5). Is Web 2.0 designed for education? *Campus Technology.* Retrieved from http://campustechnology.com/articles/2008/03/is-web-20-designed-for-education.aspx

Blumberg, P. (2008). *Developing learner-centered teaching: A practical guide for faculty*. San Francisco, CA: Jossey-Bass.

Bogdan, R. C., & Biklen, S. K. (2007). *Qualitative research for education: An introduction to theories and methods* (5th ed.). New York, NY: Pearson.

Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (2009). *How people learn: Brain, mind, experience and school*. Washington, DC: National Research Council/National Academies Press.

Brookfield, S. (1995). *Becoming a critically reflective teacher*. San Francisco, CA: Jossey-Bass.

Brown, G., Chen, H. L., & Gordon, A. (2012). The annual AAEEBL survey at two: Looking back and looking ahead. *International Journal of ePortfolio*, *2*(2), 129-138. Retrieved from http://www.theijep.com/past_2_2.cfm

Brown, G., Chen, H. L., & Jacobson, J. (2012). ePortfolios changing the learning context: The AAEEBL survey report. Retrieved from http://www.aaeebl.org/Resources/Documents/TAL/TAL_v3n3_2013_06.pdf

Brown, G., Cho, Y., & Ater-Kranov, A. (2012). Faculty teaching beliefs, ePortfolios, and Web 2.0: At the crossroads. In D. Cambridge (Ed.), *E-portfolios and global diffusion: Solutions for collaborative education* (pp. 170-182). San Francisco, CA: Jossey-Bass.

Bruffee, K. A. (1983). *Collaborative learning: Higher education, interdependence, and the authority of knowledge*. Baltimore: Johns Hopkins University.

Bruffee, K. A. (1995). Sharing our toys: Cooperative learning versus collaborative learning. *Change: The Magazine of Higher Learning*, *27*(1), 12-18. doi:10.1080/00091383.1995.9937722

Bruner, J. S. (1986). *A study of thinking*. New Brunswick, NJ: Transaction.

Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research, 1*(2), 245-276. doi:10.1207/s15327906mbr0102_10

Crowley, J. (2013, August 15). cMOOCs: Putting collaboration first. *Campus Technology*. Retrieved from http://campustechnology.com/articles/2013/08/15/cmoocs-putting-collaboration-first.aspx?m=2

Dewey, J. (1933/1998). *How we think.* Boston, MA: Houghton Mifflin.

Downes, S. (2006). *Learning networks and connective knowledge: Discussion paper # 92*. Retrieved from http://itforum.coe.uga.edu/paper92/paper92.html

Flower, L., & Hayes, J. R. (1980). The cognition of discovery: Defining a rhetorical problem. *College Composition and Communication*, *31*(1), 21-32. doi:10.2307/356630

Grush, M. (2008, February 27). The future of Web 2.0. *Campus Technology*. Retrieved from http://www.campustechnology.com/articles/58872_1/

Henscheid, J. M. (2013). *Syllabus for AOLL 575: Strategies for facilitating adult learning*. Boise, ID: Department of Leadership and Counseling, University of Idaho-Boise.

Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika, 30*(2), 179-185. doi:10.1007/BF02289447

Jackson, D. (2003). Education reform as if student agency mattered: Academic microcultures and student identity. *Phi Delta Kappan*, *84*(8), 579.

Kane, R., Sandretto, S., & Heath, C. (2002). Telling half the story: A critical review of research on the teaching beliefs of university academics. *Review of Educational Research, 72*(2), 177-228. doi:10.3102/00346543072002177

Kharbach, M. (2013). *Education 2.0 vs. education 3.0: Awesome chart.* Retrieved from http://www.educatorstechnology.com/2013/06/education-20-vs-education-30-awesome.html

Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development.* Englewood Cliffs, NJ: Prentice Hall.

Kuh, G. D., Kinzie, J., Schuh, J. H., & Whitt, E. J. (2010). *Student success in college: Creating conditions that matter.* San Francisco, CA: Jossey-Bass.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation.* Cambridge, UK: Cambridge University.

Leinhardt, G. & Greeno, J. G. (1991). The cognitive skill of teaching. In P. Goodyear (Ed.), *Teaching knowledge and intelligent tutoring* (pp. 233-268). Norwood, NJ: Ablex.

