“Teaching and learning are complex processes, and no single source or type of evidence can provide a sufficient window into the questions we most want to explore.”

~ Pat Hutchings, *Opening Lines: Approaches to the Scholarship of Teaching and Learning*
InSight: A Journal of Scholarly Teaching

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“Implicitly or explicitly, faculty want students to learn more than basic content; we want them to understand and practice disciplinary ways of thinking or habits of mind.”

~ Regan A.R. Gurung, Nancy L. Chick, and Aeron Haynie, *Exploring Signature Pedagogies: Approaches to Teaching Disciplinary Habits of Mind*
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“Scholars of teaching and learning are prepared to confront the ethical as well as the intellectual and pedagogical challenges of their work. They are not prepared to be drive-by educators. They insist on stopping at the scene to see what more they can do.”
~ Lee S. Shulman, “Forward,” In Ethics of Inquiry: Issues in the Scholarship of Teaching and Learning
**Introduction**

**About Park University...**

Park University (originally Park College) was co-founded by Colonel George S. Park and Dr. John A. McAfee in 1875. An independent, private institution, accredited by the Higher Learning Commission of the North Central Association, Park University currently enjoys a distinguished position in higher education as a growing institution with 41 campus centers in 21 states including an extensive online degree program. *InSight: A Journal of Scholarly Teaching* is an outreach of the Center for Excellence in Teaching Learning (now called the Faculty Center for Innovation) at Park University. A refereed academic journal published annually, the journal accepts submissions of research and scholarship that support faculty in improving teaching and learning. Open to submissions from all disciplines and institution types, *InSight* articles showcases diverse methods for scholarly inquiry and reflection on classroom teaching.

**From the Editor...**

In the three years I served as Editor of *InSight*, I had the very great fortune to work with many thoughtful and innovative teachers. I learned from teacher-authors who moved from simply asking a question to sharing inventive new methods focused on improving student learning; I observed teacher-reviewers who provided encouraging and detailed feedback; and I collaborated with teacher-editors who carefully considered the scope and future of this journal as well as the scholarship of teaching and learning. All of these teachers care deeply about their students and the profession, and I am honored to have been in such good company. My time with *InSight* energized my own teaching, and I look forward to continuing these conversations on the Advisory Board. Therefore, it is appropriate that this valuable sense of community serves as the foundation for our opening editorial.

In her essay, “Does Reading SoTL Matter?,” University of Calgary’s Nancy Chick addresses the question (and underlying fear) of whether the scholarship of teaching and learning is actually having an impact on teachers and students. As you read the articles in this volume, there is little doubt that the authors and their students are learning and improving, but Chick encourages us to not just read but act. After reading about the inspiring work teachers are doing throughout the world, try adopting one of their approaches in your own class and talk about it with your colleagues.

In this volume, you will read about the value office hours can have – if their purpose is explained to students; how reading strategies can be used effectively across different disciplines; and how reconfiguring an assignment to focus on the future can encourage student interest in solving problems. You will also find a new conceptual model for artistic and academic collaboration; a pedagogical practice using the voices of the oppressed and vulnerable (in art, music, literature, and film) to teach future human service workers; and a curriculum deliberately focusing on sexual diversity as one way of engaging with a diversity requirement. Lastly, the volume ends with a longitudinal study about student satisfaction in online courses; a
comparison of a lecture-based course with a flipped course; and suggestions for addressing students’ concerns about group work.

InSight is a collaborative effort, and its success is a result of the hard work of many people. At the top of that list is the invaluable Jamie Els, whose efforts keep the journal running. B. Jean Mandernach, Amber Dailey-Hebert, and Emily D. Sallee are always available for excellent support and advice. Patricia Marsh substantially increases the accuracy and polish of the final product, and the feedback of the many peer reviewers continually improves the quality of the journal. My thanks to the entire InSight team.

--Stacey Kikendall, PhD

More Acknowledgements...

InSight’s editorial staff would like to thank the executive staff of Park University; their leadership and support in providing faculty resources makes this publication possible. A special thank you is given to Dr. Greg Gunderson, President, Dr. Michelle Myers, Interim Provost, Dr. Rebekkah Stuteville, Vice Provost, and Dr. Emily D. Sallee, Associate Provost.
Does Reading SoTL Matter?: Difficult Questions of Impact

Nancy L. Chick, PhD
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After a recent keynote on publishing the scholarship of teaching and learning (SoTL), a faculty member asked me the important question about the impact of these publications. As closely as I can remember, she said, “In medicine, we know that journal articles don’t affect practitioner practice. How is SoTL any different?” Indeed, the medical education community has been raising this issue for some time. For instance, Richard Smith (2006) doesn’t mince words: “Journals are not good at getting doctors to change and improve their practice. Words on paper rarely lead directly to change” (p. 117). In her keynote at the 2008 conference of the International Society for the Scholarship of Teaching and Learning, Sue Clegg alluded to this research:

what we know about professional learning from the communities of practice and informal learning literature suggests that the peer reviewed papers have very little, if any, impact on practice. Indeed the origins of systematic review in medicine were in recognition of precisely this problem—we know that Doctors and school teachers don’t read this stuff.

So this question of impact in SoTL is not new (Cross & Steadman, 1996; Hutchings, Huber, & Ciccone, 2011; Hutchings & Shulman, 1999; Poole, 2007). It’s also not unimportant.

In the inaugural issue of Teaching & Learning Inquiry, Keith Trigwell (2013) builds on the research on how our approaches to teaching affect students’ learning. This previous work concludes the following:

An approach to teaching in which teachers provoke discussion and debate, monitor students’ changing understanding, and encourage students to question their own ideas (a Conceptual Change / Student-Focused [CCSF] approach) has been shown, in several studies, to be related to more deep approaches to learning being adopted by their students (Trigwell, Prosser & Waterhouse, 1999; Gibbs & Coffey, 2004). The same studies show that when teachers report that they focus, for example, on good presentation, covering the content, and providing a good set of notes (an Information Transfer / Teacher-Focused [ITTF] approach) their students are more likely to report adopting more of a surface or lower-quality approach to learning. (p. 98)

He extends and builds on this research by situating SoTL within a syllogism. First, he finds that “those teachers reporting higher CCSF approaches to teaching are also the teachers who are more engaged with the Scholarship of Teaching and Learning” (p. 98). Then, given this relationship between these deeper approaches to teaching and
engagement with SoTL, and “given the research showing relations between teaching and outcomes of learning, [then] the scholarly, inquiring, peer review, and shared aspects of their teaching are likely to be achieving the purpose of improving student learning” (p. 98). To simplify, teachers who do SoTL are more likely to improve their students’ learning.

