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Currents in Teaching and Learning is a peer-reviewed electronic journal that fosters exchanges among reflective teacher-scholars across the disciplines. Published twice a year, *Currents* seeks to improve teaching and learning in higher education with short reports on classroom practices as well as longer research, theoretical, or conceptual articles and explorations of issues and challenges facing teachers today. Non-specialist and jargon-free, *Currents* is addressed to both faculty and graduate students in higher education, teaching in all academic disciplines.

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EDITORIAL

Concepts and designs for a liberal arts education in the 21st century

— Martin Fromm

In a complex, competitive, and rapidly changing world, the value and purpose of a liberal arts higher education have undergone intense scrutiny and debate. This issue of *Currents in Teaching and Learning* is devoted to examining the question of what a liberal arts education means in the 21st century. How does a liberal arts education prepare students for the challenges and responsibilities of intellectual, moral, civic and professional engagement? How can we theorize and/or put into practice pedagogical concepts, approaches and innovations that can contribute to a robust liberal arts education inside and/or outside the classroom? The contributors to this issue share a vision of liberal arts education that is grounded less in coverage of specific content and more in the cultivation of habits of critical thinking, analysis, and conceptualization.

While the particularity of content and context are important to them, the authors are more concerned about the processes by which students engage with and construct knowledge. Their collective body of studies intermeshes universality with diversity, forging wide-ranging approaches to and methodologies for achieving a fundamentally shared set of learning objectives and values. Whether taking the macroscopic level of the institution or the microcosmic level of the classroom as their point of reference, and whether their focus is on students' interactions with each other, with the places in which they live, or with technology, the authors pose innovative ways to deepen students' level of complex and empathetic understanding of themselves and the world around them.

Charles Fox commences the discussion in "A liberal education for the 21st century: some reflections on general education" with a broad conceptual look at the evolving state of "general education." Assessing historical trends since World War Two, he argues that "general education is a central, arguably dominant, element of higher education in most American colleges and universities," yet "there is no agreement about desired outcomes, nor andragogy, nor best practices, nor its formal and informal relation to the rest of the curriculum." Fox evaluates the wide variation in approaches to design and implementation of general education programs, calling for measures to better assess student learning and "critical thinking", align learning goals with a diversifying student population, and involve the entire faculty in the process of curricular development. Through this analysis, he points toward an integrative vision of general education that "engages the entire institutional community," promotes intedisciplinarity in course design, and guarantees accessibility to all students.

Moving from broad concepts to specific pedagogical practices, Jim Henry and his co-authors evaluate the place of place-based learning in a robust liberal arts education in his contribution, "Teaching the liberal arts across the disciplines through place-based writing." Based on a wide-ranging series of interviews with faculty and students across sixteen disciplines, the authors analyze the impact of attention to local geographical contexts on the learning goals of "relating facts learned into a unified whole," "connecting to a higher purpose/calling," and "growing personally and/or intellectually." They observe the ways in which place-based approaches to learning provide scaffolding that helps students make mental connections between concrete practices and abstract concepts, enhances students' awareness of social complexities, and provides them with an impetus to find deeper, longer-term, and more tangible purpose and application for the skills and knowledge acquired.

Examining the more immediate context of social dynamics within the classroom, Priscilla Elsass and Barbara Bigelow evaluate the use of "dialogue" as a powerful approach to student learning in "Learning to engage with multiple perspectives: The use of dialogue in the classroom." Distinct from other forms of class participation such as debate, discussion, and case analysis, dialogue, as they define it, is characterized by "equality and absence of coercive influences, listening with empathy, and bringing assumptions into the open." As such, "dialogue is a powerful tool for "reaching beyond the self to relate to others" (Yankelovich, 1999) because it facilitates mutual understanding, helps students and faculty build relationships, and provides for the creation of shared knowledge among students." Using a graduate-level global business seminar they designed as a case study, the authors describe the procedures and physical layout they use to maximize the impact of this approach, as well as the challenges that such an approach poses in regard to students' interactions and instructors' teaching objectives.

Building on this discussion of how to cultivate an empathetic environment for shared learning, Pinder Naidu and Tonya Jones examine ways to alleviate anxieties and build confidence among students taking developmental-level classes. In "Developmental mathematics students' experiences of mathematical practices in a summer learning community," they use qualitative analysis of a four-week developmental mathematics summer learning community as a case study to develop a set of best practices for overcoming students' "stories of failure, of being ignored, of ignoring teachers, and of being labeled 'remedial'." Rejecting the predominant model of lecture-heavy classes as ineffective, the authors find that approaches to learning emphasizing "community through participation," "collaboration with purpose," "shared repertoire," mutual engagement," and "joint enterprise" yield the most promising results in terms of student learning.

The remaining two articles address the role that technology can play in advancing student learning objectives. In "Improving student engagement with technology tools," Allison Pingley and her co-authors evaluate the relative benefits of integrating into the classroom a variety of "free-use, web-based applications," including Kahoot, Twitter, infographics (Piktochart and Canva), and Bitstrips. Based on results from courses across the disciplines of library and information science, political science, informatics, and linguistics, the authors share their technologically driven approaches to activating student engagement, contextualizing and visualizing abstract concepts, and making knowledge applicable and transferable. Challenging the commonly held assumption that college students today are fluent in "digitese," this study guides the reader in how to utilize accessible web-based technologies in meaningful ways to enhance engagement in the classroom while elevating the level and complexity of analytical thinking.

Taking us from a wide-ranging survey of multiple tools to a more focused study of one kind of technology-driven activity, Jo Clemmons and Ray Posey discuss the qualitative enhancement to student learning that comes with assigning student-created video projects. In "Creating dynamic learning through student-created video projects," the authors draw on both classroom practices across the disciplines and theories in social psychology and learning to make the case that this form

of assignment pushes students to process information more effectively, reflect on and engage with concepts more deeply, and take ownership of the process of constructing knowledge. The article combines conceptual analysis of this approach to using technology with practical information for the reader, including "rubrics and assignment criteria, a list of go-to sites for tutorials and resources, along with a list of ideas for assignments."

In "Clips and Links," Kayla Beman directs readers to useful online sites in teaching and learning. While referring readers to a mix of resources covering an array of teaching and learning topics, this issue will be particularly interesting for those who are concerned with teaching writing.

The book reviews selected by our Book Review Editor, Kisha Tracy, address two different dimensions of liberal arts education in the 21st century: instruction of information literacy and feminist approaches to constructing knowledge. Coco Zephir reviews Joan R. Kaplowitz's *Designing Information Literacy Instruction: The Teaching Tripod Approach* (Rowman & Littlefield, 2014), and Katharine Covino reviews Berenice Malka Fisher's *No Angel in the Classroom: Teaching through Feminist Discourse* (Rowman & Littlefield, 2000).

I would like to extend my thanks to all who have made this issue possible. It is a humbling venture to rely so greatly on the expertise and generosity of colleagues. Particular gratitude goes out to the team of referees and copy editors who contributed their time to strengthen the quality and clarity of scholarship. They are, in no particular order, Susan Ambrose, Sue Foo, Josna Rege, Vicki Taylor, Elizabeth Siler, Cleve Wiese, Marjorie Darrah, Maria Fung, Dan Shartin, Don Vescio, Lloyd Willis, Charles Cullum, Mark Wagner, Fredrik deBoer, Heather Macpherson, Randy Laist, Dan Hunt, and Emanuel Nneji. Members of the Editorial Advisory Board have once again been an inspiring source of vision for moving forward. They are Charles Cullum, Emanuel Nneji, Josna Rege, Dan Shartin, Kisha Tracy (also Book Review Editor), and Cleve Wiese. My thanks to the web designer, Amanda Quintin, and to the supportiveness of the Executive Director of Marketing, Tara Probeck. I am also greatly appreciative of the supportive and thoughtful guidance that Linda Larrivee, Dean of the School of Education, Health, and Natural Sciences, is bringing to her oversight of the journal as Managing Editor.

A Liberal Education for the 21st Century: Some Reflections on General Education

— Charles R. Fox

Charles Fox, Professor of Psychology at Worcester State University, is a national consultant on project management, program development and assessment, administration, and ethics. He has been recognized with several awards, including the J. Warren Perry Distinguished Author Award (2008), the Kansas Health Ethics Organizational Award of Honor (2007), and the VAMC Outstanding Merit Citation (1992), among others.

Abstract

General education has been a common approach for providing a liberal education since the standard model was first established in 1945. However, the structure of an appropriate, effective general education curriculum is still widely debated, including the question of whether a general education is desirable or even possible. One significant issue in these debates is that the world has changed radically since the original general education theories were established and various reform movements have not significantly changed this original framework. This essay discusses the purpose and desirability of a general education curriculum, the goals of general education, and various approaches to it. It considers the widely shared goal of critical thinking as well as other core competencies. Finally, it comments on the need for a 'real-world' general education curriculum, the accessibility of the curriculum, and general education as a social process. As we consider general education in higher education, we especially need to take into account the landscape of the 21st century and beyond as well as the form of our decades-old general education curriculum.

Keywords

general education, core curriculum, liberal education, critical thinking, higher education, curriculum

George Orwell's *Down and Out in Paris and London*, (1933, p. 215) states "The man who really merits pity is the man who has been down from the start, and faces poverty with a blank, resourceless mind." Orwell's implication, that education allows a richer and fuller life regardless of circumstances, dovetails with the vision of general education in American higher education. This paper considers the history, role, and future of general education in a 21st century liberal education.

History of the Core/General Education Curriculum

I will begin by addressing the relationship between a core curriculum, general education, and liberal education. Jorge Domínguez (2004) wrote "A liberal education is what remains after you have forgotten the facts that were first learned while becoming educated." This light-hearted view suggests that rather than mastering a specific set of content matter, the goal of a liberal education is providing an approach to learning. General education is one such approach. Alfred North Whitehead (1922/1957) suggests that general education is the "really useful training," that focuses on "general principles." General education emphasizes learning methods as opposed to specific content, echoing Albert Einstein who stated, "The value of an education in a liberal arts

college is not the learning of many facts, but the training of the mind to think something that cannot be learned from textbooks." (Frank, 2002, p. 185)

The core curriculum is a type of general education that emphasizes course content and prescribes specific 'core' courses required of all students irrespective of their major. Columbia College uses such a core to create a communal learning environment that cultivates "… habits of mind … that students employ long after college, in the pursuit and the fulfillment of meaningful lives." In contrast, the Texas Higher Education Coordinating Board describes a 'core curriculum' that is actually a distribution curriculum. That is, students are required to take courses in particular fields of learning, but are free to choose various courses in various orders within those fields. And still others use a so-called open curriculum approach "… that does not place restrictions — such as "general education" requirements, distribution requirements, or core courses — on the courses that a student may take as part of a degree program." This open curriculum approach is outside the focus of this essay and will not be explored. Adding to the general confusion, Texas State University provides a "General Education Core Curriculum." Thus, we are in the situation that different institutions at different points in time approach the liberal education component of the curriculum using varied definitions and cultures of use. Because these differences are not universally recognized nor systematically applied (Brint, Proctor, Murphy, Turk-Bicakci, & Hanneman, 2009), I will for this essay ignore the differences and use the terms general education to cover all types of general/core/distribution approaches except where specifically noted.

A general education curriculum is a ubiquitous approach to providing a liberal education. Exact numbers are difficult to find, but today general education involves "virtually all degree-seeking students…"(American Association of Colleges and Universities, 2013; Hart Research Associates, 2009, 2016). During the 1960s, structured program requirements were decreased or eliminated in response to ideological pressures to 'liberalize' higher education and increase students' freedom of choice. The 1970s trend emphasized vocational and professional preparation further eroding general education programs (Gaff, 1991); we see similar pressures today. *Missions of the College Curriculum* described the undergraduate curriculum as fragmented and incoherent and called for the revival of general education programs (Carnegie Foundation for the Advancement of Teaching, 1978). Simultaneously, Harvard embarked on a much-discussed and widely imitated renewal of its core curriculum ultimately replacing their general education requirement with a core curriculum (Wilson, 1978). The 1980s saw Allan Bloom's The Closing of the American Mind (1987); a response to intense debate about general education invoked by serious academic and public concerns about students' declining levels of general knowledge and analytical skills as well as challenges to the traditional curriculum by feminism and multiculturalism. Bloom's book was certainly not embraced by all. Neoconservative commentator Norman Podhoretz (1987) embraced Bloom's arguments while liberal[1] political theorist Noam Chomsky (cited in Mitchell & Schoeffel, 2002) dismissed the book as "mind-bogglingly stupid." Historian Fred Matthews (1990), although critical, stated that Bloom presented "a rich, often brilliant, and disturbing book." Social commentator Roger Kimball (1987) called the book "an unparalleled reflection on the whole question of what it means to be a student in today's intellectual and moral climate." Cultural commentator Camille Paglia (cited in Bawer, 2012) provided perhaps the most illustrative statement about the zeitgeist calling the book "the first shot in the culture wars."

These concerns are still present today. In 2008 and 2015, the American Association of Colleges and Universities (AAC&U) surveyed member Chief Academic Officers (CAOs) (Hart Research Associates, 2009, 2016). The 2008 survey (n=433) indicated that general education continued to be an issue. Seventy-eight percent of respondents reported general education programs had clear learning goals yet only half reported good assessment measures for these goals. Tellingly, about a third of respondents gave their programs poor marks as a coherent sequence of courses. In all, approximately ninety percent reported they were in the process of assessing or modifying their general education programs. The 2015 survey (n=325) again reported general education programs had clear learning goals; however, much of this later report is difficult to reconcile with data from other sources. For example, the CAOs reported increasingly emphasizing languages other than English; however, the Modern Language Association reports foreign language courses decreased approximately seven percent during the same time period, with corresponding widespread cuts in foreign language departments (Goldberg, Looney, & Lusin, 2015). Similarly, the CAOs' report of knowledge of the arts as a general education learning outcome appears at odds with the relatively few colleges that require arts study for all students. Debra Humphreys, AAC&U Senior Vice President for Academic Planning, stated that CAOs misunderstood institutional general education requirements in arts (cited in Jaschik, 2016). This interpretation is consistent with an AAC&U Compass project survey which reported a large disconnect between faculty work and institutional administration approaches to general education (Paulson, 2012).

Due to concerns about the content validity and generalizability of these surveys, I will focus my comments on a few institutions as exemplars while acknowledging that a great number of institutions are dealing with general education issues. I and others use Harvard University as the primary exemplar because Harvard's seminal, *General Education in a Free Society (Harvard Committee on General Education, 1945*), the so-called 'Red Book,' is "…the first comprehensive work to elaborate upon the theory behind a General Education, and it set up the standard model for General Education theory that has prevailed, if not in practice then at least in ideal, since WWII" (Groh, Gurunathan, Waschenko, Miller, & Silversmith, 2014). In addition, the 2004 and 2013 revision processes referred to in this essay are transparent, publicly accessible reconsiderations of The Red Book.

Harvard College, established in 1636 to provide an educated ministry, saw the number and variety of classes multiplied, the lecture system supplanting recitation, and freer choice of courses by students during its first two centuries. In the early 1900s, President Lowell of Harvard introduced a concentration and distribution system; his successor, president Conant (1933-1953), introduced a general education curriculum through the Red Book. Harvard was not immune to the dissatisfaction of the 1970s and president Bok (1971–1991) oversaw the replacement of general education by a core curriculum. A 2006 review of undergraduate education led to a new general education program replacing the core in 2013.

The curricular importance of general education requirements can be judged by their actual size. In the mid-1970s, most American colleges had general education programs that were one-third of the curriculum (Carnegie Foundation for the Advancement of Teaching, 1978). This is still widely the case, although again precise numbers are hard to come by. Some colleges' requirements amount to one-quarter or less of the degree program (e.g. Harvard's eight-course requirement). At others such as Princeton and Dartmouth, general education represents one-third of the curriculum, and at a few institutions it amounts to one-half (e.g., University of Chicago). The National Endowment for the Humanities recommended a 50 credit-hour core (Cheney, 1989).

The shape of general education programs is also important. Most institutions do not have a true core, more commonly using a 'distribution +" system with features such as learning communities or capstones (Austin, 1993; Hart Research Associates, 2009, 2016). Where a true core exists, it often is a sequence of thematically focused interdisciplinary courses such as at Evergreen State College. Evidence suggests that best outcomes are

[1] I am aware that Chomsky frequently rejects this term but I use it here as a convenient designation.

achieved by distribution requirements involving carefully structured options to select from discrete arrays of coursework rather than a core or a loose distribution (Jones & Ratcliff, 1991). However, specifics of appropriate, effective general education curriculum are unclear. The American Council of Trustees and Alumni (ACTA) third annual report on general education (2016) indicates that most institutions, including prominent ones such as John's Hopkins and The George Washington University, do not provide adequate general education programs. Yet, college presidents have dismissed this annual report as "… as arbitrary and silly …" according to the Washington Post.

What seems clear is that the entire domain of general education would benefit from careful re-consideration and perhaps revision of its goals, objectives, and andragogy. This is especially important as the world has changed drastically since general education was first established yet various reform movements have not changed its overall framework.

I have specifically used the term andragogy rather than pedagogy. Andragogy, initially defined as "the art and science of helping adults learn" (Knowles, 1988) has come to be understood as a 'learner-centered/directed' alternative to the 'teacher-centered or directive' approach of pedagogy. Thus, andragogy appears a more accurate term for not only general education but also all of higher education.

Purpose of General Education

Let's consider the purpose of general education, especially a general education for the 21st century.[2] General education can be seen as the heart of a liberal education guaranteeing one's 'breadth' versus the 'depth' provided by majors, minors, and concentrations. However, general education courses also need to achieve a desirable depth by facilitating more complex thinking and reflection in students who are often accustomed in secondary school to rote acquisition of information.

Today, general education is a subset of the curriculum, but before there were concentrations and electives, the entire curriculum was general education. For much of history, higher education involved a common curriculum that was meant to complete the moral and intellectual formation of the individual. Over time disciplinary concentrations and electives have been added but general education still represents a liberal education curriculum. The value of a liberal education has been proven over time, though the formal content and andragogy of such an education has changed radically (Fox, 2008). The enormous differences between the classical and contemporary world-view suggest that we reconsider both the content and the methods of liberal education. That is, are the liberal arts simply interesting philosophies of an outdated, nonscientific world view, or do they truly offer some value to contemporary education? If they do offer value, then what is the best way to provide a liberal education in the contemporary world?[3]

Should There Be a General Education Curriculum?

Before going further I think it is important to ask the question - does liberal education have a purpose? That is, should there be a general education curriculum at all? Austin (1993, p. 48), in a study of 24,000 students, concluded, "… the varieties of general education programs currently used in American higher education do not seem to make much difference in any aspect of the student's cognitive or affective development." Derek Bok (2005) questions whether the aspirations of general education will or even can be realized by any approach currently in use and suggests we make efforts to discover what general education actually contributes to the intellectual development of undergraduates. This raises the question of why general education programs are not more effective. Bok suggests the goals of general education, while important, cannot be accomplished in a meaningful way in a four-year curriculum. Rhetorician Matthew Ortoleva notes that "… general education 'requirements' assume the student would otherwise not gain the breadth of knowledge if left to their own choices." Ortoleva raised the question: "What would happen if we dropped the core curriculum … and students got to freely choose the rest of their courses beyond the major?" (personal communications, November 17, 2015). This is an important question and, to date, has not been addressed except to opine (by Bok) that students given such an option would not do well in terms of a liberal education. As mentioned previously, a few institutions do use this open course approach but its effectiveness is unclear.

These comments about general education's goals and their achievability within time and resource allotments suggest several issues should be part of the discussion about the value of general education programs:

1. Should general education be limited to a small set of specific areas and achieve specific, functional/cognitive skills in each area as opposed to a more survey/distributional approach?
2. Can a typical contemporary college actually achieve its general education outcome goals given the time and resources available?
    a. If it can, what is the best way to do so?
    b. If it cannot, what is the best outcome it can achieve?

In very general terms, we may say that the aim of a general education course or, for that matter, every university course, is to teach the students to pay attention to some aspect of knowledge that they have previously engaged superficially (at best). But as has often been said, the devil is in the details, so let's consider the goals of general education.

Goals of General Education

It is not clear that we can guarantee that a general education program will instill certain values, train people in certain skills, or in any sense produce certain outcomes. In practice, general education can do what liberal education has always done - it can provide occasions for thinking and learning about things that we, the faculty, think it would benefit our students to think about and learn. The key question is: what are those things? And how is our identification of them related to the divisional/departmental/disciplinary boundaries within which faculty organizes their teaching and scholarship? A related issue that we cannot take up here is whether these boundaries make sense in our contemporary culture. And, what are the influences and effectiveness of interdisciplinary and transdisciplinary courses.

Different institutions have different general education goals;[4] however, even within the same institution there is often wide disparity in conceptions of what a general education should be. A series of faculty essays that led to the redesign of the over-30-year-old core curriculum at Harvard illustrates this. Helen Vendler (2004) states that general education should instill in the student the desire to learn more and communicate to others what has been learned and to develop a depth of emotional and moral responsiveness. Peter Bol (2004) suggests a general education provides students with the essential knowledge that every educated person should have and train students in those skills essential to the acquisition, communication, and generation of new knowledge such as writing, speaking, quantitative reasoning, logical augmentation, careful reading, etc. Further, it should introduce the great traditions of civilization and offer students common intellectual points of reference. Andrew Murray (2004) suggests the value of a general education is providing an educated citizenry that understands how people learn. It should also transmit a sense of beauty and wonder about life. We can see that even in the case of our exemplar, there is not general agreement concerning general education. However, there does appear to be consensus that our students should be able to speak clearly and eloquently, write with fluidity, precision, and energy, and think critically (Gardiner, 1994; Hart Research Associates, 2009, 2016). Other areas considered important are:

- Statistical & Probability Literacy
- Information Literacy
- Moral Reasoning
- Citizenship
- Living with Diversity
- Living in a Global Society

[2] Much of these arguments are informed by an earlier manuscript of the author (Fox, 2008).

[3] For a more complete discussion see Fox, 2008.

[4] We should acknowledge that specialized higher education, such as conservatories and schools of engineering or allied health may well have unique goals and requirements.

- Lifelong Learning
- Preparing for Work/Professional Roles

This list suggests that many institutions adopt impressive goals; but are they more appropriately goals of the entire undergraduate education rather than of a general education curriculum?

I question the function of and need for a separate general education curriculum and suggest benefits of considering the entire undergraduate educational experience as a liberal education.[5] This radically changes the current concept of a general education and in a sense revives and reimagines the original Trivium and Quadrivium. This reimagining could also address Bok's observation that general education frequently takes on so many responsibilities that it cannot do justice to them all, resulting in, as Dennis O'Brien (1997) notes, "enough French to read the menu, not enough to compliment the chef." Faculty members often have lofty goals for a general education curriculum; however, it is not clear that they know how to achieve them. This disconnect between intention and implementation serves our students poorly. To avoid this disconnect it is important to carefully clarify goals and objectives as well as andragogy and appropriate resources. Institutions frequently pronounce a goal important enough to justify a required course without devoting the effort or resources needed to make the enterprise a success.