Leinhardt, G. & Greeno, J. G. (1994). History: A time to be mindful. In G. Leinhardt, I.L. Beck, and C. Stainton (Eds.), *Teaching and learning in history* (pp. 209-225). Hillsdale, NJ: Erlbaum.

Marshall, C., & Rossman, G. B. (1989). *Designing qualitative research*. Newbury Park, CA: Sage.

Marshall C., & Rossman G. B. (2011). *Designing qualitative research* (5th ed.). Thousand Oaks, CA: Sage.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Thousand Oaks, CA: Sage.

Montessori, M. (1948). *The discovery of the child*. Madras: Kalkshetra Publications.

Nottis, K., Feuerstein, A., Murray, J., & Adams, D. (2000). The teacher belief inventory: Measuring the theoretical and practical orientations of preservice teachers. *Education, 121*(1), 90-101. Retrieved from http://www.questia.com/read/1G1-66960807/the-teacher-belief-inventory-measuring-the-theoretical

Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research, 62(3)*, 307-332. doi:10.3102/00346543062003307

Patton, M. (1990). *Qualitative evaluation methods*. Newbury Park, CA: Sage.

Piaget, J. (1926). *The language and thought of the child*. London, UK: Routledge & Kegan.

Pruyn, M. (1996). *The social construction of critical student agency in one adult literacy classroom* (Unpublished doctoral dissertation). Los Angeles, CA: University of California Los Angeles.

Reason P., & Bradbury H. (Eds.) (2008). *The Sage handbook of action research: Participative inquiry and practice*. Thousand Oaks, CA: Sage.

Rogers, C. (1969). *Freedom to learn: A view of what education might become* (1st ed.) Columbus, OH: Charles Merill.

Selingo, J. (2013). Presidents and professors largely agree on who should lead innovation. *Chronicle of Higher Education*, *60*(5), B15.

Shirkey, C. (2013). *Ontology is over-rated: Categories, links, and tags.* Retrieved from http://www.shirky.com/writings/ontology_overrated.html?goback=.gde_1838701_member_179729766

Siemens, G. (2004). *Connectivism: A learning theory for the digital age.* Retrieved from http://www.elearnspace.org/Articles/connectivism.htm

Skinner, B. F. (1978). *Reflections on behaviorism and society*. Englewood Cliffs, NJ: Prentice Hall.

Sparrow, B., Liu, J., & Wegner, D. M. (2011). Google effects on memory: Cognitive consequences of having information at our fingertips. *Science*, *333*(6043), 776-778. doi:10.1126/science.1207745

Stringer, E. T. (2007). *Action research* (3rd ed.). Thousand Oaks, CA: Sage.

Trigwell, K., & Prosser, M. (1999). Relations between teachers' approaches to teaching and students' approaches to learning. *Higher Education, 37*(1), 57-70. doi:10.1023/A:1003548313194

Trigwell, K., & Prosser, M. (2004). Development and use of the approaches to teaching inventory. *Educational Psychology Review*, *16*(4), 409-424. doi:10.1007/s10648-004-0007-9

Vygotsky, L.. (1962). *Thought and language*. Cambridge, MA: MIT.

Weimer, M. (2013). *Learner-centered teaching: Five keys changes to practice.* San Francisco, CA: Jossey-Bass.

Willis, J., Inman, D., & Valenti, R. (2010). *Completing a professional practice dissertation.* Charlotte, NC: Information Age.

Wilson, S. M., & Wineburg, S. S. (1993). Wrinkles in time: Using performance assessments to understand the knowledge of history teachers. *American Educational Research Journal*, *30*(4), 729-769.

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Author's Note

The authors wish to express their deep gratitude to the graduate students who collaborated in this research.

Appendix A
Course Assignments #1-#4 – AOLL 573 and 575

Introduction to Assignment #1 (both courses)

Hello students: I have pasted below the content of the email I sent you Sunday, August 25th. You have nothing to post to this blog. This first assignment will be completed in SurveyMonkey (as noted below).

Greetings students!
No, the semester hasn't started yet but yes I am sending you your first (non-graded) assignment. You are welcome to wait until tomorrow to complete it if you wish. For those of you who have enrolled in my courses before this first assignment will look familiar—YOU are designing this course with me. Those of you who are taking both of my teaching adults courses will only need to complete this survey once.