Trigwell’s work here provides an answer to the question about the impact of doing SoTL on SoTL practitioners and their students’ learning. That’s no small matter. However, it doesn’t address the question about the impact of reading SoTL, or the broader question about the impact on teachers who don’t do SoTL. These are complex questions that are hard to answer with precision. But that doesn’t mean they are unanswerable questions.

In the strategic plan for my teaching and learning institute, I wrote about “multiple degrees of engagement” as part of the “reach and impact” of SoTL (Chick, 2016, p. 10; see figure right). Noting that much of our SoTL-related programming targets practitioners or “producers of SoTL projects” (p. 10), I acknowledged that—for a variety of reasons—most of our colleagues won’t do SoTL; however, their role as part of our teaching and learning community is no less important. Many of them are certainly scholarly teachers who care about their teaching and their students’ learning and who intentionally strive to improve both. We can thus think of teachers who don’t do SoTL as “potential consumers of SoTL”:

\[
\begin{align*}
\text{Degrees of SoTL Engagement, Reach, & Impact} \\
\text{Student partners & participants} \\
\text{Consumers} \\
\text{Occasional practitioners} \\
\text{Regular practitioners}
\end{align*}
\]

at a department meeting, they’ll learn about the findings of a colleague’s project. In the copy room, they’ll see someone printing the final draft of an article for publication. In the hallway, they’ll overhear others talking about something they learned from the recent gathering of the SoTL Journal Club. Eventually, some of these bystanders will ask questions, enter into conversations, and learn from these SoTL-active colleagues. (p. 10)

Like all binaries, this distinction between producers and consumers can, of course, be problematic. There are grey areas, and consumers has some negative connotations and baggage that I don’t intend to bring into this comparison (e.g., implications of passivity, corporatization). At some point, all metaphors are inherently wrong, but let’s go with the useful implications for just a bit.

For this larger population of colleagues, I host a SoTL Journal Club that regularly discusses SoTL and SoTL-relevant texts. The faculty, staff, and occasional students who come to these meetings are rarely the same ones I see in SoTL workshops, writing retreats, and grant applications, and they often vary, depending on the selected readings. The discussions are largely participant-led, grounded in the reading, rich with connections to practice, and challenging to the readings, to each other, and to their assumptions and approaches. In some ways, I think these one-hour conversations make up the most important, most impactful SoTL work I do, despite the relatively...
small numbers. They range from 4 to 20 but typically fall in the middle. And it’s not just that the participants differ from our regulars. It’s the potential of what they do later.

According to Torgny Roxå and Katarina Mårtensson’s research on the informal, “backstage” conversations about teaching that can happen in small networks (2009, 2011, 2015; Roxå, Mårtensson, & Alveteg, 2011), the people who read the articles for the SoTL Journal Club may do something that can change individual approaches to teaching and the broader teaching cultures. When these SoTL readers have conversations with colleagues that are informed by these readings (e.g., at the Journal Club meeting, in the hallway, at the coffee counter, in a committee meeting), “teachers allow themselves to be influenced to such an extent that they develop, or even sometimes drastically change, their personal understanding of teaching and learning” (Roxå & Mårtensson, 2009, pp. 547-548). And from Trigwell, Prosser, and Waterhouse (1999), we know that approaches to teaching affect student learning. Ultimately, that’s the impact we want in SoTL. Yes, we want to affect practitioner practice—as the question at my keynote illustrated—but more importantly, we want to affect student learning.

But I hear you. You’re absolutely right: this is a circuitous and messy path to trace impact, and the SoTL Journal Club numbers are very small—that what some would call insignificant. This example is just that, an example. This small activity on one campus is metonymic, illustrative of the potential for all who read SoTL and SoTL-related texts. When Teaching & Learning Inquiry, the journal of the International Society for the Scholarship of Teaching and Learning (ISSOTL), moved out from behind the subscription firewall to fully open access, our readership increased. We know that the views and downloads of the article PDFs increased dramatically, as have the journal’s citation alerts. (We don’t yet have the exact numbers because of a few changes in platform, but we hope to have them soon.) Of course, we can’t assume that people who view, download, or even cite an article read it, of course, but the chances are high that at least some of them do. So—like the research on open access in general (“Benefits for authors,” 2017; Clements, 2017; Jump, 2014)—I’m saying that our readership increased but won’t assert from this messy data by how much.

As you read the articles in this issue of InSight, you have this potential for impact as well. As you read and reflect on what you’re reading, your understanding of and approach to teaching may change. And that may deepen your students’ learning. And if you talk with some colleagues about the reading, or even just what you’re thinking about related to the reading, their understanding of and approaches to teaching may change. And that may deepen their students’ learning. So keep reading. And more importantly, talk with others about what these readings make you think about. You may—ultimately—be changing the world.

...talk with others about what these readings make you think about.
References


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“Office Hours are Kind of Weird”: Reclaiming a Resource to Foster Student-Faculty Interaction

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Office hours reserve time and space for student-faculty interaction, a benchmark for engaging students in educationally purposive activities. Our study finds a mismatch between the institutionally intended purpose of office hours and student perceptions of office hours. We examine student perceptions of office hours with results from a survey administered at a public research institution. We conclude that it is necessary for institutions — large public research institutions, particularly — to do more to demonstrate to students the value for interacting with faculty and to consistently support the development of relationships between undergraduates and those who teach them.

Student-faculty interaction plays a key role in the collegiate experience. From the perspective of many U.S. higher education administrators and faculty, office hours represent institutional commitment to student-faculty interaction: interaction which research roundly regards as a best practice in undergraduate education (Boyer, 1990; Chickering & Gamson, 1987; Kuh, Kinzie, Schuh, & Whitt, 2010). Research consistently finds that high quality student-faculty interactions are highly correlated with student retention, persistence, and academic achievement (Kuh et al., 2010; Tinto, 1997) as well as students’ confidence in their intellectual abilities (Cole, 2007, 2008) and their aspirations for further study (Hurtado et al., 2011). In theory, office hours make space for such positive student-faculty interactions.