Approaches to General Education

In reviewing the general education literature, the following general models arise.

1. Distribution Requirements. A traditional distribution requirement curriculum requires a specified number of credits in specified areas such as the humanities, social sciences, physical and biological sciences. Distribution requirements are often problematic because students seldom know in advance what courses would best achieve general education goals and therefore, to be successful, they require high faculty involvement in advising and such involvement is expensive. Another significant disadvantage is that courses offered are often designed for departmental or programmatic purposes, not to fulfill general education goals, resulting in both content and andragogy perhaps inappropriate for general education.

2. Great Books. The Great Books approach has been in consistent use since it was first introduced in 1920 at Columbia University. The most well-known current example is St. John's College, which has used this curriculum since 1937. The author assumes the readers' familiarity with the Great Books program; if not, there is a great deal of easily accessible information, e.g., http://gutenberg.edu/why-gutenberg/great-books/.

A Great Books curriculum is costly, requiring small seminar classes and specialized faculty. Further, faculty interests and skills often are not aligned with the curriculum. Although I am not aware of a specific modified Great Books curriculum, one can imagine designing a general education curriculum with one or two courses, e.g., history of ideas or history of literature, using the Great Books approach.

3. Survey Courses. While easy to develop and not resource-intensive, survey courses can easily become superficial, not fulfilling general education goals. Judy J. Tizon of the University of Southern Maine describes this issue in their former distribution requirement: "all of the courses tend to be 'introduction to discipline X' and you have lots of bottom-heavy, 100-level courses." I would also add that my and others' experience as a dean is that survey courses are often difficult to staff as faculty typically are specialists, in both training and interest, and survey courses require generalists.

4. Modes-of-Inquiry. The modes-of-inquiry approach might best be understood by example. Barnard College recently (2016) introduced a hybrid model that includes a Modes of Thinking curriculum with six specific modes of thinking and problem solving. One mode, 'Thinking with Historical Perspective' uses historical context and another mode, 'Thinking Quantitatively and Empirically' uses numbers, data, graphs, and mathematical methods, i.e., quantitative and empirical approaches. Benedictine University, recently (2016) changed from a traditional disciplinary curriculum to an 'Inquiry General Education Curriculum' that "…emphasizes the shared processes and values of disciplines, and the connectedness of human knowledge… (and) … the best practices of various areas of knowledge."

It is not clear whether all modes are equal in achieving general education goals nor is it clear how effectively this model facilitates the broader goals of general education vs. teaching specialized disciplinary methods.

Hybrids. A hybrid approach combines multiple established approaches, such as a distribution approach with restricted choices. Other hybrids may be a Great Books curriculum restricted to the humanities and social sciences combined with some survey courses in science, or a 'modes-of-inquiry' curriculum combined with Great Books seminars in literature and in the history of ideas. Many institutions employ hybrid models. At Macalester College, for instance, students complete distributional courses in the humanities, fine arts, natural science and social science as well as thematic courses in domestic and international diversity. Rhode Island College in 2013 established a hybrid model that requires three core courses, seven distribution areas, a second language requirement, and writing in each of the disciplines.

Critical Thinking as Key

For decades, surveys of faculty and administrators have reported critical thinking as an essential component of undergraduate education; recent polls show almost unanimous agreement (DeAngelo et al., 2009; Gardiner, 1994; Hart Research Associates, 2009, 2016; Sax, Austin, Korn, & Gilmartin, 1999). The most recent Higher Education Research Institute survey reports: "During the past quarter-century, the survey has found a consistent shift in pedagogical styles toward more student-centered methods that promote critical thinking skills" (Eagan et al., 2014).

Although there is unanimous agreement on the primacy of critical thinking as a general education goal, there is little agreement about what it means to think critically (Dewey, 1909; Ennis, 1987; Facione, 1990; Pascarella & Terenzinni, 1991, 2005). Psychologist Jane Halonen (1996) suggests it is: "The propensity and skills to engage in activity with reflective skepticism focused on deciding what to believe or do." The Foundation for Critical Thinking describes critical thinking as: "… that mode of thinking — about any subject, content, or problem — in which the thinker improves the quality of his or her thinking by skillfully analyzing, assessing, and reconstructing it." Philosopher of science Niall Shanks succinctly states: "Critical thinking involves weighing the evidence." (personal communications, November 5, 2006).

I contend that critical thinking is a fundamental skill for 21st century citizens. Consider the contemporary issue of a sustainable environment. Andrew Murray (2004) presents the example of sports utility vehicles (SUVs) and the environment. On average SUVs travel 17 miles per gallon and, according to global 'cap and trade' calculations, each gallon burned produces 20 pounds of carbon dioxide. This may seem rather benign until we consider that 22 million SVUs in the U.S., each being driven an average of 11,500 miles a year, produce as much carbon dioxide as all humanity did in 1842 and, barring new technologies such as hybrids and clean diesel, SUVs alone will exhaust U.S. petroleum reservea in 70 years. Obviously there are many sides to the debate on environmental sustainability and we will have to increasingly make decisions about this and other such issues. This illustrates the importance of critical thinking on issues involving the use of technology, and thus scientific literacy becomes an important part of a contemporary general education. This raises the question: how do we develop scientific literacy in a population of generalists without the background or interest to become scientific specialists? We may think of humanities and social science literacies in the same way. Looking at the ubiquitous discussions of and surveys on satisfaction with general education curricula and the relatively frequent changes and experiments with revised curricula, I suggest that many general education programs attempt to address these issues with arguable success.

[5] For a more complete discussion see Fox, 2008.

Critical thinking can serve as an exemplar for the entire process of examining general education. After evaluating dozens of studies on the effects of undergraduate education, Pascarella & Terenzini (1991, 2005) concluded that seniors are better abstract critical thinkers than are freshman; seniors are more skilled at using reason and evidence to address ill-structured problems for which there are no verifiably correct answers, have greater intellectual flexibility, and develop more sophisticated abstract frameworks to deal with complexity. These results are consistent with students' self-perception (Austin, 1993). These data suggest that something good is happening during the four-year curriculum. The question is - how do we understand the mechanisms that brought about these good things?

Critical Thinking in Professional Education

I maintain that there is value in looking at the development of critical reasoning in professional schools such as medicine, law, or allied health. These schools have led the way in creating active learning paradigms such as Problem Based Learning (PBL) that follow a pathway of small-group, problem-based work where problems are posed, students arrive at answers that are challenged by faculty, and solutions are routinely applied to new situations. PBL appears to be quite successful in professional education. Although many studies show no significant difference between the knowledge that PBL and non-PBL medical students acquire about sciences or medicine (Albanese & Mitchell, 1993; de Vries, Schmidt, & de Graaf, 1989; Schmidt, Dauphnee, & Patel, 1987), there are other, important differences. Students who acquired knowledge in the context of solving problems vs. more traditional methods of learning through lectures are more likely to use it spontaneously to solve new problems (Bransford, Franks, Vye, & Sherwood, 1989). Further, Coles (1985) and Newble and Clark (1986) report that PBL students were more likely to use versatile and meaningful approaches to studying than non-PBL students and others found PBL students more likely to use reserve material, other books, and informal discussion with peers vs. lecture notes (Blumberg & Michael, 1992; Nolte, Eller, & Ringel, 1988).

Possible General Education Competencies

Perhaps the most important role of general education is development of the ability to think for oneself, to learn and understand, and to communicate effectively. The AAC&U states that a liberal education provides students with broad knowledge of the wider world preparing them to deal with complexity, diversity, and change; it also develops intellectual and practical skills such as communication, analytical and problem-solving skills. Given the practical constraints on higher education outlined above, I suggest a subgroup of AAC&U competencies serve as a basis of any general education program:

1) Communication, both written and oral

2) Critical Thinking

3) Data/Information Literacy

Of course other competencies might be desirable given an institution's unique history, constituents, and mission, but I would echo the above caution about making general education too broad.

Another critical concern is how to design a general education curriculum that is accessible to all. This is especially important in American higher education given the spirit and formal legislation of the Morrill Act of 1862 that established state colleges "… for the Benefit of Agriculture and the Mechanic Arts."

Accessibility of The General Education Curriculum

Different disciplines have different questions and different methods but general education is a broad, interdisciplinary initiative for expanding intellectual horizons. The general education curriculum must be accessible to all students. We should ask, how must a general education psychology course be designed to be accessible to a future physicist or engineer? What andragogical approaches, style of teaching, structure, and pacing of course assignments would most likely facilitate an engineering student to learn what is taught in such a psychology course and to learn it well? So in addition to asking ourselves what our goals and justifications are, we need to ask what the relationship between our ends and means will be.

The Curriculum as a Social/Socialization Process

A curriculum is frequently a collection of courses each designed and developed by an individual faculty member as an expression of their interests and views. Of course courses can be team-designed, or designed within the ecology of a program, or in response to accrediting requirements; however, these are notable exceptions. I maintain there is value in the general education curriculum arising from the entire faculty guided by a set of shared values and not the personal interests or values of an individual professor.

A collective social process is the most effective way to ensure that general education courses are accessible to all students in all majors. Posing the question - What will make it possible for my (e.g., chemistry) student to do well in your (e.g., poetry) course? - is likely to lead to general education courses that emphasize learning about general principles, intellectual frameworks, and criteria of assessment as means of discernment. There is also value in general education bringing students away from concentrations and providing broader, more general experiences that the faculty collectively agrees are valuable. This suggests that students in the humanities would spend more of their general education in science courses and students in the sciences would study more literature, history, and social sciences.

We also should consider how general education is presented. While statistics are difficult to find, the author's experience of a variety of institutions is that much of general education is taught by adjunct faculty or teaching assistants; Rosenberg (2015) also suggests this is the case. We must ask whether an important educational goal can be achieved without participation of the fulltime faculty. A case can be made that all required courses should be taught by regular faculty; if a course is important enough to be part of our general education curriculum, then shouldn't it be important enough to be taught by our core community of scholars and teachers?

A 'Real-World' General Education Curriculum

A final focus for this essay relates to the praxis mission of higher education and how undergraduate learning can transition seamlessly to various 'real-world' professional skills. I maintain there is significant advantage to linking theory and praxis. Some theories can really only be learned and evaluated when put into practice and some practices require us to jettison old theories and develop new ones to fit a changing world. Kohlberg's (1976) theories of moral development, for instance, have long informed practical ethics. These theories have had difficulties in the 'real-world,' especially in the areas of cultural and gender bias (Edwards, 1986; Snarey, 1985). Decades ago, Gilligan (1982) criticized Kohlberg's stages of moral development as gender-biased; many women simply do not think the way Kohlberg's model suggests. Kohlberg's theories, although elegant, do not map well onto the messy world that contains females as well as males, not to mention Germans, French, Africans, Indonesians, and Polynesians. Out of this critique of application came evolved, more elegant, and more exciting theories of moral development.

Interdisciplinary fields devoted to the study of specific groups, such as African-American, also have real-world issues. These fields typically use a binary lens to view history, culture, and politics as it relates to a particular group; however, this binary lens isn't in keeping with contemporary realities. Current census data (2014) show that many Americans (2.5%) self-identified as "Two or More Races," and there is growing self-identification as 'none of the above,' some combination of the above, or something else outside of a classic racial designation. Scholars studying race in America are debating how to redefine race, which used to be seen as a fixed physical characteristic and now is more commonly viewed as a fluid product of many influences (Pew Research Center, 2015). Similar issues of self-identification arise in gender or sexual preference and other areas. Again, elegant theories may have problems when they interact with the real-world.

As we consider a 21st century general education program, we should include discussion of this interplay between academic theory and "real-world" experiences. Complex, integrated, transdisciplinary questions are at the cutting edge of today's academic endeavor and we ought to be able to figure out how to open up these questions to non-expert students. General education shouldn't be the trailing edge of knowledge, the popularizer of aggregated, long-established understanding, but rather the bellwether of exciting contemporary fields. One example is the potential of including a global-cultural studies component based on programs such as offered at Duke University, Washington University in St. Louis, or SUNY Binghamton. Imagine each of our students, as part of their general education, having a direct experience of being the non-dominant culture; envision an educational experience that will facilitate our graduates developing a true sense of how the Germans or the French or the Italians see their nation, Europe, and the U.S. in contemporary history; or how poor southern U.S. blacks or whites, or members of the working class see the dominant culture. There is much exciting work being done in areas such as class and labor studies at institutions like Youngstown State and SUNY Stonybrook that may provide models for refinement of general education in relation to real-world issues. However, at present, the more traditional, disciplinary approaches to general education dominate.

General Conclusions

General education is a central, arguably dominant, element of higher education in most American colleges and universities. It is the primary point where higher education engages students with important skills and knowledge beyond their major. However, there is no consensus on general education; in fact, higher education scholar Robert Zemsky describes general education as "… an educational program with neither design nor purpose" (cited in de Vise, 2011). There is no agreement about desired outcomes, nor andragogy, nor best practices, nor its formal and informal relation to the rest of the curriculum. Similarly, policy critic George Leef (2013) opines that students are "… apt to spend (and borrow) a lot of money and devote years of their lives to getting a degree that signifies nothing but persistence in piling up credits."

General education should also occupy a significant place in student success discussions. Certainly, AAC&U surveys indicate that there is a rhetoric of student learning outcomes and student success in relation to general education (Hart Research Associates, 2009, 2016). However, the ACTA, which has been studying the general education requirements at numerous colleges and universities for years, noted that the rhetoric of general education and student learning is frequently far from reality and very few colleges and universities have curricular requirements that come close to ensuring that their students receive a solid general education (American Council of Trustees and Alumni, 2016). Careful consideration of general education is especially important in the 21st century, not only because of the demands for an educated citizenry and an educated workforce but also because of the changing landscape of higher education where students increasingly come from less traditional and more diverse backgrounds, and faculty is increasingly contingent and often excluded from curricular, andragogical, and student success planning. I suggest that the academy needs to develop models of fully integrated general education that engages the entire institutional community. Some efforts are being made, such as the AAU&P General Education Maps and Markers project (2013), and much more needs to be done. As we consider general education in higher education, we especially need to take into account the landscape of the 21st century and beyond as well as the form of our decades-old general education curriculum.

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Teaching the Liberal Arts across the Disciplines through Place-based Writing

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Abstract

This article analyzes place-based writing intensive courses to determine if the goals of a liberal arts education were met across disciplines both within and without the traditional disciplines of the liberal arts, on a largely commuter-campus of 15,000 undergraduates. Seventeen instructors and thirty-eight students across sixteen disciplines were video-interviewed using standardized questionnaires. Responses were transcribed then analyzed to see if they reflected three key goals of a liberal arts education as distilled from the literature: relating facts learned into a unified whole; connecting to a higher purpose/calling; and growing personally and/or intellectually. Instructors were found to have targeted these goals very strongly, and students' reflections on the writing that they accomplished affirm the goals. Analysis provides details on assignments and pedagogical practices and the discussion links to a digital repository of all interviews offered under Creative Commons licensing, so that practitioners may make use of them in other locales to enact locally responsible liberal arts curricula.

Keywords

liberal arts, WAC/WID, place-based writing, Creative Commons, student growth

Introduction

The discipline that has most explored place-based writing instruction has been Composition and Rhetoric. The practice of focusing on local places to teach writing emerged after Cooper's (1986) research emphasized how systems of cultural norms inflect writing and its teaching. Theorists have posited the mind as inseparably linked to the environment (Owens, 2006, p. 368) to argue for localized writing instruction that heightens students' understandings of sustainability (Owens, 2011). Drawing explicitly and implicitly on theory from geography that understands place as a way of seeing, knowing, and understanding the world (Casey, 1993; Cresswell, 2004; Lefebvre, 1991; Soja, 1989; Tuan, 1977), Composition and Rhetoric specialists have used feedback loops between people and places to teach (Fleckenstein, 2007) and analyzed learning opportunities as students inhabit places and encounter difference (Reynolds, 2004, 2006, 2007). Instructors have used "ecocomposition" (Weisser & Dobrin, 2001) to engage students (Dobrin & Weisser, 2002, 2006) and to "de-center" classrooms (Plevin, 2001).

Focusing on place to teach writing has sought to counter a "dis-location" that might emerge on commuter campuses (Mauk, 2003), and writing instructors have prompted students to probe local histories and otherwise engage rhetorically through composing "deep maps" (Brooke & McIntosh, 2007). In Native Hawaiian ways of knowing, foundational knowledge begins with one's engagement with the land, or'āina, a concept that is used to provide a framework for teaching Composition (ho'omanawanui, 2008). In short, scholars from Composition and Rhetoric have made a strong theoretical case for the potential of place-based writing instruction to boost student learning experiences in multiple dimensions.

In this report, we analyze place-based writing instruction across multiple disciplines to determine if this pedagogical approach boosts learning experiences in ways that correlate with the aims of a liberal arts education. Proponents of a liberal arts education have claimed that such education results in the ability to (1) relate facts learned into a unified whole (Joseph, 2002, p. 6); (2) connect to a higher purpose/calling (Roche, 2010, p.10), and (3) grow personally and/or intellectually (Cronon, 1998, p. 1; Jamieson, 2009, p. 167). We reviewed seventeen writing intensive courses across sixteen disciplines to see if instructors sought such results and to see if students indicated that they had reached these goals.

Research Methodology

This Institutional Review Board-approved study was conducted at the University of Hawai'i at Mānoa, a land-space-sea grant campus with an undergraduate population of around 15,000. The campus offers approximately five hundred sections of writing intensive (W) courses each semester across a dozen colleges and schools and more than seventy departments. Undergraduates at this largely commuter campus are required to take five Ws to graduate, and many students take even more than the required five Ws, so widespread are the offerings and popular in their approaches.

During the 2013-15 academic years, we used purposive sampling (Miles, Huberman, & Saldaña, 2014, p. 31) to identify instructors whose W courses included a strong place-based component; their participation was solicited, and they were asked to solicit participation among students who had performed well in their courses. We sought students who performed well to explore the possibilities of this instructional approach to the degree that we could ascertain that the approach in itself played a role in students' writing performances. In the context of this article, student reflections on their writing across sixteen disciplines—some a part of the trivium associated with the liberal arts, others a part of the quadrivium often omitted from liberal arts discussions (Joseph, 2002, p. 3)—are analyzed to determine whether goals of a liberal arts education were met.

The emergence of place-based writing across a number of disciplines in W courses in this study indicates a coincidence deriving not from instructors hearkening to the place-based research and theory in Composition and Rhetoric, but rather from their experiences in crafting teaching approaches tailored to student demographics, institutional constraints, and departmental exigencies,

in addition to disciplinary ways of knowing. In other words, these instructors may not have intentionally enacted a liberal arts curriculum in the tradition of Composition and Rhetoric yet possibly achieved some of its purported aims nonetheless.

For each course under examination for its place-based writing instruction, we defined a case (Miles, Huberman, and Saldaña 2014, pp. 28-30) to include the instructor and at least two students, ideally. We established cases in this way to garner a broad representation across disciplines rather than within individual classrooms, given our focus on writing across the disciplines rather than the relative performances among students within any one course. Recruitment of student participants often included e-mails to a number of students identified by their instructors until an n of two participants could be reached, which at times was a challenge, due in part to the restricted time on campus that so many commuter students have. And as our Discussion indicates, not all of the students whom instructors identified as strong performers held that same view of their writing prowess when asked about it in interviews.

We obtained informed consent from all participants, who were video-recorded and agreed to appear in this research project under their own identities, a step motivated in part by the Scholarship of Teaching and Learning that suggests acknowledging students' contributions to research on the topic of instructional practices and their outcomes (Huber and Hutchings, 2005). We interviewed a total of 49 participants (17 instructors and 32 students) across 16 disciplines, using the standardized questionnaires that appear in the Appendix. We conducted interviews in various offices on campus; they lasted anywhere from thirty minutes to an hour and fifteen, following protocol for "collaborative listening" (Sunstein and Chiseri-Strater, 2011, p. 369) that would augment standardized questions by probing a response (Ives, 1995). For faculty interviews, syllabi and assignments were on hand to inform this listening; we asked students to bring a sample of writing from the class as an artifact (Sunstein and Chiseri-Strater, 2011, p. 373) to support questioning and answering.

Responses to questions were segmented into video clips indexed by question number. We then coded them for keywords and transcribed them wholly or partially to provide an abstract for each question. These data and others were entered into a composite Google Sheet that enabled analysis across the entire set of 680 clips that ultimately emerged from the process.

Analysis

In this section, we analyze the features of teaching and learning in these courses to discern if, and how, this teaching and learning correlated with the goals of a liberal arts education as summarized above. We first analyze instructors' assignments and comments on their courses. To support this analysis, we compiled a table that includes the writing assignment for each course, along with excerpts from instructor interviews that correlate with liberal arts goals, coded for each of the three goals. We then compiled a table correlating students' comments on their perceived learning with the same liberal arts goals. (These tables are too lengthy for inclusion here; readers may consult them in their entirety by visiting the Resources on our companion website, https://sites.google.com/a/hawaii.edu/pbhui/resources, and clicking on Table 1, Writing Assignments and Instructor Interview Comments by Course, Correlated with Liberal Arts Goals, or Table 2, Student Interview Comments by Course, Correlated with Liberal Arts Goals.) In the analysis that follows, we excerpt from Table 1 to provide examples of place-based writing instruction aiming for each of the three goals, with courses grouped according to pedagogical approach. Then, for each course, we excerpt from Table 2 to provide a student comment illustrating how this approach yielded learning that aligned with the liberal arts goal.

The criteria for coding were determined as follows: Relating facts to a whole, F2W, was attributed to an assignment or comments about it whenever that assignment required the student to assemble disparate bits of information into a coherent whole addressing course topics. Because the assignments under scrutiny were writing assignments, they qualified for this category nearly automatically, because most writing assignments beyond perfunctory drills or fill-in-the-blank exercises require some degree of relating facts into a whole (Bourelle, 2009). The nature of this "whole" derives partly from the writing genre as discussed below. Growing intellectually or personally, G, was attributed whenever student writers were positioned explicitly or implicitly to embrace the assignment beyond garnering a grade and use the work involved in the assignment to advance as a person or as a scholar. Connecting to a higher purpose, HP, was attributed whenever student writers were positioned explicitly or implicitly to make connections between their individual endeavors and a larger social body or principle.

As will be seen, students often indicated learning that fell into more than one category, at times aligning quite closely with their instructor's espoused aims; other times, students indicated a kind of learning in one of the three categories that did not align with their instructor's espoused aim, yet affirmed learning that reflected the specific liberal arts goal nonetheless. Due to space constraints here, our analysis is not exhaustive but rather representative.

Relating facts to a whole (F2W)

Instructors leveraged a variety of genres and pedagogical approaches to target this goal with student comments affirming these goals in a variety of ways. Below we list the six most widely used pedagogical approaches.

Analytical writing.

In American Studies 220, Introduction to Indigenous Studies, for example, students were required to "focus on your choice of a historical or contemporary issue that affects a particular Indigenous people of the United States … or Indigenous peoples in general." The readings (and video viewings) on the syllabus connect to numerous Indigenous peoples across the globe, while also highlighting the predicament of local Indigenous people, providing students with scaffolding for relating local facts to the overarching whole of Indigeneity. Student Maria Barcinas observed that the class made her "more aware of portrayals of native peoples and some of the conflicts involved with representation, a lot of history," adding that "There's a lot of parallels between what we see [in Hawai'i] and what is going on [in my home of Guam]."