Introduction to Survey

Building YOUR course—a non-graded assignment:

In keeping with best practices for teaching adults, I begin every class I teach with a survey gauging student needs and design each course around those needs. This survey includes two sections. Your answers to the first section will help me understand the beliefs you have about what it means to be a teacher. The second section offers you the opportunity to talk about yourself and the experiences you bring to this course. Because many of us may never be in the same physical space, I have found making student-profile information (from this second section) available to all students in the course helpful for building a sense of community across distance. Please answer the second section questions knowing that you are speaking to your fellow students enrolled in the course.

A special note about questions in the first section:

This section is part of an ongoing series of research activities aimed at examining how beliefs about what it means to be a teacher relate to teaching practices. Questions from this section were developed by researchers from the Association for Authentic, Experiential and Evidence Based Learning (AAEEBL). With your permission I would like to share anonymous answers to these questions with these researchers. Your names and other identifiers will in no way be attached to these data if you allow me to share them. Further notes about your rights related to this survey are offered below. If you DO NOT wish to have your anonymous answers to the first section questions included in this national research project, please indicate your wishes in an email to jeanh@uidaho.edu with the subject heading PLEASE DO NOT SHARE MY ANONYMOUS DATA WITH AAEEBL. Your grade in the course will in no way be impacted by your choice.

Who will see my profile information from the second section of the survey?

Only students enrolled in this course and your instructor will see this information. It will be included on our bblearn site.

Will my information in the first section of this survey be kept private?

The national AAEEBL survey where these questions originate has been approved by the hosting institution's Institutional Research Board. The responses will be confidential. Aggregated results may be published or presented at professional meetings, but the identities of all research participants and their programs and institutions, unless explicit permission is given, will remain anonymous.

What are my rights as a respondent to this survey?

Your participation is completely voluntary (and not part of your grade for this course). You may choose not to answer specific questions or to stop participating at any time.

What does my informed consent mean?

By clicking on the Next button below, you indicate that you understand my goals for this survey and how the information you provide will be used. An e-mail to me indicating that you do not wish your first section data to be shared with AAEEBL will be used as evidence that you do not consent to participate in this research. If you do not send an e-mail to Jean removing your data from this research clicking Next means you consent to participate and are ready to begin the survey.

Portland State University HSRRC Proposal #122052

WELCOME TO YOUR COURSE! I AM LOOKING FORWARD TO LEARNING WITH AND FROM YOU.

Survey

Please check the option(s) that best represent your role(s). (Mark all that apply)

- ☐ K-12 educator
- ☐ College or university faculty
- ☐ College or university non-faculty employee
- ☐ Private business or industry employee
- ☐ Human resources professional
- ☐ Non-profit employee
- ☐ Part-time employee
- ☐ Full-time employee
- ☐ Part-time graduate student
- ☐ Full-time graduate student
- ☐ Other (please specify)

2. If employed, name of employer:
   If employed, name of employer:
3. City and state of current residence:
   City and state of current residence:
4. Estimated number of employees at employer:
   Estimated number of employees at employer:
5. For K-12 and college or university employees, estimated number of students at institution:
   For K-12 and college or university employees, estimated number of students at institution:
6. For K-12 and college or university employees, please indicate the characteristics of your institution (Mark all that apply).

☐ For K-12 and college or university employees, please indicate the characteristics of your institution (Mark all that apply)

- ☐ Public institution
- ☐ Private institution
- ☐ For profit
- ☐ Two-year
- ☐ Four-year, primarily nonresidential
- ☐ Four-year, primarily residential (students live in residence halls/dorms provided by your institution)

- ☐ Exclusively graduate/professional
- ☐ Research university
- ☐ Other (please specify)

Whether you currently teach/provide training or not, please rate yourself according to how much you agree with each statement. (Options: Strongly Disagree, Disagree, Neither Agree Nor Disagree, Agree, Strongly Agree)

- Instruction should be flexible to accommodate students' individual needs.
- It is important to present facts to students to provide a foundation for the subject.
- I encourage students to constantly check their own understanding of their learning.
- I provide opportunities for students to critique each other's work.
- I focus on information students will need to pass exams.
- I design instruction with the assumption that most students have little knowledge of the topics.
- Most assignments require students to work individually.
- I use a textbook to plan my instruction.
- Most group work requires students to provide correct answers and solutions.
- Lectures provide important models of subject matter expertise.
- When evaluating students, it is important to consider multiple examples of their work.
- I am good at helping all the students in my purview make significant improvement.
- I encourage students to work together to identify and solve authentic problems.
- I am certain that I am making a difference in the lives of students.