Office hours remain an institutional policy on most U.S. campuses. Higher education institutions in Taiwan and mainland China, for example, have also started to implement office hours to promote student-faculty interactions and enhance effective student learning (Hong & Hu, 2012; Hong, Hu, & Yang, 2010). But the
resource itself is useless if few students actually use it. Instructors lament lonely office hours, and empirical research echoes their anecdotes (Fusani, 1994; Li & Pitts, 2009). Underuse of office hours thus undermines a real and important site for the kinds of interactions that can facilitate student success. Do students see such potential in office hours? Do their understandings of office hours shape how they use them? Contemporary college students have a plethora of digital spaces for making contact with faculty. At many U.S. institutions—particularly at large research institutions—office hours are the lone site where student-faculty interaction is consistently accessible to all students. Do students see a reason for working with fixed times and locations when they have options for communicating at any time?

We pursue these questions in a survey-based study that explores student perceptions of office hours at a large U.S. research institution. We examine what these perceptions can tell us about student-faculty interaction in the current social and political climate of U.S. higher education. Our study finds a mismatch between the institutional intention for office hours and student perceptions of them, a mismatch that gives rise to an underuse of office hours. Our results demonstrate that students are most likely to perceive office hours as the last resort they can turn to when an academic crisis (e.g., an anticipated failing score) is on the horizon, rather than as an institutional resource that may be regularly used for a broader set of fruitful interactions with faculty members. To correct this mismatch between students’ perception of office hours and institutional intention, we argue that students need explicit guidance about what office hours are intended to do: they need accessible models of what office hours can offer and how to make use of this resource.

Along this line, when students and faculty have increasingly adapted to more instantaneous communications, we also suggest that office hours as a location-fixed practice should be reimagined. What is more important is that institutions need to demonstrate how interactions with faculty, either face-to-face or facilitated by new communication technologies, matter for student success. A large body of research indicates that when institutions show students what success looks like and how to get there, more students can succeed in college (Cotten & Wilson, 2006; Kuh et al., 2010). We suggest here that showing students how effective interaction with faculty can pave the way for their success is an important step forward.

**Literature Review**

Office hours became a standard offering in U.S. undergraduate academic life when scholarly and political dialogues erupted about undergraduates’ intellectual and social development and patterns of student persistence toward degrees (cf. Astin, 1984; Boyer, 1987, 1990; Pascarella & Terenzini, 2005; Tinto, 1983). The most renowned summary of these dialogues came from Arthur Chickering and Zelda Gamson (1987), who distilled the research into *Seven Principles for Good Practice in Undergraduate Education*. First among these was interaction between students and faculty:

Frequent student-faculty contact in and out of classes is the most important factor in student motivation and involvement. Faculty concern helps students get through rough times and keep on working. Knowing a few faculty
members well enhances students' intellectual commitment and encourages them to think about their own values and future plans (p. 3).

Chickering and Gamson’s (1987) insights continue to be substantiated in empirical studies (Dika, 2012; Kuh & Hu, 2001; Pascarella & Terenzini, 2005). Institutions intend office hours as a site for these vital interactions. Scholars found that factors that impact student-faculty interaction include disciplinary culture (Gamson, 1967) and pedagogical styles (Cox, McIntosh, Terenzini, Reason, & Quaye, 2010; Wilson, Woods, & Gaff, 1974). Students’ and faculty’s identities matter greatly, too, particularly when students seek out-of-class contact with faculty (Cole 2007; Dika, 2012; Layne, 2012).

Pascarella (1980) observed, however, that in the early days of student-faculty interaction studies, scholars presumed that interaction between students and faculty was good and that more would be better without establishing this empirically. The inquiry considering how college affects students correlated student-faculty interaction, as an independent variable, with desired outcomes of higher education including intellectual development, persistence toward degree, and academic achievement (Astin, 1984; Endo & Harpel, 1982; Kuh & Hu, 2001; Pascarella & Terenzini, 2005; Umbach & Wawrzynski, 2005).

Researchers and institutions have increasingly focused on evidence-based practices shown to foster student success (Cole, 2007; Dika, 2012; Harper & Quaye, 2009; Kuh, 1991). Such research finds that student-faculty interaction is a core component of student engagement — the degree to which institutions support their students’ participation in educationally purposive activities (Harper & Quaye, 2009; Kuh, 2003).

The widespread use of digital technologies has sparked scholarly interest in examining whether they would facilitate student-faculty interaction. The results so far, however, have been mixed. Cifuentes and Lent (2011) found that digital interaction fosters face-to-face interactions, but Li and Pitts (2009) reached an opposite conclusion.

While benefits of student-faculty interaction outside the classroom are well-documented, they are not always apparent to students. Cotten and Wilson (2006) find that many students do not seek faculty interaction because they fail to recognize a need to do so (beyond the difficulty with a course), and they suggest that faculty actively and consistently encourage students to approach them. Freeman and Wash (2013) draw on brain-based teaching and learning research to show that active and ongoing encouragement reduces stress, resulting in more effective learning.

Institutions mandate office hours to reserve space and time for student-faculty interaction. But underutilization of this resource prompts the question of how students actually understand office hours. To examine this, we designed a survey to explore students’ perspectives of office hours. Specifically, we asked students how they understood office hours and what potential benefits and drawbacks they associated with office hours. We interpreted our data against the context that institutions and faculty both intend and assume office hours to be a resource.
Method

The authors designed a survey to capture students’ perceptions of factors influencing their use of office hours. Data were collected from undergraduate students (18 years of age and older) at a large, mid-Atlantic public research university in spring 2013. The survey contained 17 items, including yes/no/not applicable, multiple choice, five-point Likert, and open-ended questions. The variables included students’ demographic information; their class standing and majors; their perceived class size; the structure and format of the course; students’ perception of faculty’s approachability, availability, and responsiveness; and the usefulness of the faculty’s feedback and so on. Partially completed and non-undergraduate student responses were removed from the data set. Of 625 valid responses, only one-third described using office hours at least once per semester; two-thirds self-reported as never using office hours. Students’ self-reported class standings were well-distributed: 18 percent freshman, 26 percent sophomore, 29 percent junior, and 27 percent senior. Respondents’ self-reported racial identities are representative of the undergraduate student body of the university—66 percent White, 11 percent African American, 15 percent Asian American, and 7 percent Hispanic.