In Communicology 385, Communication and Culture, an initial "culture biography," which invited students to name the cultures they identified with and came into contact with as they shaped their identities and worldview, was followed by a cultural analysis: "Describe the culture, drawing on definitions and concepts from class. What are its values? How does this culture influence the verbal and nonverbal communication of its members?" Students were thus positioned first to research local personal circumstances then to relate these circumstances to a "whole" consisting of cultural forces. Student Nagel Flores analyzed local Filipino culture while applying course concepts. When asked in an interview about challenges, he said: "Dr. Gasiorek gave the example of a fish in water. A fish isn't aware it's in water. But when you become cognizant of that, you become more aware of your surroundings, taking what you learned from the contexts within this course." Thus the course helped him recognize a "whole" of cultural forces with which the facts of his observed everyday life could connect.

Other courses included similar assignments that required students to develop writing that assembled facts from the course into some larger analytical whole. This larger whole varied by discipline and by course, as alluded to in some of the entries under Growth (G) and Higher Purpose (HP).

Journaling.

In Geography 330: Culture and Environment, students were tasked with a challenge of relating personal and local experience to an encompassing cultural and environmental "whole" through weekly journal entries and longer essays. Of her goals in this assignment, the instructor Mary Mostafanezhad said: "First, I want students to understand the concepts and the theories, and second, I want them to be able to apply them to the real world in some way." Real world applications thus constituted the "whole" to which students related course facts. In an interview, her student Allison Fujimoto concretized the complexities of concepts when applied to the real world:

> "We tend to think of conservation practices in a really positive light and I don't think that's a bad thing, but it's also important to critically analyze how these conservation practices [might affect others]. If you're setting aside a piece of forest, are there people living there? Then you might be making them homeless and they won't have their land."

In her comment, one can also see a connection to HP goals, in that she is considering conservation not just in terms of personal impact but societal impact.

Similar to the Geography course that made use of weekly journal writing, Management 343: Comparative Management Systems: U.S. and Japan required journaling, identified by instructor Dharm Bhawuk as a "celebration of learning." Under the course topic, these short two-page assignments approached the "whole" of management systems from two perspectives (while subtly leveraging the local student demographics that inevitably included numerous students of Japanese descent). Many class sessions began with students sharing their journals in small groups, thus offering moments of orally representing the connections between facts and whole management systems along with the written representation. Student Brendon Sunada recognized the challenge of analyzing cultures without an in-depth exposure over time: "I realized how much language and culture are really closely tied in, and also realized that unless you're intimately involved with culture for a very long time, you don't really know about the culture." Otherwise stated, connecting facts to a whole should not lead to rush conclusions about a management approach in a particular culture.

Collaborative writing.

In Hawaiian Studies 478: Mele o ke Hou: Music in Hawaiian Identity, students were positioned to work in small groups, in this case to produce a musical performance at semester's end. The writing of their song constituted a connection between facts learned about Hawaiian music and the whole of a composition that was faithful to that musical tradition. That tradition, by Professor Jonathan Kamakawiwoʻole Osorio's accounting, included a very strong place-based element of composition, as the vast majority of traditional Hawaiian songs are written about specific places. One of his students, ʻEkolu Leon Guerero, already a musical composer, made the connection: "[This course helps with] realizing your place and the place you come from. I'll have more relationship to my land, to where I come from, because of this class." In addition to the F2W goal, one can see in this comment G and HP goals.

Honors Seminar 491: Sustainability Courtyard / Campus Engagement similarly integrated collaborative work into course requirements, in this case not only within the semester's work but also across semesters, connecting course participants to other students in earlier semesters. Students were required to join ongoing research proposal writing teams and thus become a part of a "whole" that already connected to a certain set of facts, all the while discerning how their individual endeavors—often shaped by different majors or disciplines—could mesh with this whole. The projects also connected with Service Learning to enable students to discern how their practical writing marshaled facts to achieve the "whole" of an accepted proposal. Student Cielia Morse said:

> "I'll never forget where my path started and it really started with this rain garden [proposal]. So I really hope that I can see this through at the University so that it can become a learning tool for other students and not just a tool, but an inspiration for other students to really see their writing turn into something."

Here again, we see not only an F2W goal but also a G and even a HP, as this student sought to inspire other student writers. In the example that follows, collaborative writing took the form of small teams working on case study writing.

Case Study writing.

Some writing assignments took the form of case studies in which the "whole" was a local geographical place that set the scene for students to apply course facts. In Animal Sciences 432: Swine Production, students in teams of two and three had to compile an extensive report over the semester based on visits to a local pig farm comparing the farm's practices with course tenets. Student Harold Smyth observed that "It's a little different than other courses ... as far as the resources Hawai'i has to offer to farmers.... I gotta tie in Animal Science to Hawai'i and its resources." Thus the place-based nature of writing assignments prompted this student to relate disciplinary facts to the specifics of locale. Nursing 452: Cultural Aspects of Health Management in Indigenous Populations, and Social Work 303: General Social Work Practice II also used the case approach, requiring students to relate disciplinary concepts to the specifics of place-based practices. We include student comments for these courses below.

Writing that uses geographical place as object of inquiry.

Other assignments established geographical place not only as setting but also as object of inquiry: In Indo-Pacific Languages 427B: Topics in Pacific Literature, students were required to analyze works by one specific writer—Albert Wendt—and to ground their analyses in a specific place: the author's homeland of Samoa. Students had to discern how the "facts" of his literary performances connected with the whole of the settings for novels and short stories. One non-Samoan student, Scott Kaʻalele, gleaned this connection: "Even down to, I can't remember which character, but ... talking about how he and his wife show affection ... how you express intimacy in Samoa. So I got those little subtle kinds of things."

In Journalism 402: Intellectual Foundations, one option for probing such foundations included joining a team of students who traveled to the Philippines in the wake of Typhoon Haiyan to cover the event. One student who did so, Bobby Bergonio, said this:

> "I see [my major] a LOT differently... If you haven't really gone out into the field and actually seen the career in action... a major is a major... but going out into the field and applying everything... you realize how much you can gain, how much you can learn... how much potential Journalism has, how much potential the major has."

The place-based writing experience in this way enabled Bobby not only to assemble facts into a written account (ultimately published by Hawaii Business—see Manog and Bergonio, 2014)—it also enabled him to connect facts about his major to an active exercising of it, realizing the liberal arts goal of growth while implicitly achieving a higher purpose through participating in a field assignment to cover a medical mission.

In Geology & Geophysics 305: Geological Field Methods, students learned the discipline's conventions for drawing maps and interpreting a site's characteristics that figured into analytical reports. In another comment that qualified not only as F2W but also as G and even HP, student Shellie Habel said:

> "I work in beach erosion. I help take care of the beaches. My main goal is to help the state make wiser decisions about land use.... This class was about mapping, and a lot of what we do in coastal geology is make hazard maps for the state. Scott's classes are really helpful for giving us tools that we can later use in jobs."

The instructor for Urban and Regional Planning 310: Introduction to Planning, Priyam Das, required students to go into a local neighborhood, analyze it using Planning concepts, and write a report on it in the form of a memo. We discuss this course and student learning in more detail in the HP section.

Writing that probes place and performance.

In Food Sciences, Health, and Nutrition 492: Field Practicum, students had to "discuss how you integrated your academic training into the performance of your work site responsibilities." Student Elizabeth Jimenez said, "This was my first experience working with a community dietician and working with a community wellness program ... and to meet those people and to start making those connections ... It has contributed to my change from a student into a professional." The place-specific F2W connections required to reflect on professional performance thus enabled the student to glean a G element of her education while part of a program that implicitly includes an HP element through dietary service to others.

Reflections on personal performance in local sites were also part of an English Creative Writing Course focused on the concept of "home." The course required students to compile an end-of-term portfolio that made a "whole" of their individual performed poems over the course of the semester. Student Leilani Portillo described the cumulative effect:

> "[This course] has definitely changed me because it made me ... think more about the concept of home and what that really means to me... I have thought about different ways [to define home such as] a place, or a group of people, or the way that made me feel.... It kind of opened up my mind to different ideas of home."

The G goal of learning clearly was met through this configuring of F2W by the instructor.

English 470: Studies in Asia-Pacific Literature (Mapping the Literatures of Hawai'i) also focused on personal performance, in this case with respect to the greater "whole" of responsibility. Said the instructor, Candace Fujikane: "We're trying to foreground positionality, trying to foreground relations of power and how we locate ourselves in those relations of power." Students were prompted to relate the facts of their everyday lives to the whole of selected literatures representing Hawai'i to reflect on political implications. Both student interviewees made strong connections in this vein, also making connections to G or HP elements. Art major Ghialana Borges made this observation:

> "I think this course has made me a stronger writer. In particular, using writing as defending, for instance, this significant place …. Using writing to combat and to defend the importance and the significance of this place ... in a historical sense all the way to present day ... incorporating the different dynamics of all the different types of readings into my paper."

Prompting personal or intellectual growth (G).

In addition to the instances of G goals implicitly enabled through the F2W approaches discussed above, this learning goal took six different forms, with selected examples presented below.

Positioning students to prolong their learning beyond the current course.

In American Studies, Professor Brandy Nālani McDougall had observed a growth outcome over the course of the semester:

> "Once their eyes are sort of open to this [history], the idea that these indigenous histories have been suppressed and these indigenous issues have continued to be suppressed in the greater public dialogue, they become more aware and want to know more."

Student Maria Barcinas acknowledged such growth:

> "The course really opens your eyes to so many different issues that native people are facing and fighting against. We can't be unaware any more. You're always going to see it now in a way where you have to decide whether you're going to address it."

In this comment we see a G goal also suggesting a connection to an HP goal: the act of recognizing the challenges that Indigenous people face.

In Social Work 303: General Social Work Practice I, prolonging the learning beyond the current course was built into the curriculum; the course figured as part of a sequence of courses developed for certification purposes. Professor Mike DeMattos also sought growth implicitly. In our interview, he stated that he says to students "when you walk out of here, I want you to be able to fully own and fully have your unique set of life experiences, but I want that also to be understood in a larger context of what the research tells us." One of his students, Marshal Tokunaga, discussed growth by gaining more confidence:

> "After taking this course, I felt a lot more confident, that I'm doing the right thing and I'm going in the right direction …. With my other Social Work professors, I feel more comfortable asking them questions or asking them for help."

This kind of growth seems particularly compelling in light of the sequenced curriculum in which the course figured.

Expecting students to engage by formulating their own questions and objectives.

The instructor for Animal Sciences 432: Swine Production, Halina Zaleski, claimed that requiring students to observe closely then report on observations "definitely improves observation, leading students to think of what questions they have." Student Harold Smyth indicated growth by using writing to generate more ideas: "I feel like my writing kind of got stronger because I knew the organization they were looking for, but I was able to incorporate more ideas and use outside resources."

In Journalism 402: Intellectual Foundations, students were required to pitch their ideas for stories to peers, refine them, and follow through with written and/or filmed stories. Growth in this context leveraged peer-to-peer engagement to enable students to glean audience response even before addressing an external audience. The instructor for Nursing 452: Cultural Aspects of Health Management in Indigenous Populations, Mary Mahelona, alluded to students' taking such initiative when she said, "So it's really kind of thinking out of the box instead of in our standardized Western way of handling everything. Being creative and a lot more opinion and personal perspective comes into play than the courses that they just left." Her student Eileen Sugimoto identified a growth that attended closely to cross-cultural understanding: "It also made me aware and realize that I still have a lot to learn about cultures, so I still am very open to learning, and I want to read more and talk to people and learn more."

In Tropical Plant and Soil Sciences 236: Renewable Energy, instructor Brian Turano observed that his students developed a "buy-in; they have a stake in the game, an excitement about the topic, a willingness to go above and beyond what I assign them." One of his students, Alana Eagle, affirmed this "stake in the game," emphasized through the first person plural:

> "After that course I do know more about Hawai'i, because our struggle here is imported energy. And we had to learn not only about what kind of renewable energy resources are being sought for the future, but also about every energy source that we have and have had."

Challenging students to understand their own experiences in more complex ways.

When asked about her goals for the course Communicology 385: Culture and Communication, Professor Jessica Gasiorek said, "What's most important and what I want students to take away from this course is an understanding of how these frameworks and these ideas and these concepts can help them make sense of their everyday experiences." Her student Dayna Agustin identified growth in writing as prompted by the course: "It definitely makes me think more about what I can do with my writing.... It [also] makes me feel more connected to my major. I never did feel like I was close to graduating, but now that it's coming to an end, my writings are improving."

The instructor for the Creative Writing poetry course, No'ukahau'oli Revilla, said, "I don't think too many people are cognizant . . . [that] the way they move in this place affects way more than just the self. Framing movement and permission through a place that you're accustomed to through a reader/writer relationship is very useful." In other words, the writing of poetry and its subsequent performance before readers was deemed valuable in helping students re-visit experiences of places to perceive elements of those experiences that were possibly invisible before this pedagogical experience. Student Aileen-Ann Patoc's reflection indicated growth in this sense: "[Before this class] I ... thought about home [as] place. [After this class, I think of home as] definitely place [and also the] people in that place."

Growing through performance.

Growth as occasioned through the spoken word performances in this English Creative Writing Poetry course was similar to the growth implied above in the Hawaiian Studies course in which students formed groups to

compose and perform a song at the end of the semester. In these courses, growth was prompted by in-class reception by ones' peers. In the Food Sciences, Health, and Nutrition course, such growth through reflection on performance was prompted through direct accounting to the course instructor, as noted earlier.

Encountering curricula beyond mainland-centric textbooks.

Manumaua Simanu-Klutz, the instructor for the Indo-Pacific Literature course discussed above, noted an explicit goal for student growth: exposing them to representations beyond standardized textbooks—a vestige of the colonial era. She said, "I can see the hunger in understanding their own place, which is often not included in the curriculum or in the different disciplines that they learn in while in Samoa … where instruction is mainland textbook-based." Student Jacob Mayer identified his hunger for enhanced understanding with respect to appreciating self-representation resulting in personal growth:

> "I read a lot of books by Robert Louis Stevenson, Louis Beck, people like that. They're European writers, and it comes from their perspective. Pacific Islanders, they didn't really have a voice until Albert Wendt started this off. It made me have a lot of pride in who I am, where my people come from."

Writing in a professional genre.

Proposal writing in the Honors course discussed earlier offered students an exposure to a professional genre not often encountered in discipline-specific writing, where one's primary audience is usually one's instructor rather than a third party. In discussing the objectives of his course and this collaborative writing venture, instructor John Cusick said, "Part of our task as faculty is pulling back the blinders so people have a broader peripheral vision ... a broader perspective of what's going on." His student Rebekah Harter identified growth as enhanced by community involvement: "I think that this writing and this class being involved in community and being involved in working for change has definitely helped me figure out what I want to do with my future and will definitely be with me." Here we see both G and HP goals.

In Urban and Regional Planning 310: Introduction to Planning, Professor Priyam Das required students to engage with the written genre of the memo. She set up a fictional scenario to support this performance: "You have been selected as the local planning consultant to prepare a memorandum. To prepare the memo, take a map of the Moʻiliʻili area with you and walk around the neighborhood. You can also carry a camera/voice recorder to record your observations on the neighborhood or simply annotate the map." Her student Zachary Parlee brought this written artifact to the interview and stated that he had never written a memo before. He added that the experience definitely helped him grow as a writer, saying "I gained a huge understanding of planning, I have a greater understanding of myself and my interests and things I can pursue. Generally, it was like going to the gym for a workout and coming back feeling stronger."

Connecting to a higher purpose (HP)

This liberal arts goal was the least identified by instructors, yet it took five different forms, as described below.

Prompting students to inspect how individual behavior in social spaces shapes those spaces and other actors in them.

As noted above, the instructor for the English Creative Writing poetry course, Noʻukahauʻoli Revilla, prompted students to inspect how their own behavior in social spaces had an impact upon others, and one of her students affirmed this learning goal. Such inspection not only supports growth, it also prompts students to glean a higher purpose of considering ones' actions as they affect others.

Identifying responsibilities to local places as students might assume them.

The instructor for the English Literatures of Hawaiʻi, Candace Fujikane, sought very explicitly to engender a sense of responsibility to this geographical place in terms of one's expertise: "The difficulty for anybody is determining ... your kuleana; what is your responsibility, what is your area of expertise of authority to speak on a subject?" Above we excerpted from her student Ghialana Borges's interview in which she saw her responsibility in terms of "defending" a particular place. Her peer in the course, Tammy Ting-Beach, said this: "[Writing is successful] if it moves someone to do something. If it moves someone to learn about, not even Makiki Stream, but maybe a controversy in their own area, that's what motivates me to write. So that somebody will take action." Thus connection to a higher purpose can include not only direct action through writing but also indirect action--when others are moved to action by one's writing.

The instructor for the Hawaiian Studies course, Jonathan Kamakawiwoʻole Osorio, identified a similar connection to a higher purpose:

> "When we compose ... we are speaking back to our teachers, we are speaking back to our loved ones, we are speaking back to our ancestors.... I think [Hawaiʻi] gives us something to restore us and renew us, but it is something that also calls for sacrifice and protection."

His aim was reflected in student 'Ekolu Leon Guerero's stated goals to make his writing more "meaningful": "[This class made me] want to write about things that are happening now, so that's going to change my music and even papers, essays, and things. I realize that I want my writings to be meaningful."

Preparing students to serve others.

The Food Sciences and Nutritional Health course discussed earlier explicitly prepared students to serve others. Instructor Anne Shovic said, "About 2/3 who become registered dietitians end up practicing [as dieticians], and between 50% and 66% stay in Hawaiʻi. So we are a significant force in helping with the health care in our community." In the Nursing course, students are given a set of objectives to choose from: "for older adults, they are health services, quality of life, injury prevention, and caregivers." Student Eileen Sugimoto said, "It strengthened my ability to help people. I feel more comfortable and more confident in treating." In the Social Work course, "Students are challenged to 'connect-the-dots' between the client's assessed problems, current strengths, service goals, and potential treatment options" in writing their cross-system case analysis. The comment by student Marshal Tokunaga, cited earlier, reflects the way in which growth as a student also supported developing the capacity to serve.

Positioning students to perceive their "role in humanity."

Only one instructor, Manumaua Simanu-Klutz, the instructor from Indo-Pacific Languages, voiced such a goal. In interview, she said, "[Students] come to see their role in our humanity, and just understanding more about themselves and things that they did not know to formulate questions for. Jacob Mayer, her student cited earlier, reflected such perception when he detailed the pride he had as a Samoan. In another clip, he stated that the course "changed my life."

Preparing students to engage with the local community.

As noted above, the instructors in the Food Sciences, Nursing, and Social Work courses prepared students not only to serve but also to serve locally. The instructor from Journalism, Gerald Kato, saw such engagement as a central part of the course: "[Place-based assignments] makes it more real for the students. We're trying to talk about the real world. We're about doing real stories about our community." Writing these stories not only enabled students to grow as scholars, but also helped them think about the ethics of representation, as expressed by student Peter Chastagner:

> "[J]ust being here and talking to people has been the greatest help to me in understanding what I can write about . . . helping me understand where I am geographically, and the past, and why things are the way that they are . . . it's super important as a journalist in Hawaiʻi to know all that."

Urban Planning Professor Priyam Das voiced her emphasis on local engagement in the first person plural: "The issues concern every one of us … We're worried

about our schools, our social services, about how our neighborhoods look, how they look, aesthetically, how they function." In a comment that reflected F2W, G, and HP convincingly, her student Andrea Kelly said:

> "It changed my views not only as a designer, but also as a citizen of the world, and it made me look more critically at the cities I am living in and the strengths and weaknesses of city planning. It changes the way that I use my car, the bus, that I take my bike around, and it has changed me as an architect because I now think of the city as a whole, not just one building . . . Slowly throughout my college career, I have been growing as a writer, and in this class I could tell that I was stepping it up a level, that I was finally understanding the point of writing: that you're supposed to get to a point or explore an idea, so this class gave me an outlet for learning or taking that next step."

Discussion

We present our findings under the subheadings of noteworthy patterns and trends, limitations, and implications for teaching and research in other locales.

Noteworthy patterns and trends

The foregoing analysis affirms that instructors did target the three liberal arts goals of prompting students to connect facts to a "whole," enabling them to grow intellectually and personally, and prompting them to make connections to a higher purpose in varying degrees. All instructors targeted the first goal, using place-based writing assignments to teach disciplinary ways of connecting facts to the whole in a variety of genres (analytical writing, journals, field reports, case studies, performance reviews, research proposals, and memos). As several instructors claimed, and as the student reflections would seem to affirm, requiring students to make connections from facts to a whole when the "whole" is constituted at least partly by immediate lived realities provides scaffolding for making these connections.

In several cases instructors also leveraged collaborative processes of review and revision to support students in making these connections. As concerns the latter, the draft-and-revise practice now common in writing intensive courses supports students through formative evaluation processes—from instructor to student and from student to student. In the latter case, students might glean connections not only from feedback, but also when providing feedback and recognizing an approach taken by a peer that might not have occurred. This practice is certainly not unique to place-based writing intensives, yet this review dynamic, when coupled with the coincidence between rhetorical situation and three dimensional situation as noted above, would seem to support strong writing performance, judging by student comments. When the practical work of assessing swine production on site is linked to specific theoretical tenets, for example, or when the task of composing a memo to a hypothetical City and County Planning Director is supported by data that the student has gathered on his or her own, connections between facts and the whole are rendered less abstract and more immediate. When a student in a literature course cannot remember the specifics of characters in a novel yet does remember the specifics of interpersonal relationships as inflected by cultural practices in a specific place (as in the case of the Indo-Pacific languages course focused on Albert Wendt's writing), the connections between facts and a whole appear to be quite enduring lessons learned.

In sum, instructors' place-based writing assignments that required students to relate facts to a "whole" strongly reflected the oft-cited WAC practices of using "writing to learn" (course concepts) along with "learning to write" (in the conventions of a discipline) (WAC Clearinghouse, n.d.). In the case of those assignments leveraging individual and group performances, students were also "learning to perform" (Henry and Baker, 2015) in ways inflected by local practices.

In several cases where instructors sought to prompt personal and/or intellectual growth, this growth was envisioned as an immediate part of teaching and learning processes, as when instructors required students to set some of their own learning objectives, when they required in-class performances related to their writing assignments, when they challenged students to reflect on their experiences through frames provided by the course, or when they introduced them to a new genre that would promote growth by expanding students' writing repertoires. In other cases, the growth was envisioned in the longer term, by equipping students with the intellectual means of prolonging learning beyond the course. Our findings not only confirm that instructors targeted this goal of a liberal arts education but also reveal the ranges of ways that teaching envisioned growth, concretizing the metaphor. Students' reflections provide further concrete examples.