Is there anything else you would like to say about yourself as a teacher?

Please indicate the technologies you use in your teaching (check all that apply):

- ☐ I do not use technology in my teaching
- ☐ Adobe
- ☐ Angel
- ☐ Bedford/St. Martin's e-Portfolio
- ☐ BlackBoard
- ☐ Bluehost
- ☐ Chalk&Wire
- ☐ ConnectEDU
- ☐ Desire2Learn
- ☐ Digication
- ☐ eFolio World
- ☐ eLumen
- ☐ eValue
- ☐ FolioTek
- ☐ Google Sites
- ☐ Homegrown or internal development
- ☐ iWebFolio
- ☐ Knext
- ☐ Learning Agents
- ☐ Learning Objects
- ☐ LiveText
- ☐ Mahara
- ☐ Manaba
- ☐ Moodle
- ☐ Pathbrite
- ☐ PebblePad
- ☐ Powerpoint
- ☐ rCampus
- ☐ Sakai
- ☐ SchoolChapters
- ☐ Seelio
- ☐ Skype
- ☐ Symplicity
- ☐ TaskStream
- ☐ The Portfolium
- ☐ TK20
- ☐ VSee
- ☐ Web 2.0 Mash-ups
- ☐ Weebly
- ☐ Wiki
- ☐ Wix
- ☐ Wordpress
- ☐ Yola

☐ Google ☐ Red Pen

☐ Other (please specify)

Briefly describe strengths and weaknesses of the technologies you are using.

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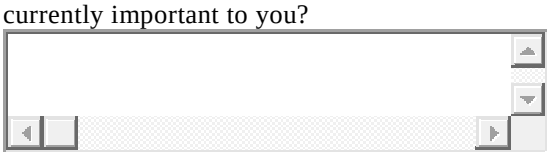
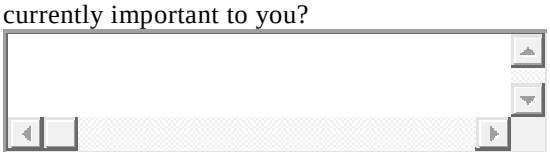
Besides the role(s) you noted above, what other professional/vocational/personal activities or roles are currently important to you?



Besides the role(s) you noted above, what other professional/vocational/personal activities or roles are currently important to you?



What skills, abilities, knowledge, and experience do you bring to this class (don't be shy!)?

What skills, abilities, knowledge, and experience do you bring to this class (don't be shy!)?

What skills, abilities, knowledge, or experiences do you hope to gain or advance as a result of taking this course?

What skills, abilities, knowledge, or experiences do you hope to gain or advance as a result of taking this course?

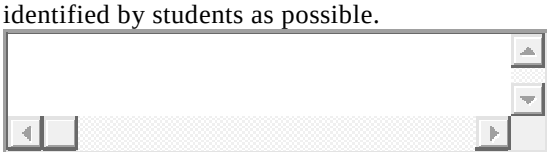
Describe a course, training program, or other formal learning experience that really "worked" for you and describe why it worked for you.

Describe a course, training program, or other formal learning experience that really "worked" for you and describe why it worked for you.

In general, describe assignments or courses that don't work for you (no need to "name names"), particularly in online environments.

In general, describe assignments or courses that don't work for you (no need to "name, names"), particularly in online environments.

I would like to use the textbook as a resource that works FOR you. Please review the book's table of contents and offer your thoughts on what is most exciting about the book and what topics might be missing that you hoped to be discussed in this course. I will attempt to find resources that address as many of the topics identified by students as possible.



By the end of this week of August 26th I will have designed a course based on my goals as your instructor and, AS IMPORTANTLY, your collective goals for the course. By Friday, August 30th, you will receive the syllabus via your University of Idaho email and our bblearn site will be "live." In the meantime, please read the first 60 pages of our textbook. I am looking forward to our time together.