Our quantitative analysis showed that factors commonly believed to be important for the use of office hours, like instructor approachability or that students are commuting or working full-time, did not matter for students’ self-reported use of office hours (Griffin et al., 2014). This study presents the qualitative analysis from 724 comments in response to two open-ended questions: 1) What would make you more likely to use office hours? and 2) Please share any additional comments. Our goal is to better understand what prevents students from utilizing office hours and how to motivate them to use office hours more often. In order to develop a valid coding scheme for these data, a set of 100 randomly selected responses were openly coded by three authors to identify salient themes. A series of codes were created, expanded, defined, and refined to describe those common themes. When a decision needed to be made regarding assigning one general code or two or more specific sub-codes, coders agreed to preserve as much details as possible. Using this agreed-upon codebook, five authors thematically coded all responses.1

Results

1. How do we use Office Hours?

Faced with the question, “What would make you more likely to use office hours?” undergraduates most frequently responded (N = 415, 57%) with variations on an appeal of their own: How would I use office hours? How should I use office hours? I don’t really know what office hours are for. Or, as one response candidly put it: “Office hours are kind of weird.” There are two distinct but related frustrations expressed in this category of responses: first, the claim of a lack of knowledge about the purpose of

1 Inter-rater reliability for this coding scheme was .97. In statistical analysis, inter-rater reliability is a measurement of the agreement among different raters.
office hours; second, a recognition that office hours may have some potential as a resource, but a potential that the respondent is uncertain of how to capitalize.

Invoking uncertainty about the purpose of office hours may be a way of justifying non-attendance. Uncertainty may also prevent the student from imagining a single possible situation in which s/he would use office hours in the future. For instance, one student writes: “Having something to go to office hours for? I have no idea what I would go to office hours for.” The vague term “something” is used to substitute all possible activities which could have occurred during office hours, including assignment-oriented consultation and general interactions with the faculty member. Ending the sentence with a question mark also shows the student’s uncertainty about using office hours even when s/he may have “something” in mind. Similar concerns about having no purposes of going also manifest in other students’ requests for instructors to “[take] time to say what kinds of things people go to office hours for” and explain “why office hours will help me.”

Different from those who have scant knowledge of why faculty offer office hours, many other students in our study recognize office hours as a potential academic resource, but they express their struggle with how to take advantage of this resource. Typical responses are:

Student A: “If I didn’t feel like I had to go only when I couldn’t find the answer to my questions on my own.”

Student B: “If I had questions that did not have simple answers which could be communicated over email.”

Student C: “I feel that any questions I have can be answered through email.”

Student D: “I don’t go to office hours because I ask questions in class when I do not understand things. [Any] class where questions cannot be asked in class usually has a discussion section where I can ask questions. I can also look in the textbook or search the internet for answers. I would like to have informal discussion about related material with my professors but never know how to start the conversation so I don’t try.”

These students do see a purpose for office hours. They perceive office hours as occasions to raise specific questions. If they can find answers by themselves or through other means, such as email communication, discussion section, textbook, or via the internet, they choose not to visit faculty. Their perceptions of office hours as no more than Q & A sessions outside classroom limit their ability to think of how else office hours can be used. According to this narrow understanding of office hours, students are supposed to bring questions to office hours. They feel discouraged to attend office hours if they do not have specific questions or if they wish to do things other than asking questions.

Students’ difficulties to conceive a scenario of utilizing office hours and their vague and limited understanding of what they can do with office hours reveal a gap between institutional design and students’ perceptions of office hours. The types of
student-faculty interactions that foster desired outcomes of higher education both encompass and extend beyond questions about specific course material; they may include, for example, mentorship, discussion of a students’ future plans and career trajectory, fostering student persistence, or, as student D suggests, discussion of related material. If institutions provided students explicit guidance for how to think about student-faculty interaction, and how to use office hours as an opportunity for student-faculty interaction, student D, for one, might be willing to “try” to start the conversation with the professor. And students who say “I just don’t always know what questions to ask at office hours” would probably not be deterred from visiting faculty.

Not knowing how to make use of office hours may also lead students to consider office hours as a last resort in the learning process, which they prefer not to turn to unless they have tried almost everything else. Reserving office hours for special occasions—occasions often framed as “emergencies” (N = 268, 37%)—is another salient symptom of the mismatch between students’ perceptions and institutional design of office hours.

1.1 Emergency. Responses coded as ‘office hours are for emergencies’ were characterized by the inclusion of stress words (e.g., crisis, struggle, difficulty, fail, etc.) and/or descriptions of a desperate situation, conveying a sense of urgency surrounding a situation (or possible situation) that was specific and circumstantial. These responses are distinct in their urgent tone and directed purpose as compared to a more speculative, general statement such as “if I needed more help in the class.” For instance:

Student E: “I have not reached any serious crises for this course so personally, I have not felt the need for office hours, especially since we meet 5 times a week. Out of those 5 days two of those days is discussion, where I feel like if I have questions, I can ask at that time. My lack of participation in office hours may also be because [the professor] explains things pretty well and [the TA] can clear up anything minor concepts I don't understand.”

Student F: “If I was completely lost in all the concepts covered in lecture and/or discussion/lab.”

Student G: “If I was doing very, very, very bad in the class and there was no way for me to improve. Or if I needed to get grade changes on any previous exams. Most likely, though, never really going to use office hours.”

Students see these emergency situations as a compelling reason to attend office hours and provide a distinct answer to the question “how can we use office hours as a resource?” Yet the majority of these comments indicate the emergency situation as the exclusive reason that the student would attend office hours and, even then, the situation must be dire to compel the student to attend. These students perceive office hours as fulfilling only a single purpose, that of addressing emergency situations, instead of multi-purpose. While these emergency situations could lead to increased student-faculty interaction, the student perceptions of how office hours can be utilized
presented here are woefully narrow in scope when compared to the institutional intention of fostering student-faculty interaction.

For other students, even an emergency situation is not sufficient impetus to utilize office hours. This student, for example, is failing the course but indicates that office hours are not worth his/her effort unless other incentives (extra credit) are given:

Student H: “I know professors would not want to do this, but sometimes students don’t want to help themselves and they might need an incentive to go to office hours. If there was like a 1-5 point (almost insignificant) extra credit given when attending office hours it might help. Currently I am failing organic chemistry, and I have never seen the professor outside of the lectures, nor do I plan on it. If there were extra credit points involved I would probably force myself to visit him, then it might just break the ice and I could get into the habit of doing it.”