When instructors targeted the third goal, connecting to a higher purpose, that connection was envisioned in ways that were immediate or near-term: writing assignments were linked intimately with the immediate three-dimensional environments. Responding to place in writing was in this way connected to responsibilities that could be identified in those places, rendering this goal easily attainable by students, using the intellectual tools afforded by the course. What is most striking is that this connection to a higher purpose was the least common goal for instructors, but a prevalent one for students nonetheless. This pattern is perhaps explained by scholarship in philosophy on place: "places embody values; better yet, they situate them"(Casey, 1993, p. 265). Perhaps having values "situated" through these assignments for students prompted them to articulate a higher purpose or calling.

In discussions with instructors and students on the place-based writing that targeted liberal arts goals, we noted a recurrence of place-based metaphors to explain what had transpired: students occasionally referred to enhanced perspective, or having a better sense of where they were coming from, and instructors would talk of grounding their approaches in our geographical place or trying to meet students where they were, intellectually. This recurrence of place-based metaphors to explain teaching and learning processes recalls the work of Lakoff and Johnson (2003) on the deep metaphors that drive conceptual processes. This connection possibly helps explain the apparently successful approaches to teaching and learning that yielded strong perceptions of learning.

Limitations

A limitation of these findings is that only three goals of a liberal arts education were being used as a basis for determining if place-based writing intensive teaching constituted a liberal arts education. Discussion of desired outcomes of a liberal arts education may well address other goals, yet the ones identified seemed most recurrent in our review of the literature. Another element of a liberal arts education that is often cited, for example, is the opportunity for students to interact in small classes. Whether we consider this element a goal per se or merely a supporting environment for reaching such goals, writing intensive classes across the nation almost always guarantee a small class, if only to provide instructors with a teaching load that they can handle in a pedagogy that is labor intensive. In this sense, one important component of enacting a liberal arts education is automatically furnished by writing intensive instruction.

Another limitation is that our purposive sampling methodology requested of instructors the names of students who performed well in their courses—to the end of investigating the potential of place-based writing intensive pedagogy as an effective pedagogical practice. Consequently, students who might not have performed well in these courses might supply counterexamples of how this pedagogical approach was not effective, generally speaking, or more narrowly here, as a way to reach liberal arts goals. We acknowledge this shortcoming, as such information could have revealed shortcomings as specific as the various advantages signaled by the students who participated. On the other hand, several of our student research participants did not consider themselves to be strong writers. Some of these students even spoke candidly about disliking writing, or being intimidated by it prior to their place-based writing intensive experience. Many others, with varying degrees of initial confidence, still described the writing they did in these courses as a watershed moment for improving their craft and expanding their understanding of what writing is and can do. Further, as one can see in the topic guide featured on our project's accompanying website (https://sites.google.com/a/hawaii.edu/pbhui/analytical-matrices), participants were asked to reflect on challenges they

faced throughout the course as well as aspects of their writing that they considered to be weak or less successful. In many of the instructors' assignments, one can see implicit scaffolding to help students meet these challenges.

Implications for further teaching and research

Analyzing a liberal arts education not only for the "what" of its content but also for the "how" that undergirds teaching approaches prioritizes teaching and learning processes over pre-determined outcomes, institutional types, or disciplines. Such an understanding helps shape a response to a question from the CFP for this special issue: *How can we theorize and/or put into practice pedagogical concepts, approaches, and innovations that can contribute to a robust and dynamic liberal arts education inside and/or outside the classroom?* Providing a liberal arts education through place-based writing intensives offers an approach that seems very promising, and we hope that readers whose interest has been piqued by this report will be able to make use of our digital repository and associated website to enact place-based writing intensives in their own locales, in their own disciplines, in whatever institutional context they find themselves. The repository can be found at https://scholarspace.manoa.hawaii.edu/handle/10125/37357, and the associated website can be found at https://sites.google.com/a/hawaii.edu/pbhui/.

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Appendix

Questions Asked of Instructors

1. What motivated you to design writing assignments with a place-based component?

2. When you designed [a designated writing assignment], what goal(s) did you have for student writing performances and class dynamics related to them?

3. What elements of your syllabus and classroom plans reflect a place-based approach?

4. When you designed [specify during the interview] assignment(s), what learning goals for students did you have in mind?

5. What observations on course dynamics and discussions do you have?

6. How do you view the results of your course design(s)?

7. If relevant, can you compare student writing performances with writing intensive courses you have taught that are NOT place-based/inflected?

8. If relevant, can you compare student writing performances with place-based/inflected courses that are NOT writing intensive?

9. Why do you think it is important that students in your classes engage with our place(s) through writing?

Questions Asked of Students

1. Why did you take this course?

2. How would you describe the classroom dynamics?

Using specific writing samples as the basis for the following questions:

3. In responding to your instructor's writing assignment, what challenges did you face?

4. Did the assignments motivate you or, on the contrary, de-motivate you in performing in the course. Why?

5. What elements of your writing performances would you identify as strong or successful, and why? What defines "success" for you? What do you think determines "success" for this instructor?

6. What elements of your writing performances would you identify as weak, or less than successful, and why?

7. (How) did this course change you as a person, as a writer, as a scholar, if at all?

8. Do you know more about Hawai'i or the Pacific, and if so, what?

9. Were your relationships with classmates, the campus, O'ahu, Hawai'i, or the Pacific changed in any way? Do you see your major or your educational experience any differently as a result of it?

10. As you anticipate life after graduation, what are your goals and aspirations? Do you see writing figuring into them?

11. Do you anticipate remaining in Hawai'i or going elsewhere after graduation?

12. Regardless of your plans, will this course or the writing in it "remain with you?" If so, how?

Learning to Engage with Multiple Perspectives: The Use of Dialogue in the Classroom

— Priscilla Elsass and Barbara Bigelow

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Abstract

The purpose of this paper is to explore the use of dialogue as a way to gain deeper understandings of one's own and other's views and to encourage discourse that challenges students to identify the assumptions that underlie their opinions and beliefs. Using the authors' experience teaching global business seminars through dialogue, this paper offers an approach to incorporating dialogue into inquiry based classrooms to enable the development of multiple framing skills in students.

Introduction

A well-rounded college education provides much more than simply an accumulation of facts and knowledge; it also provides students with the skills and attributes necessary for informed and active participation in a complex and ever-changing world. The LEAP (Liberal Education and America's Promise) initiative launched by the American Association of Colleges and Universities (AAC&U) in 2005 identified several essential learning outcomes, including inquiry and analysis, critical and creative thinking, written and oral communication and teamwork and problem solving. Following the launch of LEAP, colleges and universities designed new or enhanced curricular and extracurricular opportunities for student development. Yet, while colleges and universities spend much time and effort developing curricula, focusing on curricular requirements and the content of particular courses, much less attention is paid to the method of teaching within those courses (Bok, 2006).

This paper proposes that dialogue, a mode of discourse that emphasizes identifying and suspending assumptions in order to gain deeper and more nuanced understandings of our own and other's experiences and beliefs, is particularly appropriate for undergraduate and graduate students across a wide range of disciplines. In an increasingly complex and interconnected world in which deep-seated differences among us arise every day, students need the skills necessary for speaking and listening to others with whom they may not necessarily agree and the ability to balance multiple perspectives. Toward this end, dialogue is both a useful pedagogy as well as a curricular goal for deliberative democratic education (Parker, 2010).

Critics of current educational practices point to the reality that most instructors continue to rely on ineffective, traditional, lecture-based methods of teaching in which they explain concepts and test students on their ability to remember the details (Bok, 2006; Wells & Arauz, 2006). Research suggests that about 80% of classroom time is devoted to teachers talking and only ten students out of a typical class of 40 students are likely to participate in classroom discussions. Of those ten students, five will dominate the conversation, a pattern of participation labeled "consolidation of responsibility" (Karp & Yoels, 1976; Weaver & Qi, 2005).

Dialogue is a unique approach to classroom discourse because it mirrors the process of knowledge creation—a collaborative effort that develops out of diverse and often conflicting perspectives. Pedagogies such as dialogue that challenge students to recognize and consider multiple perspectives can effectively influence students' relationship with the meaning of knowledge (Lattuca, et al., 2004), and the AAC&U recognizes the importance of understanding multiple perspectives in its definition of the learning outcome of critical thinking as "a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion" (https://www.aacu.org/value/rubrics/critical-thinking).

However, despite research that links dialogue with increased student participation (Ivancevich et al., 2009; Thakral et al., 2015; Wells & Arauz, 2006) and research that links participation with enhanced learning (Rocca, 2010; Weaver & Qi, 2005), the use of dialogue is not widely adopted. Although much has been written on dialogic classrooms, anecdotal evidence suggests that faculty may not be familiar or comfortable with conducting dialogues within the classroom (Wells & Arauz, 2006).

The purpose of this paper is to offer an approach for incorporating dialogue into the classroom experience. It is based on the authors' experiences using dialogue in global business seminars that included travel to China, Germany, and Argentina. The paper begins with a brief discussion of dialogue. The second section will describe its use within a global business seminar. The paper concludes with a discussion of some of the challenges we faced using dialogue and its value for developing the ability to understand and engage meaningfully across differences.

Dialogue

In this paper we rely on the practice of dialogue as it has been developed by the MIT Dialogue Project, led by William Isaacs, and adopted by groups such as the Public Conversation Project. This approach focuses on creating facilitated spaces in which people with diverse and often-conflicting beliefs and opinions come together with the intent to learn more about themselves and each other. The facilitator differs from other participants in that she manages the dialogic process. While the facilitator may have greater content knowledge than other participants, her opinions and beliefs are not privileged over others'.

The starting point for these scholars and practitioners is Bohm's (1996) definition of dialogue:

> "Dialogue" comes from the Greek work *dialogos*. Logos means "the word," or in our case we would think of the "meaning of the word." And *dia* means "through" – it doesn't mean "two." … The picture or image that this derivation suggests is of a *stream of meaning* flowing among and through us and between us. This will make possible a flow of meaning in the whole group, out of which may emerge some new understanding (p. 6).

Dialogue has been addressed in the education literature, but how it has been understood has varied. For example, Ivancevich, Gilbert & Konopaske (2009) write that it "involves educators providing specific instructions, guidance, exercises and opportunities, and feedback [and more broadly] involves facilitating meaningful interactions and exchanges with fellow students, friends, mentors, or other educators" (p. 197). For MacIntosh, Beech, Antonacopoulou, and Sims (2012) a dialogic encounter occurs when there is a negotiation of 'my interests' and 'your interests'" (p. 376). Thakral and his co-authors describe it as creating "an inclusive climate for learning" (p. 3). Gunderman (2005) describes dialogue as an opportunity to share and broaden our understandings:

> We discover that our preconceptions are not the only option. We learn to look at questions from multiple points of view. By uniting in the pursuit of understanding, we reach insights that exceed the sums of our individual arguments.

These and other perspectives on dialogue provide us with a generalized understanding captured well by Romney (2005) as "increasing understanding, addressing problems, and questioning thoughts and actions" (p. 1).

Dialogue is a powerful tool for "reaching beyond the self to relate to others" (Yankelovich, 1999) because it facilitates mutual understanding, helps students and faculty build relationships, and provides for the creation of shared knowledge among students. Dialogue differs from other forms of participatory discourse prevalent in the classroom, including debate, discussion and case analysis. Yankelovich (2001) suggests that dialogue, which has a "civilizing influence" (p.3) and an intentional goal of "exploring common ground" (p.1), is the opposite of debate, which is essentially about winning. Discussion, perhaps the most widely used pedagogy, also differs from dialogue. Sharing roots with words like "concussion" and "percussion," discussion suggests a fragmentation process, breaking the whole into parts and examining distinctions between those parts (Ellinor & Gerard, 1998).

Discussion is often practiced in what is referred to as the I-R-E (initiation-response-evaluation) genre of teaching, the norm in many classrooms. In this genre, classroom discussion consists of three distinct elements—the teacher/expert initiates a question, a student responds and the teacher/expert evaluates the response (Wells & Arauz, 2006). Such a teaching approach also occurs in case discussions, the hallmark of professional education. However, "discussions can be counterfeit; that is, they can seem on the surface to be entirely open, but in reality, someone with power in the group is steering the conversation to a predetermined conclusion" (Brookfield, Kalliath & Laiken, 2006, p. 831).

In contrast, three distinct features of dialogue underscore its differences with debate and discussion—equality and absence of coercive influences, listening with empathy, and bringing assumptions into the open (Yankelovich, 2001). Equality among participants is crucial because it allows for trust to develop more readily than if participants experience unequal levels of status, authority or power. According to Friere (2008), dialogue cannot occur when one voice is privileged over another.

> Because dialogue is an encounter among women and men who name the world, it must not be a situation where some name on behalf of others. It is an act of creation; it must not serve as a crafty instrument for the domination of one person by another. (p. 89)

That privilege recreates the circumstances that can lead to the "masked voice" Whyte (1994, p. 120) describes as reflecting expectations rather than truth.

This underlying assumption of dialogue -- that everyone enters on an equal footing -- challenges the nature of many faculty-student relationships. Using dialogue,

> [the professor's] efforts must coincide with those of the students …. His efforts must be imbued with a profound trust in people and their creative power. To achieve this, they must be partners of the students in their relations with them (Freire, 1993, p. 75).

The professor may facilitate most of the conversations but her or his role in that conversation is similar to that of the students; she is a participant.

Active, empathic listening, through which participants listen in order to understand others' positions (Yankelovich, 1999), is also essential to the practice of dialogue. Isaacs (1999) refers to listening as the "heart of dialogue" (p. 83) because without it there is no dialogue. But it is not easy and "we are rarely prepared for it" (Isaacs, 1999, p. 84). Since it is nearly impossible to carefully listen for understanding while, at the same time, forming opinions and judgments (and perhaps rebuttals) to that which is being said, the suspension of opinion and certainty is an essential element of active listening (Isaacs, 1999).

The third feature of dialogue is the voicing and sharing of assumptions. As Yankelovich notes (2001, pp. 1-2), "Unexamined assumptions are a classic route to misunderstandings and errors of judgment."

In the Classroom—An Example of Dialogue within a Global Business Seminar

An increasing number of undergraduate and graduate programs in management are offering global business seminars that focus on one country or part of the world. In combination with on-campus instruction, these classes travel to selected destinations, typically for a week, to visit companies. Ideally, students come away from these experiences with a better appreciation for doing business in other parts of the world and with an ability to identify differences in worldview across a broad range of managerial concerns, among them human resource policies, capital structures, and the role of government fiscal or nationalization policies.

Dialogue provides the opportunity for students to identify the assumptions, values and norms that make up their worldview and that create the framework within which they interpret new experiences and information. It also provides an effective approach for identifying and addressing the multiple frames used by students that reflect their varying national and cultural backgrounds. Dialogue has been a particularly effective pedagogical tool in our global business seminars for two reasons. First, as described above, in order for students to develop new insights from their travel, they must be able to recognize their own worldviews and be willing to learn from fellow students who may hold different worldviews. The practices of listening and suspending opinions and assumptions create an environment that encourages understanding of multiple frames. Second, because many global management courses include group travel, it is critically important to establish good relations between class members. Conflict or misunderstanding between students will pose a significant barrier to learning, not to mention the emotional toll it can take on an entire group. The practice of dialogue is not meant to eliminate disagreement or conflict but to

provide better understandings of one's own and others' points of view.

Course logistics

Faculty may choose to use dialogue in one or two class sessions or as the primary or sole mode of discourse. In our global business seminars, dialogue was our primary mode of discourse. The practice of dialogue requires the creation of a container in which "deep and transformative listening becomes possible (Isaacs, 1999: p. 242). Our container was our classroom, and we frequently referred to it as a safe place in which students' opinions were valued. For many students, sharing ideas and assumptions is risky. It was very important that the container of our dialogue allowed students to take risks, voice opinions and explore their assumptions. Referring to the physical room as a "container" reinforced the idea that this class was different and our meetings were, in many ways, unique.

We addressed the issue of equality in a very physical way. We rearranged the desks to form a complete circle with only enough chairs to accommodate us all. In this way, there was no space between any of the participants. As instructors, we chose our seats carefully so as not to place ourselves at the front of the room (a position of power or authority) or together (again, to avoid the appearance of inequality between us and the students). Reflecting the traditional relationships between faculty and students, in the first class students avoided sitting next to us and even pulled additional chairs to the table to avoid those seats and sit as far away from us as possible. We invited them to use the existing chairs.

We began the first class with a question that encouraged everyone to share. These types of questions tend to be generic, but easily answered, such as "Why do you wish to travel to China?" After posing the question, our instructions for the dialogue are:

- Take a moment to think about the question.
- Whoever would like to start can begin.
- After speaking, the conversation progresses around the table.
- Each person will talk in turn, without interruption and without judgments or statements about other people's comments.
- Students are allowed to "pass" if they wish, although we always follow the circle with an invitation for any of the silent students to add their thoughts.
- After each person has had a chance to talk the conversation opens up and we simply ask that people talk one at a time without interrupting each other.

We use a similar process for all of our dialogues. Because this form of discourse is not the norm, it can take some gentle reminders and comfort with silence from the facilitators. We have noticed that within two sessions most students have come to enjoy and value the process, including the silences. As faculty members, the only difference in our participation pattern is that we avoid going first, especially in the first two or three class sessions, to avoid establishing a pattern in which students wait for us to speak. Because the container is a representation of our time together, we also have a closing that marks the end.

After the initial round of conversation, we introduce the practice of dialogue and explain that we will all be learning together through this process. Since most students are not familiar with dialogue, this explanation takes some time. We finish with the creation of agreements for our conduct within the classroom. Students often start by referring primarily to rules of civility (e.g., no interrupting), but as we continue, the agreements begin to reflect some of the underlying purposes of dialogue, such as speaking to provide an understanding of one's view versus speaking to persuade, and listening to understand versus listening in order to critique.

In a classroom dialogue, it is important that the professors lead by example. We have told the students that we are learning together, but a few hours in one course that deviates from their many years of education does not alter expectations. So it is important to stay within the role of participant, rather than someone with greater status.

This opening dialogue procedure is consistent in every class. When a reading has been assigned, dialogue provides a way for students to explore their own and others' understandings and interpretations of the text. The initial question posed is important, because we do not want to steer the dialogue in any particular direction, but rather let it emerge. For instance, the question, "What do you think about XYZ" may encourage students to debate the pros and cons of an issue. A better question would be "What did you learn about XYZ?" which encourages students to share knowledge and discover differences. Another prompt might be, "How did you feel about XYZ?" which encourages a personal response rather than a position. After the initial prompt as described above, the class dialogue session begins with two rounds. The first round is to share responses to the posed question, and the second to explore issues identified in the first round in more depth. The purpose is to allow different perspectives to emerge without critique. Students may have very different understandings than each other or us. The intent is not to discuss or debate these, but to allow them to be voiced and heard.

During this second round it is not unusual for participants to refer to something another speaker has said. However, care has to be taken with this.

> For example, something John said may have stimulated you to think of a question, but anyone in the group may have a perspective that will enhance the group's learning. Directing our questions to only one person rather than to the whole group tends to result in one-on-one conversation and make bystanders of everyone else…. Even if John has a response to your question, he holds only one perspective of a vast array of possibilities (Ellinor & Gerard, 1999, p. 114).

As a facilitator, it is incumbent on the professor to ensure that everyone is involved, especially if a few people begin to monopolize. There are two ways to do this. First is the direct approach: "I notice that three of you are focused on this issue. What is happening?" The benefit of this approach is that it directs attention back to dialogue and the group process. However, if there are concerns that this might be taken badly or result in shutting down the students who are monopolizing the conversation, the second approach is to suggest a question to the whole group and once again go around the circle. The goal is always to bring the group back to dialogue and to the process of collective learning and understanding. After the conversation about the reading has come to a natural close, we end with another round, usually with a question that focuses on what people learned from the conversation. These interventions work particularly well when students begin to argue their point of view. This frequently happens because argumentation is the mode of discourse with which they are most familiar: marshaling arguments to prove a point.

We assign a fairly significant research project as part of the course and we carefully integrate this research into the ongoing dialogue. Students had to report on a specific industry within the country we planned to visit. At a few points during the semester, students are asked to provide an update on their research. We find that often student topics will overlap (we work to avoid anything more than a slight overlap). When the topics are related, students will eventually take on supportive roles with each other, sharing references that they may have come across in the course of their own research. We use a similar dialogue circle format as described above when talking about the projects. Students go around the table, each offering a brief description of their project, and then the dialogue is opened up for students to draw connections, to ask questions, or to make suggestions. When time allows, each student's project serves as the opening for its own dialogue. This works particularly well as students are first formulating their ideas.

We have found a significant benefit to this open dialogue around the research projects. Not only do the students support each others' research efforts, but by the time the class trip is set to begin, we all have a good understanding of the many industries we are likely to see, and our visits to organizations within those industries take on more meaning. When we are visiting destination organizations, students know to whom to turn

when questions arise regarding a topic someone has researched. In this manner, we all learn from each other.

While we had very specific research requirements for our class, other assignments also work well in a dialogic classroom. Perhaps the most critical element when choosing an activity, whether it be research or a project, is that there is a shared sense of learning from each other. In an undergraduate course taught by one of the authors, students work in teams on a service learning project. The course is not taught exclusively with dialogue, but it is one of several discourses used. For the in-class team meetings, dialogue is used to enable all team members to have a voice in choosing a project and moving forward with it.

Promoting a sense of community

Dialogue promotes an environment in which all of the participants gain a deeper understanding of different perspectives, and through that understanding, develop a strong sense of community. As Yankelovich (2001, p. 3) notes,

> Dialogue binds us together as communities. To engage in genuine dialogue is to create and strengthen such values of civil society as: building trust in one another; feeling familiar and comfortable together; … weaving a complex web of working relationships that cut across institutional boundaries; and feeling a sense of identity with those with whom one shares a community.

This sense of community is particularly important in the Global Business Seminar because, as fellow travelers, sustained mutual support and understanding are critical.

As with many graduate courses, students shaped the direction of the course, from the selection of research projects to the identification and choice of organizations to visit. Student input into course direction can be encouraged in any course, not just those using dialogue. One strength of our use of dialogue, however, is that students never expressed concern about travel arrangements or other decisions made throughout the semester. Instead, there was a strong understanding of the priorities and perspectives of their classmates that gave rise to a give and take in the decisions that were made. For instance, without actively acknowledging the need to be inclusive, students were very deliberate in their choices of organizations to visit, recognizing that one student had interests best served by a particular organization while another student's interests would be met by a different organization; as a group we visited both organizations.

Challenges Faced

It is important to recognize the inherent challenges of teaching a dialogue course, and particularly a global business course. The course material and context present a significant challenge in that it is necessary to explore very complex yet focused material (including history, economics, culture, language, and business practices) in a very short time. Moreover, in many schools (including our own) in which abundant faculty resources are not available, it may be necessary to use faculty with content knowledge but not country-specific knowledge. As a result, faculty must devote extensive preparation time identifying appropriate reading materials. We deliberately avoided "how to" books, such as ones that explained how to do business in China, but chose instead to provide broader readings that captured cultural phenomena. For our trip to China, we had students read *China Road* by Rob Gifford (2007), the personal reflection on a journey from Shanghai to the Kazakhstan border by Gifford, an NPR journalist. We also required students to read a book of their choosing that was written by an author born and living in the country we were studying. For this assignment, we offered students a list of suggested authors, but the final reading selection was their own. In this way, students were able to provide the class with their own insights from the reading, which underscored again the ability of our dialogic practices to enhance shared learning.