If you are interested in learning more about the AAEEBL research study, please contact Gary Brown (garyrobbrown@gmail.com), Helen L. Chen (hlchen@stanford.edu), or Aifang Gordon (aifang@pdx.edu).

Appendix B
Assignment #2

Who Taught Me What Teaching Means
Fall 2013, Assignment #2
Due by midnight September 1, 2013

[Note to students enrolled in both AOLL 573 and AOLL 575. Please post your essay in both bblearn sites].

If we work, attend school, volunteer, parent children, and interact with others in other settings we are teaching. Teaching (defined as facilitating the learning of others) occurs in both formal and informal environments. Even still, most of us learned what being a teacher means from formal school and/or work-place training settings. Some of your assumptions about teaching learned from these teachers shaped the way you answered our opening survey.

Your assignment: In a maximum of 400 words, describe the actions of at least two teachers (in formal classroom or work-place training settings) who had the most powerful impact on your understanding of what it means to teach. Be sure to consider your answers to the survey you completed earlier this week. The teaching actions you describe in this essay are likely to be consistent with your survey answers.

Post your essay as either a word processing (i.e., Word) or PDF document to this blog.

Appendix C
Assignment #3 (AOLL 573)

Biographical Comparison Brookfield, Knowles, and You
Fall 2013, Assignment #3
Due by midnight September 8, 2013

To complete this assignment you will need to have read:

- Brookfield to pg. 61
- http://www.stephenbrookfield.com/Dr._Stephen_D._Brookfield/Home.html
- Malcolm Knowles Apostle of Andragogy (on bblearn site)

And watched:

- Stephen Brookfield on Critical Thinking
- http://www.youtube.com/watch?v=Y8umk4w8kB8

Writing for Assignment #3

This is a creative writing/media assignment of a minimum of 750 words. Using whatever mixture of photographs, art, poetry, and prose that you wish, illuminate for your reader the differences and similarities among your three subjects, Malcolm Knowles, Stephen Brookfield, and you. Speculate on how their and your life experiences may have shaped what their/your beliefs about the meaning of "good" teaching for adults. There is no right answer for this assignment. You are speculating about the links between experiences and daily practice.

I realize that a creative writing/media assignment is not typical for graduate students but allowing individuals to expand what is meant by "knowing" is one of my beliefs about education.

Post your writing as either a Word Document or PDF on the Blog for Assignment #3.

Appendix D
Assignment #3 (AOLL 575)

I Was Trained but Wish I Had Been Educated Essay
AOLL 575
Fall 2013, Assignment #3
Due by midnight September 8, 2013
Minimum word count: 1,000

The authors of your textbook describe the difference between traditional "training" and "educating." I would like you to:

1. Describe a personal experience in which you were "trained" but not "educated." Provide enough detail of this experience to allow your reader to see traditional training in action.
2. Analyze this experience using ideas from the textbook and other resources if you wish to demonstrate how this was training and not educating.
3. Now retool this "training" into an educational experience. Assume you have the same amount of funding and level of other resources as the person/people who offered your actual training.
4. Offer a justification for why this is educating and not training.

May I suggest?
If you are getting stuck on this assignment, reading farther forward in your textbook or conducting a bit of research online may help. Remember to cite your sources.

Appendix E
Assignment #4 (AOLL 573)

Reader Response 1
Fall 2013, Assignment #4
AOLL 573
Due by midnight September 15, 2013

One of our members, [NAME], has had to leave school this term. I am sure she notified you [NAME], [NAME], and [NAME]. I'm sorry to see her go. Below are the new team configurations. Please collaborate within your teams to assign a respondent to each other's work. Remember to read ALL work done by everyone in the class (it is a small class so this should not take long).

Teams:
Team Green: [NAMES]
Team Blue: [NAMES]
Team Gold: [NAMES]
Team Silver: [NAMES]

How to respond:

For this assignment (#4) you will be identifying three types of teaching/training behaviors in your respondee's writing on Assignment #2 and #3 (respondee is not a real word but you know what I mean). These behaviors are neither good nor bad they just are.