The emphasis on offering “extra credit” for the office hour visit reflects this student’s misconception of the office hour not as a regular campus resource that s/he can utilize to reverse the tendency of failing the course and get help from the professor directly but, instead, as a place where an icebreaker is needed and the “habit” of regular use requires extra impetus to build. Like students E, F, and G, the student seems to acknowledge office hours as a resource for receiving help from the instructor for course-related problems, but even ‘emergency’ status does not appear to convince student H that office hours are worth his/her effort.

2. “I can just Email,” or (Physical) Office Hours are not Worth the Effort

The notion that paying a visit to faculty’s office hours is "not worth the effort,” is a second major theme that emerged from our analysis. This theme is the result of several codes on office hour push and pull factors, including perceptions of inconvenience surrounding office hour time and location (N = 225, 31%), a preference for virtual over in-person communication (N = 41), and a troubling desire to be wooed to office hours by "treats" (N = 26).

The theme of "not worth the effort" is based on two codes surrounding opinions of convenience. Students indicate enhanced convenience through virtual communication, as well as inconvenience based on times and locations of in-person office hours. Many students report that in-person interaction through office hours is a last resort, and they would only attend if instructors were not responsive through email. A quantitative analyses found the vast majority of students (94%) reported that instructors were "responsive" (as opposed to "not responsive" or "not available") via email (Griffin et al., 2014). Therefore, students can rely on email as a consistent communication mechanism. Our data additionally show that students questioned the necessity of in-person office hours, based on the perception that virtual communication

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2 Authors thank the anonymous reviewer for bringing up this point.
is more convenient for all parties involved. For example, in response to the question, "What would make you more likely to use office hours?", a student answers:

Student I: “I haven’t needed them. The professor has been easily available over the phone or email. Which is easier for everyone. So, nothing, I guess.”

Like this student, many assume that email is the preferred mode of communication both for themselves and their professors (Thirty-three students answered similarly in response to the question “What would make you more likely to use office hours?”). The perception that email is a more convenient, and therefore preferred, method of communication testifies to broader transformations digital technologies have brought to social interactions in general. As the Millennials constitute a majority of the college student body, the strict rule of physical attendance for office hours seems to run counter to the norms students have for social interactions. A study done by Pew Research Center in 2012 showed that 96% of those ages 18-29 are internet users, 84% use social networking sites, and 97% have cell phones (Anderson & Rainie, 2012). The social environment in which Millennials grow up makes them the earliest and quickest adopters of connected technologies and always-on lifestyle. Some scholars are deeply worried about current younger generation’s immersion into asynchronous communications such as emails and messages, and their corresponding flight away from real time conversations (Turkle, 2011). However, Turkle’s tendency to give privileges to in-person, real time conversation may fall into the fallacy of seeing the digital world and real world as discrete when they are actually increasingly interconnected (Jurgenson, 2011).

It is not our intention to draw broad generalizations about the impact of digital technologies on student-faculty interaction. However, the historical practice of office hours—come-and-visit in person—is dated. It is made obsolete by the pervasiveness of more convenient and instantaneous ways of communication. While the definition needs to be updated to incorporate more diverse ways of contacting faculty, we do not argue for a dismissal of office hours altogether. On the contrary, it is necessary to reinforce the core value embodied by the original design of office hours, namely, to enhance student-faculty interactions. To implement office hours in a more connected world, we suggest that the emphasis should be put on enhancing student-faculty interactions regardless of means, either in-person consultation or brief communications via digital tools. How to maintain quality student-faculty interaction in this increasingly connected world is a challenge facing faculty and institutions.

Understanding of office hours as physical visits has led many students to complain about time and location inconvenience for scheduling a visit. That is our third code under "not worth the effort". Email is understood as the most convenient and preferred communication mechanism; the effort of going in-person to office hours is not. For example, a student who is dissatisfied with his/her instructor’s responsiveness to email reports:

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Student J: “I wish more professors were responsive via e-mail. Office hours are not always a viable communication method at all times.”

Inconvenience surrounding office hour time and location is the most frequently appearing (N = 225) subcode in analysis. Students largely interpret the times and locations at which office hours are held as inconvenient, and in some cases express this interpretation with resentment. Some students make specific time and location requests, while others generally suggest additional or extended times and different locations. For example, when asked what would make him/her more likely to attend office hours, a student generally suggests:

Student K: “Maybe if office hours were not during times that I have class, if I lived closer, or if I did not have to work full time.”

In some cases, a tone of resentment underlies perceptions of office hour inconvenience. For example, in response to what would make him/her more likely to attend office hours a student reports:

Student L: “If I had more time in the day to spend going out of my way to do this. I also am usually able to figure things out by myself with a little bit of practice.”
[emphasis added]

A second student describes his/her attempts at interaction through office hours, but expresses frustration and resentment. The student ultimately determines that attending office hours is simply not worth the effort:

Student M: “My professor is always bombarded by students all day. She is hardly available because she forces us to think in an applied way, causing a bottleneck of people not understanding the material. I would much rather spend my time figuring it out on my own than going to speak with the professor because the wait time is so long.”

The resentment surrounding perceived inconvenience of office hours suggests that more than a few students see a physical visit to office hours impeding rather than fostering student-faculty interaction.

3. Approachability

While for some students resentment about the perceived inconvenience of office hours diminishes office hour use, others view office hours as impeding student-faculty interactions due to interpersonal factors and instructor approachability. Scholars have not reached a consensus regarding the role played by faculty’s approachability in fostering student-faculty interaction. Some quantitative analyses showed that instructor approachability was not a significant factor (Griffin et al., 2014). Bippus, Kearney, Plax, and Brooks (2003) reported that perceptions of instructor out-of-class approachability derived from observations of in-class behaviors are less influential than those instructors’ specific invitations to engage in out-of-class
communication. Our study had a total of 135 responses related to instructor approachability derived from two codes: “expectations” and “interpersonal.” In considering that some students may share the above quoted perception that office hours impede student-faculty interaction, we included the expression of awkwardness or judgment for being unprepared or incompetent in anticipation of office hour visits into the category of “expectations”; characteristics of the faculty (i.e., approachability, friendliness or unfriendliness, and attitude) fall into the category of “interpersonal.” Within the code “I like office hours,” five responses fall into the theme of approachability; unfortunately, this represents a minority within the set of students who chose to comment on the theme of approachability.