Dialogue provides students with tools to develop an awareness of multiple perspectives arising from cultural and interpersonal differences while country-specific knowledge is gained (and shared) throughout the course. By necessity, such an approach redefines the goals of the faculty, away from imparting knowledge and toward facilitation of student learning. Inherent in that redefinition is a consideration of the redistribution of power in the classroom and the need to understand and monitor the delicate balance of power. On one hand, the instructor is a participant in the exploration of course topics; on the other hand, she continues to hold power. The role of instructor as facilitator has been endorsed for many years, particularly in adult (graduate) education (e.g., Brookfield, 1995) and suggests that instructors should replace the traditional "sage on stage" method of teaching with one in which students are treated as equals in the classroom. Yet, it is important to recognize that facilitation occurs in the context of a power imbalance; students are not equal participants in the learning process when faculty continue to maintain reward power (i.e. grades).

In our classroom, we needed to maintain vigilance in keeping the power dynamic in balance. For instance, students initially tended to speak to us, rather than the other students because this is what they are accustomed to doing. We verbally acknowledge the challenge that comes with this change and encourage them to speak to the whole group, not just us. We will tell students that if they are speaking just to us we will look away as a gentle, nonverbal reminder to speak to the whole. As we consistently encourage this change, the relationships between the students strengthens. Similarly, we may occasionally have to bring students back to the process of dialogue in which the intent is to understand and not convince, particularly in the first few dialogues. It takes time to change behaviors that have developed over years of education and a strong awareness of the subtleties expressed in both the verbal and nonverbal language of the classroom.

Conclusion

We have found dialogue to be an immensely useful pedagogy for encouraging students to take risks by expressing their views, knowing that they will be heard and respected, and by asking questions that will deepen their understanding of views that are different than their own. As such, it is a "pedagogy of enactment" (Colby, Ehrlich, Sullivan & Dolle, 2011, p. 74) in which the intentional practice of understanding multiple perspectives provides students with an opportunity to develop a critical skill for the complex environment of the 21st century. Colby (2011) and her co-authors write:

> As students come to see that they are always operating from their own point of view, or to realize that they in fact have a viewpoint…they also discover that theirs is only one among many possible perspectives. Recognizing that one has a viewpoint is thus a portal to understanding the nature of argument: the comparison, contrast, and judgment of competing viewpoints. (p. 64).

Using dialogue in the classroom facilitates the very skills that Colby and her co-authors (2011) call for: the exploration of diverse ideas, a willingness to consider and integrate competing perspectives, and the development of critical thinking skills. Like many inquiry-based courses, a global business seminar replicates, albeit in a more contained environment, many of the challenges these students will face in their futures. First, there are no clear answers to questions. The ambiguity resides both in the diversity of the class and the contexts of the countries that we visit. Students learn to accept this ambiguity and not impose over-simplified solutions that reflect their individual perspectives. Second, both debate and discussion can contribute to the impression that there are answers to complex problems. Dialogue creates a way to engage with the complexity through the process of listening to understand multiple points of view. Third, using dialogue in the context of an inquiry-based classroom underscores the interconnectedness of varying points of views. Two people may have very different views but through the process of dialogue can uncover the experiences that lead to them creating connections that arguing or debate cannot. Finally, there is no source that will provide the "answer." The practice of dialogue provides a way to bring multiple and conflicting views together in ways that provide opportunities for unique responses.

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Developmental Mathematics Students' Experiences of Mathematical Practices in a Summer Learning Community

— Pinder Naidu and Tonya Jones

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Abstract

Most studies focused on traditionally aged college mathematics students who require remediation have used quantitative methodologies that do not provide the depth or explanation of students' perspectives of mathematical practices that a qualitative study such as this one does (Kinney, Stottlemeyer, Hatfield, & Robinson, 2004). The purpose of the current research is to use a qualitative approach to expand the collective understanding of these students' experiences of mathematical practices while they were enrolled in a four-week summer learning community. Findings suggest that participating in the summer community shaped these students experiences such that they: 1) viewed themselves as navigating mathematics successfully; 2) created an environment in which to ask questions; 3) connected to the entire learning community; and 4) participated in various activities while in groups, which led to a self-supporting system these students could rely on. This study illuminated for these students that learning is the intersection of activity, concept, and classroom culture.

Keywords

learning community, remedial mathematics, active learning, mathematical perspective, social cognition, communities of practice

Introduction

Russell (2008), in her policy brief for The American Association of State Colleges and Universities (AASCU), suggested that the K-12 system was never designed to prepare all students for college. This fact, coupled with the need for an educated workforce, has led to an increasing number of students entering academia under-prepared. These factors in turn have given rise to an increasing number of students requiring developmental or remedial courses in Mathematics, English, and/or Reading.

According to the National Center for Education Statistics (2000), students are placed in these courses according to their results on an institutional or standardized placement test such as the COMPASS test (American College Testing [ACT], 2002). Placement issues confound discussions of interventions for this group of students. While Miller (1990) suggests that early intervention and attention is necessary for this group's success he does not suggest what that intervention or attention might be. Also debated is the question of how to teach this group of students. At most institutions developmental courses are structured as lecture type courses offered over a 15-week semester (Boylan, Bonham, & White, 1999). Little research exists to suggest that this format (15-week lecture) is effective in teaching developmental students; national figures suggest just the opposite (NCES, 2004).

In addition to these pedagogical discussions, there is an ongoing debate concerning the cost of educating students who require remediation (often referred to as "developmental" students). Cost discussions are driving policy changes, course redesigns, and pedagogy evaluations at the national and state levels. Recent estimates have placed these costs at $1.13 billion (Pretlow J., and Washington, 2012). Funding from several organizations (such as the Carnegie Foundation, the Bill and Melinda Gates Foundation, the William and Flora Hewlett Foundation, and the Lumina foundation) is also aimed at helping students complete developmental mathematics classes on the way to graduation at local community colleges, (Carnegie Foundation, 2010). Funding often drives new studies; however, many of these studies are focused on remediation via Computer Assisted Aid (CAA). Studies in CAA frequently focus on quantitative outcomes and test results, not on qualitative studies of the in-depth dynamics of faculty teaching and students' learning.

The purpose of the current study was to examine traditionally aged developmental college mathematics students' experiences of mathematical practices, in a four-week summer learning community (SLC). The goals of the study were to inform instructors as to the contextual factors that allow developmental college mathematics students to be academically successful as evidenced by their mathematical practices (Ball, 2003). The research question for this qualitative study was: *How does participating in a four-week summer learning community shape developmental college mathematics students' experiences of mathematical practices?*

Methodology

This study sought to understand the perspectives of developmental mathematics students towards mathematical practices in the SLC context. The conceptual and methodological frameworks used for the study were Local Communities of Mathematical Practices (Winbourne & Watson, 1998), Situated Cognition (Brown, Collins, & Duguid, 1988), the theories of communities of practice (Lave & Wenger, 1991), and learning communities (Tinto, 1997). While these frameworks have been utilized in other academic areas, this study specifically explored these students' ways of approaching, thinking, discussing, and working with mathematics, all of which define mathematical practices.

The categories of the Local Communities of Mathematical Practices (LCMP) that provided the direction for our data collections were as follows: 1) How do students seem to be acting in relation to attempting problem-solving tasks? 2) What developing mathematical competence is publicly recognized and how? 3) Do learners appear to be working purposefully together towards a shared understanding of problem-solving tasks? 4) What are the shared values and ways of behaving in relation to the language, habits, and tool use of mathematics? 5) Does active participation of students and teachers in mathematics constitute the lesson on problem-solving tasks? 6) Do students and teachers appear to be engaged in the same mathematical activity?

Participants

The study sample was composed of students identified as requiring a developmental class by virtue of a 36 or lower COMPASS score. Students in the sample (295) received an invitation to participate in a specially designed 19-week program that began with a four-week summer session termed the "summer learning community" (SLC). This accelerated 19-week program replaced the typical two 15-week semester developmental mathematics curriculum. Students who voluntarily accepted the invitation to participate (27) were enrolled in the institutionally created learning community consisting of the developmental mathematics class and the freshman seminar class.

Based on the sample selection of 27 students, six groups of four students and one group of three students were selected based on results of a diagnostic/pre-test given on the first day. All test scores on the first diagnostic/pre-test for the class were below a 73%. So, each of the six groups was comprised of four students; one with a very high score (69-73), one with a high score (65-68), one with a medium score (60-64), and one with a low score (below 60). This selection criterion ensured that the groups would have at least one person who could be considered the "expert" to give the group a "leader" to initiate discussion on problem solving exercises (Brown, Collins, & Duguid, 1988; Lave & Wenger, 1991). The instructor purposely chose one group of four female students (Tasha, Sharon, Andrea, and Anna) to represent the "critical unit of analysis" of a local community of learners for which data were collected (Yin, 2009).

Classroom Setting

Daily interactions with students began with stating goals for the day, followed by class discussions of concepts identified by the pre-test as needing review. Questions requiring group participation were then assigned. Techniques such as think-pair-share, parallel calculation chains, solver and recorder, and clue problems were used in implementing the developmental mathematics curriculum, as well as a method to hold group members accountable (Askew, 2008). As is important in a community of practice, the instructor was not always the person who answered the questions asked by students, but walked around—making notes, examining work, guiding, and questioning--and became part of the group when needed.

Data Collection

For the purposes of this study, data from the four-week portion of the 19-week program were collected and analyzed. Classroom techniques, however, continued throughout the entire term. Multiple sources of data were used: 1) videotape and audiotape of classroom interactions; 2) classroom observations (using Winbourne and Watson's [1998] LCMP model); 3) two individual interviews with each participant; 4) student artifacts; 5) instructor's and students' reflections; and 6) diagnostic pre-test. Data were collected on days chosen with attention to the mathematical concepts and practices being explored on those days: 1) order of operations, 2) linear equations, and 3) systems of equations.

As stated above, we also conducted two open-ended individual student interviews with the four participants in the chosen group during the following spring semester. The interviews ranged from 30 minutes to one hour. The first open-ended interview allowed us to focus on the participants' perspectives of their overall summer experiences as well as their thoughts about each of the specific days cited above. Videotape was on hand to remind them of their experiences. The second interview was used for member checking in the triangulation process of qualitative data (Merriam, 1998; Yin, 2009). Student

work that had been collected was also used to help participants recall events during their interview sessions.

Data Analysis

Analysis of the data involved coding using the categories of the LCMP and highlighting common themes and patterns from students' interviews, as well as experiences of mathematical practices from students' perspectives. Interpretations were our sole responsibility with verification of collected data checked by the participants.

Findings

Data were analyzed with respect to the categories in the LCMP. Information from all relevant data sources (although not all collected data) contributed to each category. The analysis came from examining data to identify underlying meaning and themes from within the categories that would address the research question stated earlier. The data were then condensed into the major themes shown in Table 1.

Discussion

In summarizing the findings and discussing emerging themes, we present the situated experiences of the participants Tasha, Sharon, Andrea, and Anna using the LCMP framework. The findings revealed several themes: 1) Identity, 2) Participation, 3) Collaboration with Purpose, 4) Shared Repertoire, 5) Mutual Engagement, and 6) Joint Enterprise. The findings reflected themes that, while not wholly unexpected, confirm findings in research literature from Situated Cognition (Brown, Collins & Duguid, 1988), learning communities (Lave & Wenger, 1991, Tinto, 1998, Winbourne, 2010) and the millennial student (Price, 2009).

First, the participants' identity with respect to mathematics shaped their progress academically. As suggested by communities of practice theories (Lave & Wenger, 1991; Wenger, 1998), these developmental mathematics students were hesitant and unwilling to try until given support and encouragement from their group and community. While all the participants spoke of this hesitation as a common theme, Tasha and Sharon were more willing to tackle a specific topic by asking each other and the group for their participation.

Second, the group's participation evolved during the four-weeks of SLC. Wenger suggests that participation must be legitimized by the teacher (existing practitioner), and based on the findings in this study, the participants recognized and understood that contributing to group discussion and evaluation of mathematical concepts helped them become more aware of their learning. Learning new concepts also reinforced their relationship to mathematics and, consequently, their identities within that domain. Tasha and Anna were able to recognize and make the connections to their prior knowledge and understand new concepts quickly. Sharon and Andrea had the weakest knowledge bases in the group but enjoyed the group discussions that allowed them to move forward.

Third, collaboration with purpose became an important tool for learning for these participants. Indeed, they developed relationships and connections with other members of their class, getting support both in and out of class. These students informed us that this support continued in future semesters and was not limited to just their mathematics classes. Fourth, both sharing new knowledge and working together supported the theme of shared repertoire. The effort of being social, (i.e. working in groups) affected the shared values of the participants with respect to mathematics. They were not as hesitant when completing an in-class assignment, and they were more willing to share and discuss concepts for understanding --not merely for getting a correct answer. Fifth, mutual engagement as explored and cited in many studies (Price, 2009; Tinto, 1998; Wheeler & Montgomery, 2009) proved in our findings to be an important motivating factor in developmental mathematics students' academic success. Indeed, this category emphasizes the questioning, creating, and discussing that is both important and ongoing in a mathematics classroom (Schoenfeld, 2008). Finally, the importance of the joint enterprise found within the SLC was expressed by the participants. They felt they could ask any question of, and had the support of, everyone in the community.

Indeed, Morrison and Collins (1996) state that a student's success in a subject is often a function of his/her awareness of the rules of engagement. That is, a student's success is dependent on how well they are able to participate, without issues of reprisal, in the community of mathematical practice. The difference between the student who is a novice and one who is an expert depends on the ability to communicate within the shared community of mathematical practice; this ability makes possible the sharing of common values, assumptions, purposes, and rules. During the SLC period, these participants began to understand the rules of engagement and were able to contribute. By the end of fall semester, they became successful. Arriving at conclusions based on the data collected gave us a holistic understanding of the factors leading to academic success for this group of developmental mathematics students.

Conclusions

In this study four participants provided rich descriptions of their experiences within the four-week SLC and their related experiences to mathematics. They spoke of their experiences in high school and learning to transition to college, their negative beliefs toward their ability to do mathematics, their reluctance toward group work, the holes in their mathematical knowledge, and their overall acceptance of the skills they gained through the summer learning community. They identified how reliance on group members helped them acquire the ability to competently learn and use mathematics, and to approach, think about, and work with mathematical tools. These developmental mathematics students were engaged in mathematical practices (Ball, 2003; Schoenfeld, 2008).

This study showed that developmental mathematics students were successful when provided an environment in which to thrive. A four-week summer learning community can provide the connections to their peers, the institution, and the faculty, that allowed them to successfully pass developmental mathematics and thrive in credit bearing mathematics courses. We continue now with recommendations for practice not only for SLCs but also for full term courses.

Recommendations for Practice

As a result of this study, five recommendations for instructors are offered on how to begin working with developmental mathematics students. While these suggestions worked for the students in this study, we do not begin to assume that they would work for all. We are, however, arguing that these recommendations might assist in the mathematical achievement of developmental students in our colleges and universities. We propose that instructors reflect on how these suggestions might be revised and implemented in their classrooms within their academic disciplines and their population of students.

1. Create Community Through Participation

In keeping with this study's conceptual perspective of situated cognition (Brown, et al., 1988), we recommend that this idea of "community through participation" be at the forefront of issues dealing with the teaching and learning of developmental students. Lave and Wenger (1991) researched communities of practice; Tinto (1997) also confirmed the relationship between academic success and institutional connections that empowers students to become learners. Seigrist (2009), and Price (2009) all speak of community within the classroom as an essential component of academic success. When students participate in a variety of learning activities, such as group work, and build a supportive community, their academic performance rises (Barkely, Cross, & Major, 2005). Communities also increase faculty to student connections, and studies have shown these connections are very important to college students (Seigrist, 2009; Tinto, 1997; Wheeler & Montgomery, 2009).

Providing a comfortable environment in which students can contribute was important to the students in our study. The participants in the summer learning community all learned the rules of engagement within the community: to ask questions, not be afraid to ask and to communicate with each other. They spoke of supporting one another inside and outside the developmental mathematics class, and two of the members

forged a new supportive community (with others from SLC) in their next two credit bearing college mathematics courses. So, we advise instructors of developmental mathematics students to create a community that includes both students and instructor. This encompasses the admonition of Bryk and Triesman (2010) to "strengthen the connections of students to successful peers, to their institutions, and to pathways to occupations and education" (p. 20).

2. Engage Students in the Classroom

A natural result of creating a community within the classroom is that of engaging students in mathematical discussions. The participants had mentioned that they would never have asked questions in high school. They would try not to participate because they felt 'dumb'. Tasha said, "I am no longer afraid to ask questions to the teacher or anyone else because now I know that we are in this together to reach a common goal." Engaging students through discussion and making them feel a part of a community aiming to reach a common goal helps motivate and enhances understanding of mathematical concepts (Seigrist, 2009).

3. Be Aware of Affective Factors

Our third recommendation proposes that faculty working with developmental mathematics students should consider affective factors with respect to mathematics. Often forgotten in the area of academic success is the affective domain. Research from Schoenfeld (1987) to Bandura (2001) has expressed the importance of the relationship between affective and cognitive factors, and we challenge instructors of developmental students to be aware of this relationship as they work with their students.

This study, like others (Hall & Ponton, 2005), has shown that developmental mathematics students bring with them negative mathematical identities, anxiety, and low self-confidence. Instructors should use activities to build affirmative interactions so students learning mathematics can build positive identities. In the affective domain, Wheeler and Montgomery (2009) also found that a surprising outcome of their study was that faculty 'caring' about their students provided motivation for developmental students to do well. Indeed, Andrea said, "I've never had a good math teacher, so it was a change for me to see her teach math with such passion and actually care about her students." We believe this was because the instructor was part of the local mathematical community of practice.

4. Provide Academic and Social Support

The participants' stories indicated a lack of self-confidence and they reported a lack of belief in their ability to do mathematics. These deficits led to poor performance in mathematics, but with support even these students succeeded. The participants shared stories of failure, of being ignored, of ignoring teachers, and of being labeled 'remedial' in mathematics. Yet all of the participants successfully navigated the developmental mathematics curriculum and went on to success in credit-level mathematics courses. The students in this study were provided access to tutoring and peer support both on campus and in the dorms. So sharing study strategies, modeling mathematical practices, and providing support systems such as tutoring should be an important part of the developmental mathematics classroom (Nolting, 2002).

5. Facilitate, Don't Lecture

While it is a struggle sometimes to complete the required curriculum in a set period of time, we encourage faculty who teach developmental students to facilitate more and lecture less. These students bring with them some knowledge of mathematical concepts (as is evidenced by low pre-test scores), and correcting and extending that knowledge should be achieved by facilitation and mutual engagement, not by lecturing. We submit that this study shows that developmental students can employ group strategies and learn to support one another. While some students were reluctant to engage in group work, the majority found it motivating, interesting, and worthwhile.

In summary, implications for developmental mathematics practitioners are 1) to recognize the mathematical potential in developmental students; 2) to utilize active teaching practices and activities that enhance mathematical practices (Boylan & Bonham 2007, McKeachie & Sviniki, 2006); 3) to employ group activities (Barkley, Cross, & Major, 2005); and 4) to become part of the community (Tinto, 1997).

Research suggests that millennials prefer a variety of active learning methods (Price, 2009). When they are not interested in something, their attention quickly shifts elsewhere. Interestingly, many of the components of their ideal learning environment – less lecture, use of multimedia, collaborating with peers—have been well established by researchers such as Boaler (2000), Cobb et al., (1992), and more recently in Price's November, 2011 online seminar. The above pedagogical practices drive academic success for developmental mathematics students.

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***Table 1:** LCMP Categories with Emergent Themes and Related Mathematical Practices*

LCMP Framework	Emergent Themes	Mathematical Practices
1. How do students seem to be acting in relation to attempting problem-solving tasks? (Being mathematical)	Identity	Using strategies Reading the problem Using deductive reasoning Drawing a picture/ Writing known info Using an algorithm or formula
2. What developing mathematical competence is publicly recognized and how? (Public recognition)	Participation	Positive reinforcement Getting feedback from group Knowing an incorrect process and how to correct
3. Do learners appear to be working purposefully together towards a shared understanding of problem-solving tasks? (Purposeful collaboration)	Collaboration With Purpose	Coming to a consensus Having direction and rules
4. What are the shared values and ways of behaving in relation to mathematics: language, habits, tool use?	Shared Repertoire	Coming to a consensus Tool/Calculator use Using correct terminology
5. Does active participation of students and teacher in mathematics constitute the lesson on problem-solving tasks?	Mutual Engagement	Questioning Creating Discussing
6. Do students and teacher appear to be engaged in the same mathematical activity?	Joint Enterprise	Questioning Creating Discussing

Improving Student Engagement with Technology Tools

— Breanne Kirsch, David Marlow, Allison Pingley, Deshia Leonhirth, and Steven Lownes

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Abstract

The best pedagogical applications of technology improve student engagement and participation. Here, we discuss challenges and benefits of using a variety of technology tools for educational purposes and how some of the challenges were overcome. Specifically, this article discusses how Kahoot, Twitter, infographics (Piktochart and Canva), and Bitstrips were used in five different courses to help improve student engagement. Each comes with benefits and challenges. We will demonstrate some of the challenges inherent in the tools chosen and also how they were overcome, mitigated, or otherwise addressed, and how well each tool served to improve student engagement and participation.

Keywords

technology, student engagement, digital literacy, technology benefits and challenges, infographics, kahoot, twitter, bitstrips

Introduction

Digital technologies have provided greater opportunities to address a variety of learning styles. It is our collective goal to use technology in our classes to engage students with course materials while also improving participation. As a corollary, we see the incorporation of technology into the classroom as helping students become more literate in the information and communication technologies they will need in their future careers. This later insight evolved from our participation in a program designed to help instructors at our university, the Student Technology Enrichment Program at the University of South Carolina Upstate (STEP-UP). All five of us participated in in a development institute in 2014 where we were guided in redesigning classes to create "technology intensive" versions of our courses to "enhance student learning" (https://www.uscupstate.edu/qep/). While STEP-UP's mission is mainly centered around enriching student engagement with technology, the Development Institute instilled in us an added desire to increase student engagement with the overall class curriculum using technology as a tool rather than falling into the trap of using technology for technology's sake. Given big dreams and small budgets, the technology tools employed by the authors are all free-use, web-based applications: Kahoot (https://getkahoot.com), Twitter (https://twitter.com), infographics (i.e., http://piktochart.com/ and https://www.canva.com), and Bitstrips (http://www.bitstrips.com). Each of these comes with benefits and challenges. We will demonstrate some of the challenges inherent in the tools chosen and also how they were overcome, mitigated, or otherwise addressed, as well as examine how well each tool served to improve student engagement with each other and with course concepts while simultaneously improving students' digital literacy.