Teaching-centered beliefs are represented in practice when it is predominantly the faculty member/trainer who determines not only what is to be learned and how that learning is to be measured, but also by structures and sequences of activities that are determined and controlled by the instructor.
Learner-centered beliefs are represented in practice when it is still the faculty member/trainer who determines what is to be learned but unlike teacher-centered beliefs, learner-centered practices encourage emerging student agency by engaging students more fully in the process of determining answers or solutions as well as modes and avenues for presentation. Learner-centered practices often situate learning in ill-structured domains that often do not have clear correct answers.
Learning-centered practices are represented in practice when the faculty member/trainer invites learners to have some determination in not only how the work will be pursued and represented, but also in determining what it is that is necessary to learn. In learning-centered practice it is presumed that students will collaborate, employ peer review, and *network* to inform their learning.

Below is an example of how I would code my respondee's writing to identify which kind of behavior you see. For this example, I have cut and pasted the respondee's writing into this document (thank you [NAME]—chosen at random—for allowing me to use you as an example. [NAME] respondent, please go ahead and respond to her work too (you may have different codes than I do!):

One student's writing on Assignment #2

> The first of the teachers was my previous supervisor, [NAME]. I worked with her in [NAME]. I looked up to her as a mentor. She taught me how to listen, hear what was being said, and make a plan to move forward. I have gained many of my mentor/coaching skills from watching her. She had an amazing way of encouraging people come to conclusions on their own. She didn't realize she was teaching me but I was learning from her daily. People can influence and teach through example. [NAME] was the perfect example of this for me.
>
> Another person who has taught me what teaching means was another co-worker. Working with children as an Early Childhood Teacher at Head Start in my earlier days, I was very fortunate to be able to work with Sherry. She was an amazing calm person who watched for those "teaching moments" with the children. Teaching was not sitting in front of the class and pointing to a letter and asking the children to repeat it. She individualized

learning for each child and took time daily to work with that child. She knew how they best learned and worked to meet each child's needs. This taught me that every person is different and not one thing works for everyone. Taking the time to work one on one with someone can make all the difference in the world to them.

I could go on about amazing people in my life that I have learned from. The list would include professors, like [NAME], and family members, such as my father, and other co-workers. In thinking about this and looking back at learning moments for me, the string that ties all of them together is that they individualized the learning. This exercise has also made me realize that I tend to learn through example.

One student's writing on Assignment #3

Recently I attended training for work. To be honest, I was not eager to go. I just knew we would be sitting in a room while the training went through a series of steps trying to explain changes in a statewide project. To my surprise the trainer started the training off by asking us to individually write any questions we may have and placing them in the middle of the table. She then took all the questions and posted them on the wall. She then read the questions out loud. She asked the full group to help group them having the group develop and decide the names/title of each grouping. She then discussed the changes and the information for each grouping while answering the questions. After the discussion she had us do the project again but this time we were to discuss the questions as a table and place them on the wall. We then divided the questions into the proper grouping again, as an entire group. Answers were then given again. The large group was allowed to offer suggestions and input. Questions were asked, questions were answered, discussions occurred, and learning happened. Experiences were discussed and examples were given. This was a critically thinking project by the participants and guided by the trainer.

> "A wise man can learn more from a foolish question than a fool can learn from a wise answer." Bruce Lee

Malcolm Knowles experience as the director of adult education at the YMCA gave lead to his description of "good" teaching. Acknowledging that teachers need to care about learners interests rather than what the teacher believed the learners need to know (Carlson, 1989, p.3). His focus was on self-directed learning. Naming his practice "Andragogy" and providing guided interactions he considered himself a facilitator of learning rather than a teacher.

Stephen Brookfield learned about "good" teaching through his life experiences. Like me, Brookfield was not the best student growing up. He struggled with tests and formalized education. Brookfield, like Knowles, believes that questioning the students about their learning interest and let it guide the learning process. He focuses on critical thinking making others aware of assumption in the way we think and act and then taking informed action. Brookfield notes that modeling, real life experiences, and feedback are valuable tools for critical thinking.