We find that instructors’ lack of encouragement (or even active discouragement) of office hour visits prevents students from taking advantage of interacting with faculty; this is even more so the case for the students who may draw comparison to other instructors who offer invitation, or at least are neutral about office hours visits. For instance, answering “what would make you more likely to attend office hours?”:

Student N: “If the professor didn’t say to me when I approached him ‘I don’t have time to help you. You can’t just come to me with questions that take a long time to explain. That’s considered private tutoring’. I use all of my other teachers’ office hours but this professor has specifically shut me down.”

Student O: “Office hours are dependent solely on the approachability of the professor. Some professors make you feel like a burden for coming to office hours and interrupting their work. Or they make you feel stupid for asking some questions or being concerned with your grade.”

Another student did not express such dissatisfaction toward the instructor’s condescending attitude but found “seeing a professor alone to introduce ideas and express concerns can be very intimidating” and believed he/she needed “more personal confidence.” These students decided not to use the resource of office hours because they assumed that they were “burden” to the instructor and their visits were “interrupting” instructor’s work.

On the other hand, among five total responses where students expressed willingness to visit the instructor or satisfaction with their office hours experience, they mentioned “being comfortable” in office hours and that the instructor “has been really amazing and has tried to actively engage the class.” In these cases, instructor approachability had a positive effect on office hour attendance.

Cox et al. (2010) asserted that inherent instructor characteristics, such as the tone of voice, accents, and facial appearance, play a greater role in student perceptions of approachability than pedagogical methods or style. Limits to instructor approachability that stem primarily from perceptions of being condescending, rude, or a know-it-all are likely more correlated to demeanor and behavior than pedagogical methods. Polite attitudes and friendly gestures are changeable attributes for the instructor as compared to such inherent characteristics as race and gender. Along this
line, we would argue that efforts on the part of individual instructors and institutions are imperative to foster nurturing and encouraging environments for students, particularly when it comes to one-on-one interactions in office hours. Institutional environments play an important role in their “inhabitants” demeanor (Hallett, 2007). Universities can work to ensure support for instructors by recognizing the value of sound student-faculty interaction and promoting a friendly and nurturing teaching environment.

Conclusions

Two qualifications should be specified before we make our recommendations. First, we ought to acknowledge that faculty and students may have different evaluations of office hours to begin with. Faculty may give more credit to office hour visits than students because students seeking a career in academia may be more interested in school and interacting with faculty than those who choose non-academic careers. Along this line, how faculty relate to students regarding office hour visits is a critical topic for faculty as well as higher education institutions to consider. Secondly, our study addresses a contemporary under-utilization of office hours. Indeed, because of the absence of the longitudinal data on how students on our campus use office hours historically, there is no knowing if a two-thirds non-use rate is normal or not. Our study has revealed students’ willingness to use office hours yet, at the same time, revealed a certain degree of frustration because they do not know how to make the most of the office hour.

Given the mismatch between institutional intentions for office hours — as a platform for highly valued student-faculty interactions — and student perceptions of them, we call for more guidance for the students explaining why interaction with faculty during office hours is useful and how to realize it. We also suggest that the concept and practice of office hours need to be brought more up-to-date by embracing diverse means of student-faculty communications.

Nonetheless, students, whether they are interested in interacting with faculty out of class or not, can benefit greatly from active and consistent interaction with faculty (Cotten & Wilson, 2006). Office hours are a great channel to achieve this student-faculty engagement. Educational institutions outside North America, including those in Taiwan and mainland China, have started to see the value of robust student-faculty interactions afforded by office hours. These places where office hours were not placed in the higher education system are beginning to institutionalize the resource (Hong & Hu, 2012). We recommend that faculty and higher education institutions take the following concrete steps to encourage students to utilize office hours as a resource:

- In order to address students’ question “How should I use office hours?”, faculty and higher education institutions need to make it explicit what students might get out of office hours, and especially as it relates to use beyond assignment-oriented questions. This may include, for example, informal conversations about the broader field of study, consulting faculty with career advice, seeking recommendation letters for jobs and further education, helping students develop persistence, discussion of research opportunities, and other forms of productive and purposeful
student-faculty interactions. Higher education institutions need to help students understand the benefits and value of interacting with faculty, not only for their subject-specific knowledge and degree completion but also for their long-term fulfillment and even success after graduation. Institutions can provide fresh college students detailed guidance on how to use office hours to interact with faculty, and highlight narratives of high-quality interactions that have emerged from office hour use. Knowledge of the value of office hours would serve to mitigate student perceptions that office hours are “not worth the effort” or are “for emergencies only”.

- Administrators also need to create nurturing classroom environments by promoting friendly and dedicated attitudes toward teaching among faculty. Universities should support the time that students and faculty spend together such that students’ perceptions of instructor approachability ultimately serve to promote rather than deter office hour use.

- Instructors should openly and proactively promote office hours in class. As most of the college courses now have a webpage on the university course management platform, instructors may consider placing their availability in a prominent place on the course page. Instructors can also repeatedly remind students verbally of their availability and extend invitations to visit office hours. Doing these things, in addition to the standard practice of putting office hours on the syllabus and mentioning it once or twice throughout the semester, can send an encouraging message to students about instructor approachability and availability during office hours.

- Both higher education institutions and instructors need to update their notion of office hour visits and embrace new digital technologies for teaching and learning to facilitate student-faculty interaction. The increase of more interactive communication tools may have made the idea of office hours as pure face-to-face interactions obsolete for students, a challenge that may be best addressed by extending the notion of office hours to include virtual interactions between faculty and students. Because the primary benefit of office hours comes not from a student’s physical presence in the faculty member’s office, but rather from the time and space that office hours create for constructive student-faculty engagement, digital platforms (e.g. chat rooms, video chat, online whiteboards, social media, etc.) may be used to retain that ‘time and space’ while ameliorating student perceptions that office hours occur in inconvenient locations. Furthermore, an instructor’s efforts to embrace the communication technologies familiar to students are gestures which welcome students to engage with faculty outside the classroom. This is by no means to suggest that digital technologies are the silver bullet. Ultimately, no single tactical approach can address all students and, therefore, digital technologies should be seen as one tool rather than a stand-alone solution in addressing under-use of office hours.
Creating an opportunity for student-faculty interaction alone does not guarantee its use, by either students or faculty (Cox et al., 2010). Our current study focuses on perceptions of office hours from students’ points of view. But faculty perceptions of office hours are just as crucial for learning more about what it takes to engage students in high quality interaction with faculty. One possible study would be finding out successful techniques from faculty who have attracted and motivated more students to visit their office hours.