Replacing PowerPoint with Video, and Quizzes with Kahoot

In LIBR 201: Strategies for Information Discovery, Breanne and a colleague decided to use a variety of technology tools to make the course more interactive and engaging for students. The goal of LIBR 201 is to teach students about search strategies and the research process to promote information literacy as well as technological literacy in the classroom and future workplaces. This goal refers to the information literacy standards at the University of South Carolina Upstate Library, available at http://uscupstate.libguides.com/ld.php?content_id=10338799. These work well in collaboration with Bloom et al's Taxonomy of Educational Objectives (1956) and Anderson and Krathwohl's Taxonomy of cCognition (Anderson & Krathwohl, 2001). Students are given several assignments throughout the semester that require them to create videos that apply an understanding, analysis, and evaluation of course material. This assignment requires a critical evaluation of information and its sources by incorporating higher-level thinking and analysis to create a coherent video on a topic and by helping students become more technologically literate using these video creation tools. In order to meet these objectives, students complete a technology tools assignment near the beginning of the semester to become familiar with a variety of video creation tools that students will use for other assignments in the class. Last year, this assignment was overwhelmingly the students' favorite assignment, likely because they were able to explore and successfully use a new technology and employ their creativity to create a video that brought together what they learned in a new way.

Some students did mention the stress and challenge of learning how to use a new technology tool, but once they became familiar with the tool, they found it to be more fun to use than traditional PowerPoint presentations. Students also improved their digital literacy skills, as shown when they helped each other solve technology

issues, such as exporting or downloading their videos correctly. Students seemed to enjoy using Animaker and Powtoon when creating videos for class assignments. Their finished projects showed that they had engaged with course concepts. One student even introduced us to a new video creation tool, Knovio. After learning to use these tools, students became more comfortable using other new technologies for class assignments and their everyday lives.

In addition to creating videos, we chose to use other technology tools in the course to further develop students' digital literacy skills. To replace traditional quizzes, we selected Kahoot (https://getkahoot.com/), a quiz and survey tool that makes quizzes feel like games and that encourages student engagement. Game elements, such as music, a timer, a leaderboard, and points are used to make the quiz more engaging.

Much has been written about both the benefits and potential drawbacks to gamification (Bruder, 2015; Deterding, 2013; Dicheva, Dichev, Agre, & Angelova, 2015; Giannetto, Chao, & Fontana, 2013), and the final decision to use game-like elements in class ultimately resides with the instructor. For LIBR 201, we decided that the benefits outweighed the potential drawbacks in using Kahoot. Tracey Eatherton, another librarian, likewise uses Kahoot in her classroom, and she has some tips for success using this technology tool (2014). She suggests approaching the endeavor like an adventure, knowing that technology sometimes fails and notes that adding a grace period, or cushion, will help counteract these technology challenges (Eatherton, 2014).

When we looked at Kahoot as a possible multiple choice assessment tool, first we played with the tool to see how it worked and became comfortable with the technology. Giving a Kahoot quiz is entertaining for both students and instructors and dramatically increases student engagement over traditional quizzes. One great benefit to Kahoot quizzes is that they can be played on any device with an Internet connection. So even if the class is not held in a computer lab, students can still use their smart phones, tablets, or laptops to participate.

As an additional benefit, Kahoot quiz grades are easily exported to an Excel spreadsheet. After using Kahoot for two full courses, we strongly recommend this technology tool in face-to-face classes. When comparing Kahoot results with online quizzes in our campus' course delivery system (Blackboard) in a parallel section of the course, however, we did not notice any significant difference in information retention between Kahoot quizzes and traditional Blackboard quizzes. The value in the Kahoot style derives from the increase in student engagement and this increased student engagement made using Kahoot well worth the small amount of tech overhead involved (establishing an account and creating Kahoot quizzes). Student engagement was measured through our observation of student behavior during and in parallel courses as well as through a student survey at the end of the semester asking for feedback about technology tools used in the course, including Kahoot, PowToon, and others.

As with any technology tool, there were some problems incorporating Kahoot in class. Kahoot quizzes have to be taken during real time -- in other words, students have to be present in the classroom to participate, making this tool unavailable for the online version of this class. In the future, we will test a different quiz-making tool, Quizizz (http://quizizz.com/), which allows asynchronous quiz-taking. Similar to Kahoot, Quizizz allows for multiple-choice quizzes that incorporate gamification techniques. Asynchronous quiz-taking would also be very convenient for students who are absent on quiz days. The only technology issue with Kahoot we have encountered so far is the very rare occurrence of a student's computer freezing during a Kahoot. This has happened to us only once in two semesters. If technology issues do occur, tech support is available from Kahoot with a FAQ page, tutorials, and contact options. Also, while Kahoot quizzes are more exciting and engaging than traditional quizzes, they can add to students' stress levels. During two separate Kahoot quizzes, two different students remarked after submitting an answer that they accidently clicked on an incorrect choice when they knew the correct one, thus missing a question for which they knew the correct answer. To address this, we remind students multiple times throughout the semester that selecting the correct answer is more important than being the fastest in submitting an answer and to be sure before submitting a response. Despite this artificial loss of points in the Kahoot quiz, students overwhelmingly report preferring Kahoot. Kahoot is a worthy information technology tool that greatly improves student engagement and participation.

Blackboard versus Twitter: Promoting Class Discussion Online

Like Kahoot, Twitter is a free technology tool that increases student engagement with course materials. In this section, Allison reports on Twitter as used in the course American National Government for the purpose of discussing current events, increasing participation, and encouraging student attention to current news happening in real time in the real world. Introducing current events also provides students with multiple viewpoints and perspectives, which may challenge their own beliefs, allowing for more thoughtful engagement by students. In this section Allison reviews her use of Twitter for the online version of American National Government with the goal of achieving the same participation of a traditional classroom discussion and presentation of current events. One of the challenges of teaching online is finding the right tools to re-envision traditional classroom activities. While a number of tools are available, it is not always easy to find the right one to accomplish course objectives. In the earlier iterations of the online course, we employed the discussion board in Blackboard to create student discussions about current events, but with little evidence of student engagement. Twitter, as a popular form of social media, offers an avenue to engage students with course materials more than occurs in Blackboard.

Research indicates that social and web-based technologies help facilitate active learning by providing students with more control over course content and class discussion (Bryer and Seigler, 2012; Weimer, 2002). Bryer and Seigler, (2012) observe that online courses using asynchronous tools give students the highest level of content control, choice to participate, voice, opportunity for rehearsal, and creativity.

While a Blackboard discussion board gives students a means to interact and communicate asynchronously, it is still somewhat artificial (Bryer and Seigler, 2012). Students are able to write as much (or little) as they want, so instead of following a conversation and making multiple remarks, a student may simply make one statement and never come back to the thread, making it difficult to simulate an actual discussion.

Twitter is also an asynchronous tool and considered to be microblogging. Scholars have found Twitter to be an effective educational tool because it allows students and instructors to communicate easily outside of the classroom (Dhir, Buragga, & Boreqqah, 2013; Ebner, et al, 2010; Grosseck & Holotescu, 2008). Compared to a more traditional online tool such as Blackboard, Twitter allows for more learning and social interaction both between students and with the instructor (Dhir, Buragga, & Boreqqah, 2013).

These advantages have led some scholars to conclude that Twitter is a better educational tool than other commonly used discussion boards (Borau et al, 2009). Twitter would also seem more apt to encourage participation since students are limited to 140 characters or less. Therefore, to get their point across, it might be necessary for students to make multiple tweets. Additionally, it is easier to follow threads on Twitter since users are notified of activity, and discussions can be searched by hashtag.

There are some challenges with using Twitter as a class discussion tool. One challenge is that some students use Twitter in their personal lives and may not be comfortable using the same account for schoolwork. Also, there is the issue of privacy. Tweets are publicly available and some students may not want to be associated with tweets for a class discussion for the rest of their lives (though students do have the option of creating a unique account for coursework); further, each student

has to follow everyone in the class to keep abreast of course posts. Finally, with new accounts, tweets are not always viewable under the default, "Top Results" page and have to be viewed under the "Live" option within Twitter. Knowing all these drawbacks, Allison still decided that the possible benefits for improved student engagement outweighed these challenges for American National Government.

To analyze whether Blackboard or Twitter better facilitates class discussion and increases student engagement with current events, Allison compared two 8-week online American National Government classes, both taught by her. The Blackboard course had 26 students, and the Twitter course had 25. The current event assignment in both classes required students to initiate a minimum of three current event posts, and respond to at least eight. When posting an event, students had to include the link to the news story or video clip, and give a very brief summary. On Twitter, students were also required to use a unique hashtag to allow their classmates to more easily find class discussions.

In the class using Twitter, 69 tweets initiated current event discussions and there were 162 tweets in response to those posts. This meant on average, each student started 2.76 discussions and responded to 6.48 – both less than the minimum requirement for the class. However, when accounting for the two students who did not complete the assignment at all, the averages are closer to 3 initiated posts per person, and a little over 7 responses per person. Obviously some students tweeted more than the minimum requirement, while some did not meet it.

Contrary to my expectations, the class using Blackboard out-produced the Twitter class with 78 posts initiating current events and 206 posts in response to them. This means that every student started 3 current event posts as assigned, and almost all of them met the minimum requirement of 8 responses (the average was 7.9). Even more interesting is the increased depth and quality of discussion that took place on Blackboard as opposed to Twitter. Students were limited in how much they could write on Twitter. However, most were not even using the 140 character maximum. Even though students could have posted several tweets in a row to include more information, no one did this. Hardly any of the initiated posts on Twitter contained a summary or comment. Instead students were just posting the news link along with the hashtag.

In comparison, on Blackboard most students were using 1000 characters or more when posting their current events and using these characters to further summarize their event and connect it to the course material. Some students even uploaded a Word document to give themselves more space to discuss their current event.

In analyzing which tool is ultimately best for online class discussion, Allison focused on which platform best accomplishes the course objectives. The main goal in using current events is to help students become aware of the world around them and of how government and politics apply to their everyday lives. These goals can be achieved using either Blackboard or Twitter. However, based on this small-scale experiment, it appears that higher quality conversations take place via Blackboard. Additionally, many students had not used Twitter before the class and reported not enjoying it as a platform, whereas they had more familiarity with Blackboard prior to the course. Therefore, in this particular case –contrary to pre-test expectations– Blackboard better met the course objectives of actively engaging students in meaningful course discussion.

Infographics for Presentation of Data-Information-Knowledge-Wisdom

Like Kahoot and Blackboard, infographics can positively impact student engagement as well as their understanding of knowledge management. Knowledge management has been described as, "The process of capturing, distributing, and effectively using knowledge" (Davenport, 1994). These competencies will provide students with a competitive advantage in the job market as they relate to an individual's ability to synthesize and communicate information. In the department of Informatics at the University of South Carolina Upstate, we tell students that they should be information and knowledge managers upon graduation. These concepts inform the department's introductory course, INFO 101: Survey of Information Technology. In this section, Deshia discusses how students curated information on a topic of their choice for this course and used infographics as tools to present the findings of their analysis. The infographic was one of the final deliverables of the Data-Information-Knowledge-Wisdom project.

Russell Ackoff (1989) discusses the Data-Information-Knowledge-Wisdom (DIKW) hierarchy. In the hierarchy, data is considered raw and without meaning, while information appears only when data has been processed in some fashion to provide meaning and value to the recipient. Knowledge includes the application of the data and information to answer "how" questions (Bellinger, Castro, & Mills, 2004). Knowledge can also be considered the product of combining information, experience, accumulated learning, and other knowledge to create a new understanding. Lastly, wisdom is an evaluated understanding that is generated from an individual's previous experiences (Bellinger, Castro, & Mills, 2004). In INFO 101 we lead students to think successively through the four levels of the hierarchy and to apply them to a variety of settings through a DIKW project. Students must input raw data into a computer for processing and work through the resultant information to ultimately gain knowledge and wisdom to make well-analyzed decisions. The DIKW project builds upon itself throughout the semester. Students turn in components at different points in the semester and receive feedback. They are expected to make changes based on the feedback before they turn in the next component of the project. The intention of this iterative process approach as opposed to turning in the assignments at the end of the semester, is to allow students the opportunity to show their growth in learning throughout the semester and fortuitously reinforces the process writing encouraged in Freshman Composition. For us, the steps are as follows: 1) Locate ten years of information on a topic of interest and input the data into Excel to graph the information, 2) Gather and synthesize literature on the topic, 3) Begin work on the DIKW infographic in class, 4) Submit a draft of the DIKW infographic, 5) Peer-review a classmate's infographic, 6) Make changes to the infographic based on peer-review, 7) Utilize the infographic as a tool to present the DIKW paper, and 8) Submit the final paper. The use of technology to collect data and process information is now commonplace in all workplaces, thus gaining an understanding of this process is of significance and the aim of the project.

While the project has been a requirement of the course for years, the requirement to use an infographic for the presentation was recently introduced to encourage students to engage more directly with their research content (Abilock & Williams, 2014), as well as to enhance the marriage of vocal and visual messages by employing an infographic to present their paper. Infographics have been defined as "a claim expressed through visual metaphor, conveying the creator's fresh understanding of relationships, expressed through a judicious selection and arrangement of visuals, evidence, and text acquired during inquiry research within a discipline" (Abilock & Williams, 2014). As such they make a suitable companion to an oral presentation of the in-depth research expected of students in this course.

Students were encouraged to experiment with a variety of Web-based infographic creation tools and choose one. The professor suggested tools such as Piktochart [http://piktochart.com], Infogr.am [https://infogr.am], Easel.ly [http://www.easel.ly], and Canva [https://www.canva.com], but students were permitted to discover new tools and use those if they preferred. None of the students in the course had experience with infographics, thus a brief introduction on the components of an infographic was provided.

Students had one hour in class to create an infographic based on previously reviewed journal articles addressing a single topic of their choice. The time constraint allowed the professor to evaluate student-direct-

ed learning of a foreign technology. Initially students were frustrated. Because students today can be considered so-called digital natives (Palfrey & Gasser, 2008), Deshia expected her students to master the process quickly and easily, but their inclination was to appeal to me for help at every obstacle. When they discovered I would not solve their problems for them, they turned to each other, leading to collaboration and group problem solving. This embodied the project-based instructional model described by Gulek and Hakan (2005), in which students gain increased access to information through the use of technology in the classroom, and sharpen their research analysis skills. Further this approach encourages greater agency in students' learning and promotes student engagement in problem-solving and critical thinking. At the end of the session, students were instructed to turn in what they were able to complete in one class session.

In the next class session, students discussed the pros and cons of the different tools they had used and identified the tools they felt were most user-friendly and had many free features. Some of the limitations that students noticed with the free accounts included the number of design templates, constraints on the number of images that could be uploaded, few design choices (e.g., fonts, clipart, etc.), whether a design could be kept private, and the file formats available for saving the infographic. One of the most important features was to be able to save the work to a file format that could easily be shared. For example, Canva supports free downloading in a PDF format; Piktochart allows free downloads in a .jpeg or .png format; and Infogram does not allow private sharing or downloads without a paid account.

The students' top two recommendations were Piktochart and Canva. Their recommendations were based on the learning curve, ease of use, and the types of features available for free (e.g., downloading in a sharable format, templates, fonts). The feature that was considered most important, especially for classroom purposes, was the ability to download the file for free to share. Since the students were limited to 60 minutes to identify a tool, the learning curve played an important role in their recommendations. These recommendations were echoed in a Senior Seminar course where they were also required to explore and utilize infographics.

After students had gained experience using infographics in groups, they then were provided a one hour and 15 minute class period to work on a draft of their DIKW infographic as individuals. During this process students again requested my assistance in doing such tasks as importing their DIKW graphs. This time I assisted as much as possible. I found this overwhelming at first, especially since I had minimal experience with infographics, but, in the end, it actually ended up being a lot of fun as my students and I learned together. This also allowed me to demonstrate discovery and trouble-shooting strategies in real contexts. After this class session, students had a few weeks to continue to work on their drafts, including both in- and out-of-class time for peer-reviews. Students used both peer and instructor feedback to revise and resubmit their infographics one week before their final submission. The instructor then provided a grade with additional feedback. Students were invited to modify their infographics before the final presentation to the class but were told it would not change their grades. Surprisingly, the majority of the students chose to update their infographics without a grade incentive, demonstrating a vested interest in the assignment and personal pride in their work. While the quality of individual presentations varied, the infographics proved a viable alternative to PowerPoint. Additionally, despite their initial frustration, many students in both this course and in a Senior Seminar course employing a similar strategy noted that they could see the application of infographics in their field. One student who works for a veterinarian, for example, said he planned to create an infographic to communicate with pet owners.

The use of infographics for Senior Seminar actually predated the use in INFO 101. Deshia tested the use of Infographics before introducing them to the freshmen-level course in order to identify which infographic creation tool was most user friendly with the best feature. While the collaborative effort of trial and error in order to choose the best tool was frustrating at times, it was determined that this is something that students at all levels should experience. Therefore, this method was used in INFO 101 and has continued to be used for four semesters. The assignment has also been adapted for distance courses where peer-review collaboration is conducted using discussion boards and this method has also been successful overall. The experience of facing a new technology to process information for communication and decision-making foreshadows the reality students will face beyond the classroom and is a valuable experience for students of all disciplines in order to prepare them for the technically driven working world of the 21st century and provide them with needed information and communication technology (ICT) literacy skills.

Creating Language and Testing Digital and Linguistic Fluency

Teaching world languages has changed greatly since the days of "kill and drill" type exercises, when conjugating verbs and memorizing vocabulary were the norm. In years past, rarely was there an emphasis on language production in a natural context, rather the hope was that one would be able to extrapolate memorized dialogue when faced with real world situations. These types of activities and language teaching strategies were often employed with every student in the classroom, regardless of their language background and proficiency level. As the demographic profile of the United States has changed, so has the makeup of the Spanish classroom: A need has emerged for differentiation in instruction to engage students at their specific level. Along with advances in second language acquisition theory and pedagogy in regards to contextualization, these demographic changes have encouraged teachers to reconsider teaching strategies to include first-time language learners and "heritage speakers," who grew up with Spanish in the home but often lack fully developed professional, linguistic proficiency.

Student comfort and ability in technological understanding can be seen as analogous to linguistic fluency levels. In this section, Steven finds that while students are "fluent" in digitese (digital technologies) in a colloquial way, sticking to familiar topics and programs, similar to heritage and low-level native speakers, but when confronting unfamiliar technology or using social media in unaccustomed ways, their digital fluency tends to decrease while illuminating areas for growth. The frustration seen in digital projects approximates the frustration seen in language usage outside of the classroom and can be helpful in understanding the two processes simultaneously.

Basing the digital project on the American Council on the Teaching of Foreign Languages' (ACTFL) *Standards for Foreign Language Learning: Preparing for the 21st Century* and the *World Languages 21st Century Skills Map*, the project combined best practices in language pedagogy and skill development with the theoretical framework of working with heritage speakers. In order to engage students in ACTFL standards and skills, a twitter-based project was created in this technology-intensive redesign of Spanish 101 at the University of South Carolina Upstate. The project focused on meaningful communication, employing a comic creating website known as Bitstrips (www.bitstrips.com) and was based upon ACTFL standards as well as Swain's Output Hypothesis (1985, 1995), which argues that students must produce with the language in order to improve. By creating a comic, students would be able to create a contextualized dialogue that discrete sentences would not produce. This project also extended the classroom beyond the four walls and enabled students to engage with the language in a new way, just like Twitter. And, just like Twitter, there were some challenges.

Returning to the idea of "digital fluency," several issues came up due to the unfamiliarity with the comic-creating website, Bitstrips, which allowed for a better understanding of students' ability in Spanish and digitese. For this project, students had to post a three-panel comic every Friday using vocabulary and grammatical

structures they learned that week. Unlike the memorization of discrete dialogues, students were required to apply what they had learned in a conversational context. The students then would tweet their comic for the week with a distinct hashtag for their class.

While seemingly a simple project, Bitstrips allowed for two types of assessment, one that demonstrated the breakdown of "digital fluency" and another that revealed linguistic issues. First, the company recently changed its focus from a desktop version to a mobile application, which caused confusion for the majority of students. To a degree, their frustration with the website allowed for analysis of their level of "digital fluency." As is the case with heritage language speakers, there exists a varying degree of digital fluency among students, each of whom may exhibit a unique level of fluency that is focused on comfortable and familiar situations (Said-Mohand, 2011). When heritage speakers are challenged with difficult situations, they often attempt to bring the subject back to familiar territory. For the majority of the students in the four sections of SPAN 101, the mobile app proved to be more comfortable and familiar; however, it only supplied the ability to create a one-panel comic with a simple caption. The mobile app also functioned as a Facebook app, which a majority of the students also found comfortable. Due to the requirements of the project, the mobile app proved to be a crutch for many of the students despite the insistence to use the desktop version. When the website experienced problems, students sent a flood of emails asking for help rather than tinkering with the site, suggesting that they did not have the technical literacy needed for solving their technology problems and indicating a surface level understanding of the technology. Responses to these emails often contained encouragements to continue trying to play with the program to resolve the issue rather than supplying them with the immediate fix. Inevitably, students would generate a solution, but the key to their learning was to create uncomfortable situations, much like throwing them into a Spanish-speaking country.

Second, the use of Bitstrips revealed what students understood from class as they applied their newly acquired skills. The focus in many world language classes is on oral production over the written; thus, by having students create a Bitstrip comic, it was easy to identify problem areas, some of which were fixed with a quick tweet, while others required the dedication of class time. An example of this was seen during the first week when students would write mi llamo (my I called) instead of me llamo (I call myself). Previously, this error would not have been seen as quickly because most textbooks would have employed a fill-in-the-blank activity. By fixing these mistakes early, students understood these linguistic nuances and performed better on written assessments than prior cohorts.

Fluency levels in both language and digital culture require testing to ensure real world applicability. By having students struggle with the languages, Spanish and digitese, in the comfortable environment of the classroom, students have the ability to learn how to resolve various levels of frustrations, which will prepare them for their future careers. Through the creation of situations and assessment activities for students to use new and familiar programs in unfamiliar ways, students are able to grow and improve their fluency, along with being more engaged in the course materials.

Engaging Students in Grammatical Analysis

Students often expect academic courses to be abstract, boring, and unconnected to their lives. Unfortunately, at least with grammar classes, these expectations have both historical precedence (Jespersen, 1924) and modern justification (Minchew & Hopper, 2008; Brown, 2009). Many students, therefore, take a "give me the medicine" attitude while they wait for the instructor to imbue them knowledge (Marlow, 2010; Marlow, et al, 2009). In this section, David describes steps he has taken to engage students with grammatical skills while simultaneously seeking to enhance the transferability of classroom skills through self-evaluation (Anderson & Krathwol, 2001), application of course concepts outside the classroom (Castro-Schez et al, 2014), and meaningful application of information technology tools (Palfrey & Gasser, 2008).