> "Education is what remains after one has forgotten what one has learned in school."
> Albert Einstein

Like Brookfield and Knowles I believe by asking questions we begin "good" teaching. I recall one of the best college educational experiences I had. It was a course that was taught by an adjust teacher. Like the experience Knowles had at the YMCA, this teacher brought in real life situations, was able to walk us through actual process with modeling. He asked what we desired to learn and prepared lessons according to our needs. I was able to take what was taught in class and put it to use at work. When consulting child care directors, I begin the process with a series of questions to see where to begin and what to plan. I use modeling to help critically thinking and lead them in the desired direction of learning. I normally work one on one with my clients. This allows me to personalize the trainings. I find the more I personalize it by telling stories of similar situations, the more willing the provider is to participate.

> "Tell me and I forget. Teach me and I remember. Involve me and I learn."
> Benjamin Franklin

> Malcolm Knowles, Stephen Brookfield, and I have all experienced learning through life experience. Life experiences make us who we are and teach us valuable lessons. Through example, modeling, and questioning we will continue to teach and learn. Learning goes beyond the classroom, it is more than lectures, stories, and readings. Learning happens daily. We learn from each other and from their experiences. Watching our parents, listening to friends, and observing others, we are learning. If it be at work or at a social event we learn how to perform tasks, how to act in certain situations, and how others may react to those situations. Sharing our experiences with others and questioning why; we help each other learn.
>
> > "There is no end to education. It is not that you read a book, pass an examination, and finish with education. The whole of life, from the moment you are born to the moment you die, is a process of learning." Jiddu Krishnamurti

Now, back to how to respond for Assignment #4. After you have finished coding (you don't have to use highlights if you don't want to just make sure you've identifying the three types of teaching somehow). In 750 words (or so, if you go a little over that's PERFECTLY OKAY) address the following:

1. Who are this person's most important teachers?
2. What are this person's preferred ways of learning?
3. Are these ways of learning predominantly teacher, learner or learning centered?
4. How are these ways of learning the same and different from how you learn?

Post your writing to the blog by midnight September 15.

Reader Response 1
Fall 2013, Assignment #4
AOLL 575
Due by midnight September 15, 2013

One of our members, [NAME], has had to leave school this term. I'm sorry to see her go. Below are the new team configurations. Please collaborate, within your teams, to assign a respondent to each other's work. Remember to read ALL work done by everyone in the class (it is a small class so this should not take long).

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Who Taught Me What Teaching Means
Fall 2013, Assignment #2
AOLL 575
Due by September 1, 2013

One student's writing on Assignment #2

> I have learned from many great teaching examples throughout my lifespan. Some of my teachers were not the best and I learned what not to do. Other teachers were amazing, inspiring me to be a better student, person and leading me to work with families as a teacher. I could list several people that inspired me, however, the two that first came to mind were my preschool teacher and latter my high school teacher, Mrs. [NAME] and one of my professors at [INSTITUTION NAME].
>
> I first met Mrs. [NAME] when I was four and had my first experience with school. She was the head preschool teacher at the [INSTITUTION NAME] preschool. This program not only taught preschoolers the first skills they needed for school but also taught high school students how to work with young children. I remember Mrs. [NAME] was a kind woman. She taught me to share what I had with others through kind words and encouragement. Mrs. Finely read books in such a way that I was enraptured by the story she was telling. She always got down on my level to listen and talk to me, and I believed she thought what I had to say was the most important thing ever to her. As a senior I took the class she taught for Early Childhood Certification. She taught us to listen to children, asked us to think about what we enjoyed as a child and what we were really teaching to each child. Mrs. Finely was the first to influence my perceptions of children and how they learn. The second was professor [NAME]. She is a phenomenal teacher that taught at the [INSTITUTION NAME]. She would pose questions and discussions that really made me think about what I wanted from myself as a professional and how I wanted to support others. [NAME]is amazing in teaching concrete concepts with real examples making them memorable. She is one of the very few teachers at the University that truly believed each student had valuable experiences that could help us in our field working with families. [NAME]'s classes were often a discussion and not a lecture. When you turned in assignments the most important thing was not that it was written without error, which was important, but the content mattered and showed that I knew the information and applied it correctly.
>
> Many people have inspired me to be who I am today. I am sure that there are many more that will continue to lead me down the path I am creating for myself. I look forward to meeting them as I go. I was trained but I wish I had been educated!