Future studies may investigate more rigorously how faculty perceptions shape students’ office hour use and what we can learn from student’s positive experience of office hour visit. How new technologies impact the notion and practice of office hours will be another direction for future studies.

References


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Reading Effectively Across the Disciplines (READ): A Strategy to Improve Student Success

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This paper describes the structure and activities of READ (Reading Effectively Across the Disciplines), a pilot initiative to improve students' critical reading skills, disciplinary literacy and academic success. READ employs a multimodal design that consists of faculty training in disciplinary literacy instruction and curricular enhancement, development and implementation of active reading assignments and assessments, peer-led team learning, and the dissemination of discipline-specific teaching and learning resources on an Open Lab site to provide an interactive teaching and learning environment for students and faculty. Empirical evidence of the initial effectiveness of the pilot in three gateway courses in Biology, Electromechanical Engineering Technology, and Marketing showed improvement in student pass rates after implementation of reading strategies and instructional approaches that guide students through the reading process.

College reading requires skills and strategies that differ from those required for high school reading in many ways. Even though college and high school courses may carry similar titles, college courses are more challenging due to a larger amount of material covered, demanding learning goals, and more diverse and complex reading requirements (Conley 2007, 2008; Conley, Aspengren, Stout, & Veach, 2006). Given the greater breadth and depth of content knowledge taught in college courses, students need a series of advanced thinking and learning skills, both general and discipline-specific, to succeed.

Among these skills are effective textual engagement and deep understanding of texts, which require inferential and elaborative processing (Graesser, Millis, & Zwaan, 1997; Kintsch & Rawson, 2005; Pressley & Afflebach, 1995). Evidence suggests that students generally do not develop these skills extensively in high school (Conley et al., 2006). Studies in cognitive developmental processes indicate that students are still acquiring the ability to use and understand adverbial conjuncts and idiomatic interpretation late in high school (Chapman, 1983; Nippold & Martin, 1989). In addition, inferential reasoning, abstract thinking, and recognition and use of structure/features, are developed only with maturity and experience (Chambliss, 1995; Kletzien, 1992). As Conley (2007) points out, in college courses,

students are expected to make inferences, interpret results, analyze conflicting explanations of phenomena, support arguments with evidence, solve
complex problems that have no obvious answer, reach conclusions, offer explanations, conduct research, engage ideas, and generally think deeply about what they are being taught. (p. 6)

These are the thinking and reasoning skills that students may not readily possess and apply while reading as they enter college. Another challenge that they face is their lack of background knowledge of both content and structure (Moore & Scevak, 1997), especially for certain discipline-specific and discipline-related texts.

From the perspective of disciplinary literacy education, the question is not whether reading should be taught, but what, how, and where it should be taught in college, and who should be involved in the process. College reading is discipline-specific (Fang & Schleppegrell, 2010; Shanahan & Shanahan, 2008) and literacy varies in different domains (Alexander, Schallert, & Hare, 1991). Disciplinary literacy is characterized by “the ways of thinking, knowing, and doing that are consistent with each discipline,” rather than by “a set of strategies instructors use to help students organize text or make connections among words” (Zygouris-Coe, 2012, para. 2). In this sense, reading, as disciplinary literacy, should be taught not just in English courses, contrary to the perception of many, but also in the content areas. Content area faculty should make reading requirements clear, understand their students’ ability, and introduce strategies to facilitate discipline-specific thinking and critical reading of text material. It is important to know that they are not expected to teach students to learn to read, but to read to learn in the disciplines (Richardson, Morgan & Fleener, 2012). Lastly, college reading requires faculty to engage students by using relevant assessments and approaches to enable them to develop their own strategies while reading in the disciplines and become independent readers.

Development of the READ program

Two institutional challenges framed the development of the READ program: (1) a college-wide general education reading assessment, which suggested that over 70% of students were found to struggle with college-level reading, much greater than the national average of 52% (ACT, 2012), and: (2) a university funding opportunity to develop, implement and evaluate student success initiatives to increase pass rates in gateway courses where over 100 students failed in Fall 2011. Our proposal included funding to develop and implement professional development initiatives for faculty to cultivate the skills to enhance students’ reading skills in various disciplines through collaborative effort between reading and content area faculty, disseminate developed curricular materials, provide student stipends for peer led team learning, and assess activities. In Fall 2012, we were awarded funding. From Spring 2013 to Spring 2014, we focused on enhancing student performance in three gateway courses — Biology I (BIO 1101), Essentials of Marketing (MKT 1100), and Electromechanical Manufacturing Laboratory (EMT 1130), all with more than 100 students not successfully completing the course (withdrew or failed) in Fall 2011.

This paper describes the structure and activities of READ. We hypothesized that our students’ low level of college readiness in reading was due to their lack of vocabulary skills and the active reading strategies needed to become effective readers and learners in the disciplines. Instead of engaging in reading-to-learn, struggling
readers often rely on their listening skills in class (Schemo, 2006). Even for students who read their text, many only accumulate facts and memorize correct answers while not able to engage with the text and practice the metacognitive thinking needed. We further hypothesized that effective instruction of active reading strategies and vocabulary skills in the content areas would improve students’ general and discipline-specific reading and thinking skills and enable them to become independent readers, and thereby achieve greater success in their courses. While focusing mainly on delivering content knowledge, instructors across the disciplines often overlook the importance of reading proficiency and do not feel ready to address the challenges students face in reading text material (Hall, 2005; Stewart and O’Brien 1989). It is also common that faculty across the disciplines lack instructional and assessment strategies that scaffold reading assignments to guide students through the reading-to-learn process.