From the beginning of the course, Dave tells students that this will be like no other grammar course they have ever taken, that the primary focus in the course will be critical thinking and analysis, and that grammar serves as the mode of study, but that the analytic skills they develop should be of equal or greater value to them as the grammar itself. To encourage both self-evaluation and application outside the classroom, students complete grammatical analysis exercises focused on applying concepts and principles from each unit of study to the students' own writing. For each unit, students parse their own texts, then use quantitative data from the analysis as a basis for reflection on their own grammatical expertise. Near the end of the course, students complete an infographic, similar to those used in INFO 101, in which they combine words and images to capture and communicate the core similarities and differences between their own writing and that of a professional author in their chosen career field. Students return to each of the analysis exercises and complete the quantitative sections, comparing their writing with that of a professional in terms of word choice, word complexity, sentence construction, and creating graphs quantitatively depicting similarities and differences between their own writing and that of their professional sample. Students are encouraged to treat this as a modernization of the traditional outline as they collect and organize their ideas for a final project. In this way, students are led to engage with course content as they employ the analytical skills cultivated throughout the semester. This assignment stretches most students well beyond their comfort zone and introduces a very real need for active discussion in a precursor to work outside academia where technical tasks support deeper analysis into, and better communication of, core avenues of inquiry.

As the capstone assignment for the course, students submit a formal written analysis comparing their own writing to that of a professional over each of the five content areas covered in class. Graphs and other visual representations from the infographics must be embedded into the paper and integrated into the written analysis together with key quotes from researchers commenting on relevant grammatical constructions. At this point, the targeted engagement is between each student, their chosen professional's writing sample, and the technology needed to communicate the results from their analyses. Students must deeply engage to analyze data, connect summary data to communicative effectiveness and rhetoric, and link images to text in meaningful ways. Some few fail to navigate the complexity and submit unintegrated pieces without substantial analysis, but most meet the challenge and produce highly engaged analyses, with the best in each class approaching professional levels of analysis.

Conclusion

In the sections above we have demonstrated the use of a variety of technology tools employed in our classrooms in the hopes of improving student engagement. For the majority of classes, these tools successfully improved student engagement and will be used in future iterations of the courses. Although there are challenges with all technology tools, the benefits outweigh the challenges, particularly when looking at levels of student engagement. Incorporating technology in the classroom can be beneficial for both professors and students, creatively helping us all reach our teaching and learning goals through enhanced student engagement.

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Creating Dynamic Learning through Student-Created Video Projects

— Jo Clemmons and Ray Posey

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Abstract

This article grew out of a workshop presented to faculty at Point Loma Nazarene University focusing on the use of student-created video assignments in university courses. Several instructors at the university had used a variety of forms of student-created videos and shared those at the workshop. The authors of this report then interviewed both faculty and students regarding their perceptions of these types of assignments and believed that sharing those results with faculty at other universities could have an impact on pedagogy in university classrooms across multiple disciplines.

Student-Created video, Active Learning, Technology, Pedagogy

Sometimes it takes a shock, like a class-wide D+ average on a midterm, to convince us that our students just do not understand the content being taught in our classes. Fortunately, bad results can be the catalyst for a transformative learning experience, catapulting faculty into action, to look for a better way to teach so that students learn. Faculty at our university have found student-created video projects to be a dynamic way to get students learning at much higher levels, turning students into participants in their own learning as opposed to passive listeners.

Our intention in writing this article is that you will find it to be practical and filled with resources and ideas you can use in your discipline. We include rubrics and assignment criteria, a list of go-to sites for tutorials and resources along with a list of idea for assignments. Click here to watch a video giving insight into our project at our university where we interviewed some professors on our campus who use student-created video projects and students from their classes who created videos as assignments. These resources are intended to aid professors across disciplines and instructional designers in developing video projects for their own classes.

This article is based on the expertise and experiences of two professors at Point Loma Nazarene University Graduate School of Education, and the Director of the Center for Teaching and Learning whose main discipline is music. One is very tech-savvy, helping other faculty with all things techy and the other, a tech novice. The two professors have run workshops on student-created video projects, designed assignments and worked with many students and faculty across multiple disciplines who have been implementing student-created video projects. This process has led to increases in student motivation, participation and learning in the university.

These researchers were intrigued by the benefits of student-created video and decided to study this type of pedagogy by interviewing faculty who use it and their students. This article reports on the in depth interviews of three faculty at Point Loma Nazarene University who have used student-created video projects quite successfully. Two of them are from the Kinesiology department, Dr. Nicole Cosby and Dr. Jeff Sullivan, and one is from the School of Education, Dr. Ray Posey, also one of the authors of this paper. Each of them have been using student-created video projects for several years and continue to be impressed with the student learning outcomes from this type of assignment.

The following quotes from the three faculty members focus on the benefits of using student-created video assignments. All three professors reported a jump in learning and student engagement after they implemented S-C video projects in their course.

> *"There is a concept called Transfer of Learning that maintains that activities such as student-created video causes the learning to deepen and be more rich because they're taking what they know and… produce[ing] something that's new and different."* Dr. Ray Posey

> *"In the past I typically had them doing one or two writing assignments.. and a final exam.…What I saw with the videos when I did start implementing them in the lab classes is that [students] actually performed better on their lab practicals because each student… had a better understanding of that particular skill. And... at the end of the final exam, particularly the lab practical exam... scores were higher."* Dr. Nicole Cosby

> *" I wanted students to be more active in the process of building content…. Overall, I saw that students wrestled with the material and knew it in a deeper way… [The] class… went to a whole new deeper level… as compared to other previous years… it was like a graduate class all of a sudden rather than undergraduate."* Dr. Jeff Sullivan

The theory behind the pedagogy

A student-created video assignment is a dynamic, hands-on project where students are researching content, writing and editing the content and then determining how to visually present it in the best way using video. Behind all of this student-activity is a preponderance of supporting research and learning theory that can help us understand why learning is empowered when students are involved in actively using their knowledge. Not only does learning increase, but memory increases along with the depth of understanding (Zull, 2002).

One example comes from social psychologist David Kolb who theorizes that there is a learning cycle our brains use, where "Active testing" or "doing" is the end and culmination of learning. Kolb proposes that knowledge results from the combination of first grasping and then transforming experience (Kolb, 2014).

> "Concrete experience provides the information that serves as a basis for reflection. From these reflections, we assimilate the information and form abstract concepts. We then use these concepts to develop new theories about the world, which we then actively test. Through the testing of our ideas, we once again gather information through experience, cycling back to the beginning" (Cherry, 2014)

In fact, Kolb's entire sequence of learning: "Experience, Reflection, Abstraction, and Active testing" (Kolb, 1984) can be seen throughout the process of creating

video projects as students research and create content, edit and step into the role of researcher, developer, writer, editor and teacher, proving the truism that students learn best when they have to teach someone else (Reeves, 1998). One student we interviewed exemplifies this process when she says, "I learn[ed] so much….[because] we had to research the steps that go in order of an emergency situation, to make sure they were correct and accurate so that a patient's life wouldn't be in danger."

Bruner's Constructivist Learning Theory (Bruner, 1984) runs along the same vein, saying that a student constructs her own meaning by using cognitive structures in her brain that "selects and transforms information, constructs hypotheses, and makes decisions." These cognitive structures provide "meaning and organization to experiences and allows the individual to go beyond the information given" (Culetta, 2013). While Bruner makes clear that knowledge is constructed not transmitted or received, McFadden's research indicates that having students create video representations of their learning can impact reflective practice and develop a sense of ownership throughout the learning process (McFadden, Ellis, Anwar, & Roehrig, 2014).

Professors of all disciplines should have the ability to design learning experiences such as student-created video assignments that allow students to search for and find information, wrestle with the meaning of that information, make decisions and choices about that information, and then use what they have learned. We can see the positive results of that process in this student's comment, "Because you want to get the steps in order and you have to research and go over it all the time, it really sticks in your brain." And another student we interviewed says, "You actually have to… find the information yourself…instead of always relying on the professor for the knowledge."

These quotes illustrate that students are likely to learn more and more deeply by creating a video that represents their knowledge and understanding than by watching a video representing someone else's knowledge and understanding (Jonassen, 1999). Dr. Sullivan and Dr. Cosby both experienced this in their classes once they switched from having students watch "canned" videos of joint assessments to having students research and create their own video of joint assessment. Dr. Sullivan says, "As part of the assignment,....they had to build the whole evaluation together and then capture it on video….That process… allowed them to get into the material, … digest it,... learn it and then… present it." In Dr. Cosby's class she saw surprising test results, "Two students actually passed... the Gold Standard Examination, which tells me something about the implementation of these video projects." Students agree that their learning increased because of their involvement with student-created video. One says,

> "If it was … a written exam, I don't feel it'd be as much of a learning experience….But… because of the video...and being able to research for [myself], I'm able to … put some of myself into a project, instead of just what my professor's telling me. That … amplifies my ability to learn."

Not only are students constructing their own learning, they are also more engaged and motivated. One student said, "It makes me want to have more [video] projects like that in my other classes….because I feel like the students can be more engaged within the classroom itself." This student's quote mirrors what one researcher found that "the power of being included and valued by peers motivates students to actively participate in their own learning" (Gibbs, 2006). Isn't this the goal of learning, to have students participate in their own learning process? In their interviews, many students commented on how motivated they were by their student-created project, for example, "For me that was more motivation than I've ever had to do a project before….the differences (between writing a paper and making a video) were just amazing."

Self-Determination Theory (SDT), the motivational theory developed by Ryan and Deci (1985), helps us further see the reason for the motivation. There are three pillars of motivation in SDT, autonomy, competence and relatedness; student-created video projects hit all three. When a video assignment is well-designed and scaffolded, students feel autonomous and free to be creative and also capable to be successful. The related piece comes in when the students work in groups to create their project. Again, this piece of the design has to be constructed so that each person is involved in the entire project.

Johnson and Johnson (1994) identify the act of working together in a collaborative group setting as positive interdependence. The authors maintain, "It is positive interdependence that creates the realization that group members have two responsibilities: to learn the assigned material and to ensure that all members of their group learn the assigned material." This idea of shared learning is a great benefit to a university classroom. Dr. Cosby saw a change in students once they started working in groups. She said, "What I saw was not only cohesiveness but collegiality amongst each other in that they now understood and could speak the language to one another. So there were multiple benefits."

A Description of Student-Created Video Projects

We define a student-created video project as a structured, well-defined course assignment that has a video created by a student or a group of students as the outcome product or deliverable at the end. When professors design a student-created video assignment, they are constructing a learning experience, letting students use computers, iPads, cameras and software as cognitive tools. These cognitive tools help students understand, organize, and construct their own meaning through the process of research, decision making, and the creation of a video (Jonassen, et al, 1999).

The steps students must take to create the final video product are precisely what makes this assignment such a robust learning experience for students. Within the assignment, the content is researched, written, edited, and produced by students. And because students typically must learn the technology involved in producing a video, that technological process becomes part of the assignment and also part of what students learn.

Video Design in Varying Disciplines

Understandably, there are many variables other than content to be taken into account when developing video assignments. Some of these variables are technical issues but most are choices in the overall design that must be made. We will be going into more depth about the assignment design later in this paper, and while it is not possible to cover every variable, we include here two brief descriptions of assignments in two very different disciplines that can illustrate a few of these variables.

> *1. Using a one-take video, education students create quick videos in class of the principles of a particular Model of Instruction that they have been assigned. Their task is to present the main ideas on video by writing a quick script, creating props and filming without the need for video-editing software. Students researched the Model prior to coming to class and then were given an hour to produce their video. After the hour, students showed their videos to their classmates who had been given a note-taking guide in order to capture the main ideas (click here to watch one of these one-take videos from the class).*

This assignment requires very little technology training since students make a "one-take" video using a smartphone or iPad with no editing involved. Although this assignment is technologically simple, it is also robust with students doing all the research, writing and editing of the script. In addition, students can go back and redo their video. This process creates deeper and deeper learning as they refine the content, timing, steps and procedures. This type of assignment works well in many disciplines such as in the Sciences to demonstrate lab procedures or explain a chemical reaction, in Political Science to summarize a political theory or strategy, or in Nursing to demonstrate a patient assessment procedure.

2. Music History students compare and contrast the Classical era to the Romantic era using images of architecture, fashion and art, quotes from literature and sound bites from music. The content of the video should identify, analyze, and illustrate the shifts in musical styles, architecture, culture, and literature through these historic movements.

This assignment is much more technologically complicated than the previous one since students will be using images, texts, sound bites and perhaps video clips to illustrate their findings. In addition, students may choose to do a voiceover and develop or compose their own soundtrack; therefore needing access to video editing software. This assignment will require more technology scaffolding and tutoring, but does not necessitate any special equipment other than a computer and video editing software. In addition, there are online tools such as PowToon or Kizoa that would allow students to do an assignment like this without any video editing software. Again, students are doing all the research, writing and editing and in addition, they must also choose the images, texts and music samples they feel will illustrate their content. This type of assignment works well in disciplines that rely on images such as History to tell a story with multiple images and text or in Art to demonstrate the different characteristics of the Impressionistic period. If you click here you will see a wealth of ideas for video projects in many different disciplines with more ideas in the resources section at the end.

Well-designed Assignments

When designing a student-created video project it's best to start with the end in mind by using Backward Design. Backward Design is a well-documented design system that has you ask yourself, "What do I want students to be able to know and do when they finish their videos?" Once you have established what the learning outcome is, you ask yourself, "How will I know that students know and can do everything I want them to know and do in this assignment?" It is only after you develop these two critical components that you move forward with the rest of the design. For more on Backward Design, see this web resource by Dee Fink (2003) on designing for significant learning.

Now that we have defined what student-created videos are and briefly considered the benefits of BD, let's look at a complete video assignment. Fig. 1 is an assignment from our colleague, Dr. Jeff Sullivan, Kinesiology professor at PLNU. Dr. Sullivan designed this student-created video assignment for an undergraduate Kinesiology class.

Fig. 1
Physical Examination Video Tutorial Assignment by Dr. Jeff Sullivan

In this assignment, you will partner with two colleagues to produce a tutorial video on the Clinical Examination of a specific joint of your choosing.

In your video tutorial, make sure to include an Evidence-Based Approach: demonstrating the most clinically useful Manual Muscle Tests and Special Tests used to perform a physical examination of the joint. You will share your video tutorial with your colleagues via YouTube for their education and constructive feedback. You will each also comment on the other tutorials created by your colleagues via Discussion Board in Canvas.

Your tutorial should include and discuss:

- At least 10 of the most commonly used special tests to evaluate the joint that you select.
- Demonstration of specific direction on patient positioning, direction of testing, S/S of a positive test, and pathology that each test rules in/out.
- Wherever possible, comment on the reliability, sensitivity, specificity and predictive ability of the special tests that you choose. (It is critical that your colleagues have a sense about which are the most clinically useful and valuable tests to choose when conducting a differential evaluation.)
- Indicate if a cluster of special tests might be used to increase your ability to diagnose a condition (e.g. SI joint tests)

Resources

- Resources on how to create and edit video are available under Course Materials in Canvas.
- Videos from the previous 2 years, along with critiques are posted for your review in Canvas.

Due dates:

Oct 7: The list of your group members and specific joint you will be examining

Oct 14: Each student turns in his/her own Video Planning Sheet

Oct 18: Groups' first draft of Video Planning Sheet (Will be critiqued and handed back)

Oct 28: Groups' final version of Video Planning Sheet

Nov 4: 1st Peer evaluation

Nov 20: Video is due and posted in Canvas

Nov 22: 2nd Peer evaluation

Learning outcomes being met by the assignment:

Students will utilize and master the components of the orthopedic examination process to determine the presence of physical problems in patients.

Students will discover and execute the process of differential diagnosis, which involves determining which pathology—from among a variety of possible conditions—is the probable cause of an individual's symptoms.

Note: Students will create video tutorials and differential diagnosis algorithms to aid in learning the differential diagnosis process; you will edit and refine the work of your colleagues in this process.

Criteria for a good video assignment

The Kinesiology assignment in Fig. 1 has many pedagogically sound features and has also been proven to achieve superior results. And though there is much variation inherent across disciplines and across different types of video assignments, we will use this assignment as an exemplar for our discussion. Let's look at its overall structure and design criteria, identifying the best practices embedded here in two strategic areas: the design of the assignment and the assessment of the student's work.

The Design

In the following few paragraphs we examine the basic elements of the project design in order to ensure a successful finished product under the headings: Make it count! Make it clear! and Make it creative!

Make it count!

When choosing to use video as an assignment, there must be a driving purpose for selecting a visual, creative medium for the assignment. And, because video projects can be time-consuming, the learning outcomes should warrant the time students must invest in the project by fostering critical thinking, deep processing of essential content and inspiring creative energy. Dr. Sullivan has students create injury evaluation videos because they will be doing these processes "the rest of their careers." They are crucial to his course. Dr. Cosby says that before she implemented student-created video projects, she "lived at the podium and just lectured." But things are very different now that she's implemented student-created video projects. "Our labs are so much more robust because our students have had a chance to actually do the special test and …. really get the skills."

Make it clear!

Once you have chosen key learning outcomes from your course that work well as a video assignment, think through all of the essential elements that must be in the videos to demonstrate that students have processed all of the information you want them to learn. Make a thorough list of these elements; be specific and precise. Your students should not be guessing at what you want. In Dr. Sullivan's assignment (Fig. 1), he specifies that students will "demonstrate the most clinically useful Manual Muscle Tests…" and he tells them to include "at least 10 of the most commonly used special tests to evaluate the joint." And since students must figure out what these things are and how best to portray them in a video. the learning is dynamic. Dr. Sullivan demonstrates a good balance between being specific and giving room

for creativity. He outlines minimum expectations, but wisely leaves room for students to discover things for themselves and make their own choices and decisions.

Providing students with a rubric for the assignment is an excellent way for students to visibly see the expectations for the assignment. (Rubrics will be discussed more in depth under Assessment). Another way to make expectations clear is by giving students an exemplar video. When Dr. Cosby first started including video assignments in her course, she posted video exemplars from YouTube for students to watch. Now she uses students' videos from previous semesters as her exemplars. (Click here to watch a student-created video from Dr. Cosby's class.) An exemplar video can instantly show students how the learning outcomes can be met in a video. Just be sure that you are pointing students toward what is important – the content. "Video really helps the students to learn. If a picture paints a thousand words, video - a million words." But Dr. Sullivan warns, "don't fall in love with the technology just for the wow factor… Make sure that you're using the technology that's going to enhance learning."

In addition to making expectations clear, the steps needed to accomplish the assignment must be clear as well. Think through the assignment and break large, complex tasks into smaller, doable steps. This can be accomplished with a detailed timeline so students know what is expected of them and when things are due. This also highlights the beauty behind Dr. Sullivan's Video Planning Sheet (click here) where he created precise expectations and clear directions for students to follow so they know how to be successful. Dr. Sullivan, Dr. Cosby and Dr. Posey all provide online tutorials and resources for students' technology needs. Dr. Posey says,

> "The first time I tried to be the resource myself and that about killed me because you have 25 students depending on you to teach them how to edit video. …[Now] I've developed tools that they have... in Canvas… to help them learn how to do that."

Make it creative!

As you design your video assignment, you will get more buy-in from students and ultimately a better product from them if you allow some freedom of choice. A little bit of freedom can encourage creativity and ownership, while building students' motivation levels. Dr. Posey says that in his Graduate Education classes, the student-created video assignment helps students find "something new inside themselves—more confidence, more energy, more creativity." One of his students says, "iMovie...allows you to be more creative… you get to really hear and feel who that person is." Another student was so motivated by the video project he said, "I was so excited about the project I went home and started it that night." Isn't this the kind of response we wished all of our assignments created? (Click here to see an example of a student-created video from a Graduate Education course.)

Keep in mind that creativity is at the top of Bloom's Taxonomy (Bloom,1984) - the level of learning you want to encourage because it is so deep and long lasting. These students will never forget what they learned through their video projects. But creativity is also something you must support with solid scaffolding. Scaffolding takes the form of technology training, step-by-step instructions, deadlines, feedback, rubrics and clear expectations. Scaffolding helps students know how to be successful and establishes the boundaries that can actually help them be creative.

Dr. Cosby's first foray into video assignments didn't allow students to make any creative decisions and she found that students' "personalities didn't really shine; they just did it" to get it done. She now gives students more freedom, allowing them to choose how long the video will be, and exactly how they will portray the necessary content. Now with more freedom, Dr. Cosby says students "[go] over and beyond what I could ever expect." The effect of this little bit of creativity is evident in a short interview with Elizabeth, one of Dr. Cosby's students. In the interview Elizabeth uses the word "fun" eight times and says, "It's a fun a project… more fun than sitting at your desk typing a paper for five hours…. [and I] learn[ed] so much more in the same five hours than I would've [if I'd] spent [it] writing a paper."

Assessment

The way you design assessment plays a large part in the successful outcome of a video assignment. We look at assessment in these next few paragraphs under the headings: Make it ongoing! Make it visible! Make it individual! Make it collaborative!

Make it ongoing!

It's important to create a complete assessment system that takes into account both high stakes and low stakes (or no stakes) grading and provides for both individual and group accountability. For most students, this is a new type of assignment, so including quick and doable ways to give feedback especially in the initial stages will help students know they are on the right track. You can see in Dr. Sullivan's assignment (Fig.1) a deadline about a week and a half in where he gives feedback on the group Video Planning Sheet (click here to access the planning sheet). This type of early deadline helps jumpstart the project and gets groups working together as a team right from the beginning. Note that Dr. Sullivan's time commitment stays manageable since there is only one Planning Sheet per group. Depending on the project, early feedback can be given on many different things, such as outlines, a list of research topics, a literature review containing the most significant 5-10 reference books, articles, and/or web pages a group is using, or a preliminary script or storyboard. Click here to see a chapter of John Bean's helpful book, *Engaging Ideas*, for more ways to give feedback on early drafts.

In addition, if you choose to give class time for group research you can interact with each group and dialogue about their work. All of this feedback allows students (and their professor) to know the assignment is progressing in the right direction. Ongoing feedback and deadlines help everyone and assures that groups are working steadily.

Make it visible

Rubrics are a strategic part of making expectations clear, so before students begin working on their video projects, they should know the criteria they are being graded on and how the grades are weighted. Rubrics can also give professors a double bonus by making grading easier and faster (click here for an example of a grading rubric). When creating a rubric for a video project, think through what the most important aspects are and weight them accordingly.

Rubrics for group projects need the additional consideration of how to measure group work. This can be as simple as including "Teamwork" or "Collaboration" as one of the criteria of the rubric (click here for Dr.Cosby's rubric). Dr. Cosby weighs Collaboration as 25% of the rubric grade. This type of assessment, however, can sometimes be problematic since the teacher is not necessarily in the best position to judge how well students collaborated with each other. A more equitable way to assess teamwork might be to create a separate rubric for peer assessment that lets team members assess how each member of the group participated and added to the overall project. Peer assessment will be discussed more fully in the next section, but we include it here because it is a crucial element of visibility and is the one tool students have to affect the behavior of the members in their group.

Make it individual!

When you create a group video project, individual accountability is a strategic ingredient. Each student must be held accountable for knowledge of the entire project, their contribution to the finished project, and also to the group. The assignment itself and the assessment of the assignment must be designed to encourage each student to participate fully as opposed to a group where the work is divvied up and individuals only know a small portion of the entire project. When each student brings his or her whole self to a project, the creativity and brain power multiplies exponentially and becomes more than the sum of its individual parts.