Fall 2013, Assignment #3
AOLL 575

One student's writing on Assignment #3

> Training verses educating, well those are two very similar yet different things. When I think of trainings I think of workshops that help hone my skills and give me applicable knowledge. When I think of education I think of school and classes. I consider both necessary and useful, however I am typically more excited for trainings because they are usually about a topic I am invested and interested in and classes, I do not always enjoy the content nor does it always hold my interest, especially when it's another boringlecture.
>
> Let's start with training. When I first thought about training I thought about a First-aid/CPR course I just attended to become re-certified. This was unique because I had been certified previously but it was time to renew my knowledge. I went into the class knowing it was needed to ensure the safely of the children and staff that I work with on a daily basis. The instructor for the training started with asking us what our professions were and how we would use this knowledge. I noticed through the training he

used examples of our "related work experiences" to help us understand and apply what he was teaching us. As the book states, he used "Prior knowledge *that* helps the learner acquire additional knowledge or skills more rapidly" (Stolovitch & Keeps, 2011 p.41). Using prior knowledge helps the learners retain the information in a more useful way. The basis of the course was the instructor teaching us techniques through video or demonstrations. At the end of the instruction we practiced on the dummies and there after, were tested on our abilities for certification. The instructor used many different mediums in which to deliver the knowledge, all of which created a way for the learners to retain it. I was motivated to learn the materials for two reasons, the first being that I could not do my job without the certifications and the other was the overall concern for the safety of those with whom I work. I already knew the basis for the materials, the training provided me with additional confidence that if the time came to use these skills, I would be able. "The optimal point of motivation is where the learner has enough confidence to feel she or he can succeed, but not so much that the desire to learn declines" (Stolovich et al., 2011 p.42). My desire to learn was still present because of the updated practices from the last time I was certified, and if I had not attended the course, my skills would have been outdated and perhaps cause more harm than good.

When I think of educational experiences the first thing that comes to mind is school and classes. Because there are many ways a class is taught it is broad to say that all classes are taught to educate and not train. I have had both types of classes. Educated classes typically were very broad and covered a large range of topics in one specific field of study, for example, Statistics. After taking statistics I know there others with the gift for this knowledge and I am not one of them. I would rather focus on areas that interested me and leave the numbers to the experts. I attended statistics because my degree required it. If statistics were training, I would never attend. The educational knowledge I gained from taking this class was valuable in that it taught me the knowledge I needed to read and interprete data studies. I learned why statistics is important and how it would apply to my area of interest. This encouraged me in learning how to apply and learn only what I needed to in order to get by and gain the correct grade for completion. When I compare my CPR/First-aid training to my statistics class, a few things stand out in my mind. I have retained more knowledge from my training than from my class. If you asked my to perform CPR on an infant, I would know exactly what I needed to do. I would follow the steps from my training and hopefully, be successful in reviving the child. In comparison, if you asked me to plot the data, come up with the mean and medium for the data and tell you the significance, I would fail. Doing that would require me to open my books, find a great computer program and re-learn how to solve those problems. If you were to present me with the data already set out, I would know how to interpret it with a little help from statistical resources. I could know what the data meant to me and my study and apply it appropriately. Essenhigh (2000) stated, It's the difference between, say, being trained as a pilot to fly a plane and being educated as an aeronautical engineer and knowing why the plane flies, and then being able to improve its design so that it will fly better (p.46). I was trained how to perform CPR and First-aid but I was educated on why statistics was important and why I needed to know the information to apply it in my research.

I know I benefited from both the education from statistics and training in CPR/First-aid. I believe had the statistics class been tailor especially to qualitative research, and applied to how I was going to be using statistics I may have been better able to remember and apply the knowledge without the added help of books and outside resources. Stolovitch and Keeps make it clear in the first several chapters of their book that when the learner is interested and invested in the training topic, the experience is easier to retain, applied in their vocation and use as a teaching tool to those they work with that did not get the same training.

Now, back to how to respond for Assignment #4. After you have finished coding (you don't have to use highlights if you don't want to just make sure you've identified the three types of teaching somehow). In 750 words (or so, if you go a little over that's PERFECTLY OKAY) address the following:

5. Who are this person's most important teachers?
6. What are this person's preferred ways of learning?
7. Are these ways of learning predominantly teacher, learner or learning centered?
8. How are these ways of learning the same and different from how you learn?

Post your writing to the blog by midnight September 15.