As important as it is, individual accountability can be tricky to ensure, so you must be diligent to find ways to include it in the assignment design. Some ideas for ways to ensure individual accountability would be having individual assignments such as Dr. Sullivan's Video Planning Sheet (click here to see the Video Planning Sheet) which is researched and handed in by each student before group work begins or sometimes during the group work phase. Students can also keep a journal documenting their work and perhaps group dynamics. In the journal they can answer metacognitive questions you supply that help them reflect on their learning process. An almost counterintuitive idea is to include class time for groups to research and plan their projects. You can then walk around, interact with groups and witness students participating in their groups.

Perhaps the most important assurance for individual accountability is having students do peer evaluations of each member of their group. Peer Assessment helps to create checks and balances within teams that encourage equal participation and collaboration (click here to see a peer evaluation form that you may find helpful). It is usually best to do at least two peer evaluations, so students have the opportunity to up their game in response to the feedback they receive. Whichever way you do it, the final peer evaluation must affect each student's final grade on the project. This powerful tool allows students to influence the behavior of their group members and can make the difference between groups with equal participation from all members and groups comprised of some overworked, angry members and one or two loafers.

Make it collaborative!

While there is a multitude of ways to create collaborative video projects, Dr. Sullivan also includes collaboration in the assessment by using peer critique or peer editing. In Dr. Sullivan's assignment (Fig.1), he has students post their videos to Canvas. Each student is then responsible for viewing each video and providing a critique of the content (click here to see an example of how to use a Discussion Board for student critiques).

Students must ask a probing question, share an insight, make a suggestion for improvement, offer an opinion, validate an idea, or expand on a post. Through the years, students have given kudos to each other for a job well done and have also pointed out errors in each other's videos. As they critique they are building their expert knowledge and honing their skills of the joint evaluation process that will be a significant part of their professional lives.

Supportive Resources

As stated earlier, how students will learn the technology must be a consideration and a part of the assignment design. Along with this, you as their teacher must have knowledge of and experience with the technology and process you are asking your students to use. Learning the process is not difficult, and will help you know how to develop your assignment. You should create your own video and know the ins and outs of the process, and use the software and websites you are asking your students to use. One idea would be to create a video introducing the project to your students. That would give you credibility and experience at the same time.

Giving technology support can be handled in a variety of ways. Dr. Posey, Dr. Sullivan and Dr. Cosby all provide tutorials in Canvas, but you can also have your IT department come to your class and give a hands-on lesson to your students. Dr. Posey says,

> "With any piece of technology, which would include video and video editing, I need to understand it myself and how it works….If you can't teach it to them… then you need to have resources available… tutorials and that sort of thing… to give your students."

Although the process of learning the technology can seem daunting, most students take it in stride. One said, "You learn as you do it. I'm much better at technology than I thought… I have the ability… to adapt and learn quickly. I was proud of myself in that."

In order to assist you in developing an understanding of both the technology use and the assignment itself, we have developed a list of resources that you may find helpful. You will find them listed in the Appendix below.

Conclusion

In this report we have explored the benefits to student learning through the use of student-created video assignments as well as provided ideas and resources for creating well-designed assignments that work in many disciplines. We have also considered the perceptions of both students and faculty as they participated in these types of assignments. These reported perceptions echo the findings of authors and researchers: that the assignment itself must count towards course objectives, must be clear to students in its expectations and must offer the opportunity for student creativity. The interviews also indicated that participants felt that student-created video assignments lend themselves to a different, higher-level of thinking. Isn't that the goal of higher education across disciplines - to assist students in thinking differently than they have before? What we discovered is that well-designed student-created video assignments can have a profound effect on student learning, motivation, and student engagement.

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Appendix

Point Loma Nazarene University Workshop

Point Loma Nazarene University Video
click here http://youtu.be/Xsv8IfhPK6o

Student Created Video Workshop
For PowerPoint
click here https://drive.google.com/file/d/0B-wZ8npOJaOPTVdOaTNDcUlPNHc/view?usp=sharing

Resources for Students

Video editing tutorials
For Macintosh
click here https://skydrive.live.com/embed?cid=-2D89AD47F7A71DD5&resid=2D89AD47F7A71DD5%21124&authkey=APuYqUupX8mdPdQ&em=2&wdAr=1.3333333333333333

For PC
click here https://www.youtube.com/watch?v=MiVyqQmCuw8

A process for Preparing Students for Video
click here https://onedrive.live.com/redir?resid=2D89AD47F7A71DD5%21779

Resources for Faculty

Video Assignment Ideas

Dartmouth College Ideas:
click here http://www.dartmouth.edu/~videoprojects/wp/?p=503

Free Technology for Teachers
click here http://www.freetech4teachers.com/2012/08/5-video-projects-to-try-with-your.html - .VSCN6fnF-Sr

Ideas from Common Craft
click here https://www.youtube.com/watch?v=oCl1zoxs3Zo

Ideas using Flip Video Cameras
click here https://www.youtube.com/watch?v=0TkqTPyeeoE

Ideas from Point Loma Nazarene University workshop
click here https://onedrive.live.com/redir?resid=2D89AD47F7A71DD5%21777

One-take video example
click here https://youtu.be/DuIxLsXTf3k

Philosophy of Education video example
click here https://www.youtube.com/watch?v=SUFVCVnC3-8

Video Assignment Resources

Kinesiology Physical Examination Video Assignment
click here https://onedrive.live.com/redir?resid=2D89AD47F7A71DD5%21775

Kinesiology video planning sheet
click here https://onedrive.live.com/redir?resid=2D89AD47F7A71DD5%21749

Video cheat sheet
click here https://onedrive.live.com/redir?resid=2D89AD47F7A71DD5%21783

Assessment Tools

Criteria for Discussion Boards
click here https://onedrive.live.com/redir?resid=2D89AD47F7A71DD5%21772

Rubric for Student-Created Video (group projects)
click here https://onedrive.live.com/view.aspx?cid=2D89AD47F7A71DD5&resid=2D89AD47F7A71DD5%21750&app=Word

Rubric for Student-Created Video (individual projects)
click here https://onedrive.live.com/redir?resid=2D89AD47F7A71DD5%21767

Websites Related to Teaching and Learning

—Kayla Beman

"Currents Clips and Links" is a list of links to interesting, non-commercial websites related to teaching and learning, compiled by Kayla Beman. Currents invites reader recommendations of similar sites that they've found useful.

The Yale Center for Teaching and Learning is based out of Yale University and features resources for teaching writing skills as well as the effective use of technology in the classroom. The CTL's website features a section titled, "Ideas for Teaching", where educators can find resources for preparing lectures, adjusting to students' learning styles, and teaching students how to read and interpret journal articles. Educators can also find resources for leading classroom discussions and teaching controversial topics.
http://ctl.yale.edu/

The Eberly Center for Teaching Excellence and Educational Innovation is based out of Carnegie Mellon University in Pittsburgh, Pennsylvania. The Eberly Center is dedicated to providing faculty and graduate students with resources to guide their teaching and to encourage student learning. The Eberly Center website features a section on designing and teaching courses with instructions on creating a syllabus, selecting course content, identifying effective instructional strategies, and managing a course. The Eberly Center also has resources on assessing student learning and solving common teaching problems.
https://www.cmu.edu/teaching/index.html

The Writing Program at Middlebury College is a program that supports student writing development and provides resources to faculty for teaching students writing skills. The Writing Program website has a specific section for faculty resources, which provides rubrics for writing assignments and strategies for teaching students writing skills. The section also includes instructional strategies for teaching writing skills to students who are multilingual or have English as a second language. Additionally, the section has teaching library list of suggested titles that faculty can refer to when teaching writing skills.
http://www.middlebury.edu/academics/writing/teaching

The Institute for Writing and Rhetoric is based out of Dartmouth College in Hanover, New Hampshire. The Institute serves as a resource for faculty and students in the development of writing, speaking, teaching, and research skills. The Institute website has a section devoted to faculty teaching first year writing courses with guidelines to refer to when teaching students with varying experience levels with college writing from beginner to most advanced. In the section specifically dedicated to teaching first year writing courses, there is information for faculty to refer to when teaching writing as a process and designing syllabi and assignments.
http://writing-speech.dartmouth.edu/

The University Teaching and Learning Center is based out of George Washington University in Washington D.C. The Center provides teaching resources for faculty members in all areas of teaching courses, specifically in course design. The Center website features a teaching guide with sections on hybrid courses, student assessment, and developing course goals and objectives. Of note, the Center provides guidelines to faculty on how to better utilize multimedia presentations to enhance student learning and outlines in-classroom teaching strategies, such as teaching large undergraduate classes.
https://tlc.provost.gwu.edu/

Joan R. Kaplowitz's *Designing Information Literacy Instruction: The Teaching Tripod Approach*

— Coco Zephir

Designing Information Literacy Instruction: The Teaching Tripod Approach. By Joan R. Kaplowitz. Rowman & Littlefield, 2014. 220 pp. ISBN-13: 9780810885844

Coco Zephir, MLIS is an Instructional Services Librarian at the Fitchburg State University Amelia V. Gallucci-Cirio Library.

Kaplowitz's text joins a collection of recent literature that proposes new ways of approaching information literacy instruction (ILI). Her text has three points of focus: an introduction outlining the importance of instructional design, the outline of her 'tripod approach' to instruction, and lastly, the implementation of ILI instruction using her 'tripod' method. Her 'tripod approach,' based on outcomes, activities, and assessments, is heavily rooted in instructional design (ID) and practical application—two aspects that make her book, as she says, appeal to the "What's in it for me?" in all of us.

ILI instruction has become a necessary component of liberal arts undergraduate education. According to the Association of College and Research Libraries, information literacy "is the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning." If undergraduate students are to succeed as they progress through their academic career, they must be information literate learners. The ILI instruction can and should be integrated into liberal arts classrooms in a collaborative fashion between librarians and faculty.

In my experience, new academic librarians enter into the field with little to no formal teaching training. Perhaps some basic instruction theory was covered in a Masters of Library Science program, but otherwise librarians begin their time in the field with minimal experience in this area. This text serves as an ILI workbook for new academic librarians, serving as both an introduction to instructional theory and practice, but also as an interactive guide from which readers actively learn, reflect, and create instruction programming.

Kaplowitz's text opens with an introduction to ID and why it is so important to instruction. The text provides just enough background information and analysis of various models, like ADDIE, ASSURE, and Char Booth's USER method to introduce the topic, while also asking readers to consider a new method: the author's "Teaching Tripod Approach." This ILI method is developed for librarians who are unable to follow a student's full academic course progression, but rather pop in at opportune moments to foster research skills and dispositions. Here, the presentation of popular and heavily used ID models in combination with the author's own, provides the reader with context and clarity in relation to general ID as well as when applied to library instruction.

Kaplowitz begins her discussion of her ILI method by focusing on needs assessment. Who are your students? Kaplowitz asks, "what is the knowledge gap" (p. 46)? What is the culture of your campus? Who is willing to partner with you to meet these objectives? What are the liberal arts outcomes? Focusing on students, campus culture, and your position in ILI, Kaplowitz outlines a plan of action before instruction begins. Before you design your ILI it is imperative to explore your student population so that you can identify and understand the knowledge gaps that exist.

For an instructor, following an in-depth needs assessment comes the creation of expected learning outcomes (or ELOs as Kaplowitz calls them). What, specifically, will your students be able to do after your session? This chapter takes the reader step-by-step through the writing process, including Bloom's taxonomy (revised too) as well as the ABCD method. Having Bloom's taxonomy present, in a worksheet form, enables the reader actively to write ELOs next to the informative parts of the text.

Kaplowitz' text builds on ELOs to help the reader develop an understanding of learner-centered teaching. The author covers topics such as how to keep students' attention and the various types of activities that you could implement in your classroom. Included in the discussion are subjects like technology, accessibility, and delivery format, all of which are important to consider when implementing ILI. Building off of the creation of information literacy learning activities or modules, through the implementation of learner-centered teaching, the author also thoroughly covers assessment. Assessment stands as the third piece of the 'tripod,' serving to close the loop so that you can reflect, improve, and rewrite your ELOs and activities to better serve your student population. Kaplowitz takes a stand for assessment in ILI: "there is more to assessment than accountability and grading" (p. 112). For many librarians, assessment is a hassle, an unnecessary add-on to a quick one-shot session. Kaplowitz acknowledges this, but forges another path: she believes that we are constantly running informal assessments that help us to guide our practice. She also advocates for formal assessments to prove ILI's importance to stakeholders. Kaplowitz's discussion of assessment and creating expected learning outcomes is something that new librarians interested in or engaged with ILI should read.

After assessment, the author asks us to take a step back from the 'tripod' to look more broadly at the organization of the ILI. Kaplowitz introduces both Gagne's nine events of instruction and Keller's ARCS to instruct readers how to organize and sequence the instruction materials. Here, she includes detailed charts explaining each method, including a detailed description, followed by how you can apply it to ILI (p. 141-2). The clarity of the tables in this chapter assists the reader in prepping the lesson before implementation.

After ILI organization comes implementation, in which Kaplowitz focuses primarily on marketing and performance. She covers areas such as developing an elevator speech for on the spot marketing pitches, ideas for how to increase user participation, and how to relax due to 'stage fright' (multiple stretches and breath exercises are included in the workbook to de-stress either before or after your lessons). While the information presented may seem somewhat disconnected, I appreciate this realistic approach to instruction. Librarians need to advocate for ILI. Librarians get nervous when instruction goes awry. Students sometimes don't pay attention and we need to think on our feet. Kaplowitz covers the kinds of real feelings and situations that can emerge in the classroom and beyond. I appreciate how she not only covers situations that may arise in the standard face-to-face classroom environment, but also covers the online synchronous and asynchronous environments, as well as what you should prepare for when filming an instructional video.

Overall, I believe that any new professional engaging in information literacy instruction should read this text. I greatly appreciate Kaplowitz' workbook because of its clear and organized instruction. While the name 'tripod approach' may seem just another piece of jargon, the ideas, theory, and experience behind it are both sound and useful to information professionals today.

Berenice Malka's No Angel in the Classroom: Teaching through Feminist Discourse

— Katharine Covino

No Angel in the Classroom: Teaching through Feminist Discourse. By Berenice Malka. Rowman & Littlefield, 2000. 328 pp. ISBN-13: 978-0847691234

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Fisher explores what it means to be a feminist teacher and what it means to engage in feminist teaching. Using her experiences in and out of the classroom as a woman, an educator, and an academic, Fisher unpacks and addresses feminist pedagogy through the use of divergent yet overlapping theoretical perspectives and personal stories. Focusing on the interplay between philosophy and practice, she offers explanations, ideas, and examples that are both intellectual and accessible. First and foremost in her understanding of feminist pedagogy is the interconnection between the personal and the political. Guided by this premise, feminist teachers focus on open and honest discussions of women's "'personal' matters – including sexuality, reproduction, and caring" (p. 28). Such issues often play foundational roles in the design and implementation of (especially but not exclusively liberal arts) course syllabi, materials, and activities. By focusing on these under-discussed topics, feminist teachers and their students can "be self-reflective in ways that are both uncomfortable and liberating" (p. 37).

Further, Fisher notes the extent to which many feminist educators incorporate thoughtful dialogue and debate into their teaching. The purpose of such engaged discussion is not to arrive at a single 'given' answer, but rather to encounter a panoply of conflicting voices, values, expectations, experiences, and ideals. Fisher's envisioning of feminist pedagogy as an "intersection of identities" (p. 46) speaks to a larger trend within the field, namely the ideological shift from second-wave to the third-wave feminism. Touching only briefly on this change, the author notes the sociohistorical moment when "Black, lesbian, working-class, and other feminist activists point[ed] out that generalizations based on the experience of white, heterosexual, and/or middle class women did not necessarily apply to them" (p. 62). Though Fisher does not dwell on this transformation in feminist thinking, she does acknowledge its greatest legacy: the rebirth of feminism as a complex, contested, and deeply fragmented construct (Daniels, 2010; Gore, 1992). Her characterization of third-wave 'intersectionality' feminism as a fraught locale – where both "connection and challenge" (p. 19) are possible, and her acknowledgement of feminist pedagogy as a useful tool to navigate its "contestory and contradictory theories and practices" (Lather, 1992, p.130) reflect her belief that feminist educators should work to embrace, rather than deny, moments of conflict and tension in the classroom.

In point of fact, Fisher's call to feminist educators "to engage in a deeper way with questions of difference" (p. 105) is among the most compelling and resonant of her piece. Like many other third-wave writers and scholars, she urges feminist teachers to acknowledge and embrace the interconnectedness of identity. Feminism need not be 'either/or', but rather 'all at once.' Guided by this premise Fisher contends that differences are not only necessary and unavoidable, but valuable and enriching (p. 26). The anecdotes she shares from her college classroom make clear that she practices what she preaches. A frequently occurring theme of her stories is the need "to listen to each other's conflicting and overlapping voices" (p. 146). Her willingness to engage with and reflect on the difficult tensions that emerge within and between teachers, peers, and texts speaks to her belief that, at its core, feminist pedagogy should support "collaboration across differences" (p. 181). Though her stories do not always have 'happy endings,' per say, they do illustrate different ways of forming and reforming community from individuality (p. 183). In this way, Fisher's feminist classrooms become places where interconnection is possible – where "individuals with different experiences and ideas can evolve into groups of people who self-consciously incorporate elements of each others' thinking into their internal discourse" (p. 73). For Fisher, feminist teaching and learning, understood and practiced as the act of embracing "external and internal tensions" (p. 121), facilitates a more complex and more complete understanding of the world, which is also the goal of a liberal arts education.

Midway through her book, Fisher looks more closely at a particularly interesting manifestation of tension in her examination of two dueling concepts faced by many feminist educators: issues of caring and issues of power. In her discussion of the ethics of care in the feminist classroom, the author candidly shares her gradual evolution in thinking. Earlier in her career, Fisher felt only discomfort when considering her role in a culturally feminized profession. As an 'out' lesbian and 'childless by choice' woman, she bridled when her doctoral student thanked her using language that reflected the entrenched idealization of 'teacher as caregiver.' When the teary-eyed younger woman embraced her, saying, "I could not have done it without you; [y]ou are the mother of us all" (p. 116), Fisher felt frustration embroiled with contempt. Over the years, however, her position changed as her focus shifted. The more she attended to the needs of her students, the more she opened herself to the role of a feminist teacher as 'one who cares.' She reflects:

> Needs arose in the process of discussion, such as the need to be listened to with compassion or to receive a response to one's ideas, feeling, experiences. Although I used to wince when students used maternal imagery to describe my teaching, I finally had to admit how issues of caring permeated the classroom. (p. 48)

Fisher's guarded acceptance of her role as "othermother" (p. 130) to her students is clearly still in flux. That said, she seems to have found a working balance for herself – "a combination of self-care and caring for others" (p. 136) that feels authentic and sustainable.

Positioned against sociocultural expectations of 'teachers as caregivers' is 'teachers as authority figures.' In another chapter, Fisher explores the aspects of her feminist pedagogy that concern "issues of power" (p. 35).cA self-identified progressive and constructivist teacher, the author begins by outlining the ways in which she strives to empower her students. She details pedagogical practices she purposefully incorporates to grant her students autonomy and independence, specifically asking them "to develop their own projects, to take a hand in their own assessment, [and] to make their own presentations from the podium" (p. 84). Further, she relates how she sits in a circle during class discussions as one scholar among many in an effort to downplay her power within the classroom (p. 83). However, these steps do not, indeed cannot, alter a core reality of classroom education: the power that inherently resides with the teacher. Here, Fisher expands on her impressions of a teacher's role in curriculum design and implementation:

> Even a teacher who uses the discussion method cannot avoid transmitting ideas, information and values through her practice. By selecting particular authors or topics for her course syllabus and arranging them in a certain manner, or by emphasizing certain parts of a text she asks the class to discuss, she asserts the importance of some ideas and minimizes or ignores others. (p. 50)

Later in the same chapter, Fisher discusses her struggles with assessment, yet another aspect of teaching in which educators inherently hold power over their students. Through the use of a long but compelling story, she outlines the difficulty she has encountered when

assigning grades. When a student came to her in tears over her grade in the course, Fisher faced a quandary. As a feminist teacher, she had proactively sown seeds of empowerment, equity, and caring into the threads of her teaching. But at that moment, she found herself in a quagmire – a position that could never be equitable. Here, Fisher reflects on her struggle:

> I can idealize their interests in exploring feminism and thus bring out passions that support their authority as participants in the class. But no matter how much I encourage students' potential for leadership, I cannot share with them my position as a professor – and this position is one important meaning of my authority. They know it. I know it. (p. 102)

In asserting her will, in assigning the grades she believes to be fair, Fisher exercises power over her students. As with the issue of caring, however, the issue of power must be approached and considered from a perspective of thoughtful balance and moderation. To that end, Fisher urges feminist teachers to develop pedagogical practices that strive to make sense of the power and authority granted to them by their positions and their knowledge (p. 53).

If there is one critique against Fisher's work, it is the way she purposefully writes primarily to and for women: a fact she addresses in an early chapter. Therein, she shares her rationale: "Most teachers who identify as feminists are women and most students I teach are women" (p. 20). Though she makes a point of saying she does "not mean to diminish the importance of discussing what it means for men to do feminist teaching and the role of men as students in feminist classes" (p. 20), in many places, she does just that. By focusing so exclusively on the experiences, feelings, ideas, and actions of women, Fisher neglects the experiences, feelings, ideas, and actions of men (pp. 32-33). As I read and reviewed the text, I came to realize that her understanding and practice of feminist pedagogy was markedly narrower than my own. As a feminist teacher and scholar working at the dawning of the fourth wave, I believe that our movement must include men; that their active participation is vital for positive change and growth. To quote another well-known feminist: "How can we affect change in a world when only half of it is invited or feel welcome to participate in the conversation? Men – I would like to take this opportunity to extend your formal invitation. Gender equity is your issue too" (Watson, 2014, para. 18-19). Though I agree with Fisher's mission to understand women's oppression and to promote women's liberation through her teaching and scholarship, I feel that this work could be furthered by including all people (p. 50).

With her book No Angel in the Classroom: Teaching through Feminist Discourse, Berenice Malka Fisher offers a thoughtful discussion of feminist pedagogy. Through a balanced intermingling of theoretical perspectives and stories from the classroom, she makes clear that there is no single 'correct' path to feminist teaching and learning. To use her words, feminist pedagogy is "not an ideal to be achieved but a process to be developed" (p. 59). Though some may argue that the time for such books is past, that women have achieved enough, that their place in the world has vastly improved, I (together with Fisher) would disagree. Women's demands for "a fair and equal place in the world" (p. 211) have not yet been met – there is much left to be accomplished. Even as this country stands potentially poised to elect its first female president, "the dominant culture still discourages women from speaking out politically. Women's speech is still stigmatized" (p. 2). This book and its message are valuable for today's feminist educators – men and women who, through their teaching, can continue Fisher's goals of empowerment and equity.

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Currents
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