As our college is an open access, public, minority serving institution, we further hypothesized that by incorporating evidence-based practices, such as peer led team learning (PLTL), we would further advance our goal to improve pass rates. With PLTL, more advanced, successful undergraduate students are trained as peer leaders to facilitate small group learning. These peer-led groups meet weekly, separate from the lecture and the instructor. Peer leaders do not provide answers, but instead ask leading questions to promote students working together to solve problems that are structured to help them develop conceptual understanding and problem-solving skills. PLTL has been demonstrated to lead to increased student success, particularly among minority students (Snyder, Sloane, Dunk, & Wiles, 2016).

To test our hypothesis to improve our students’ critical reading skills, disciplinary literacy and academic success, we embed literacy into content instruction to engage students in the reading-to-learn process within the discipline. The effectiveness of this approach relies on the practice that literacy specialists assist content area instructors to identify literary practices unique to their disciplines. As Moje (2008) suggests, “it may be most productive to build disciplinary literacy instructional programs, rather than to merely encourage content teachers to employ literacy teaching practices and strategies” (p. 96). As supported by research over the past decades, disciplinary literacy instruction is crucial to improving literacy skills and knowledge acquisition (Alexander & Jetton, 2000; Alvermann & Moore, 1991; Meltzer, 2002).

Method

READ is a multi-component program in which reading and content area faculty work together to design discipline-specific reading strategies to improve student learning in selected courses. The four program components are faculty development, Peer-Led Team Learning (PLTL), reading assessments, and a READ Open Lab website. The activities involved in the implementation of READ are shown in Table 1.
<table>
<thead>
<tr>
<th>Semester</th>
<th>Faculty Development</th>
<th>Peer-led Team Learning (PLTL)</th>
<th>Open Lab READ site</th>
<th>READ Assessment</th>
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<tbody>
<tr>
<td>Spring 2013</td>
<td>-READ team planning</td>
<td>-Recruitment of peer leaders in BIO 1100, MKT 1100, and EMT 1130</td>
<td>-Development of discipline-specific reading tasks and teaching strategies</td>
<td>-Introductory Workshop: 12 participants from four departments. -College-wide READ workshop: There were 14 participants from eight departments. -Baseline reading assessment in selected BIO 1101, MKT 1100, and EMT 1130 sections -Workshop: 16 participants.</td>
</tr>
<tr>
<td>Summer 2013</td>
<td>-READ faculty workshop for content faculty teaching BIO 1101, MKT 1100, and EMT 1130</td>
<td>-Interviews of peer leaders in BIO 1101, MKT 1100, and EMT 1130</td>
<td>-Setting up READ Open Lab Biology site</td>
<td>-Continuous development of READ Open Lab Biology site -Pre and post-reading strategies implementation-assessments in the areas of comprehension, interpretation, context, and analysis</td>
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<td>Fall 2013</td>
<td>-Reading and content faculty met to discuss implementation, challenges, and modifications of reading strategies and assessment.</td>
<td>-Peer leader training -Embedded PLTL workshops in one section of MKT 1100 (2 peer leaders); and EMT 1130 (3 peer leaders); standalone</td>
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<tr>
<td>Semester</td>
<td>Faculty Development</td>
<td>Peer-led Team Learning (PLTL)</td>
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| Spring 2014    | -READ spring workshop by content area faculty and peer leaders  
                 -Reading and content faculty met to discuss implementation, challenges, and modifications of reading strategies and assessment  
                 -Presentation at the Computer Engineering Technology Dept.  
                 -Peer leader training  
                 -Embedded PLTL workshops in one section of MKT 1100 (3 peer leaders)  
                 and EMT 1130 (2 peer leaders); standalone workshops in one section of BIO 1101 (3 peer leaders)  
                 -Peer leaders’ Conference and poster presentations  
                 -Completion of READ Open Lab Biology site; development of Open Lab EMT site  
                 -Setting up other content area sites to be linked to a central READ site  
                 -Workshop: 10 participants  
                 -Pre and post-reading strategies-assessments in the areas of comprehension, interpretation, context, and analysis  
                 -Survey of textbook readability to inform design and implementation of reading strategies | workshops in one section of BIO 1101 (6 peer leaders) | -Completion of READ Open Lab Biology site; development of Open Lab EMT site  
                 -Setting up other content area sites to be linked to a central READ site  
                 -Workshop: 10 participants  
                 -Pre and post-reading strategies-assessments in the areas of comprehension, interpretation, context, and analysis  
                 -Survey of textbook readability to inform design and implementation of reading strategies | -Presentation at the Teaching Professor Conference and the International Journal of Arts and Sciences Conference by two READ faculty |
The program objectives for Fall 2013 and Spring 2014 were:

1. Equip faculty of Biology I (BIO 1101), Essentials of Marketing (MKT 1100), and Electromechanical Manufacturing Laboratory (EMT 1130) with reading strategies and related teaching-practices
2. Develop content specific assignments and teaching approaches for gateway courses to help students read and learn more effectively
3. Implement READ Peer-Led Team learning (PLTL) student workshops to enhance learning in all three disciplines
4. Evaluate the implementation of strategies—discipline specific reading assessments and teaching approaches in order to make future improvements
5. Conduct a survey to get a better understanding of faculty and students’ impression of the text

Participants and Courses

The READ Team included faculty members from the departments of English (Reading specialists), Biological Sciences, Computer Engineering Technology and Business, an education specialist in peer-led team learning, and the Associate Provost. The initial general education reading assessment was conducted in Spring 2012 by the college’s Office of Assessment and Institutional Research, which also provided technical support for the program’s assessment activities. In Fall 2013, READ participants included six Biology I sections - BIO 1101 (187 students), three Essentials of Marketing sections - MKT 1100 (133 students), and seven Electromechanical Manufacturing Lab sections - EMT 1130 (150 students) READ sections. In spring 2014, there were three BIO 1101 sections (139 students), one MKT 1100 section (34 students), and four EMT 1130 sections (76 students) READ sections. A total of 2 reading faculty members, 13 disciplinary faculty members, and 15 peer leaders participated in the program. Altogether, there were 34 READ sections, and 718 students served by the program during the 2013-2014 academic year. Due to budgetary/staffing limitations, some of the READ sections had no assigned peer leaders.

Faculty Training

To help launch the program, a literacy specialist trained several content area faculty members in reading strategies in Spring 2013. In Summer 2013 and Spring 2014 additional workshops were offered in which the program principal investigator presented on the program background and instructional approaches to promoting active reading, the faculty liaisons gave discipline specific presentations, and the peer leaders presented on their findings and experiences. In addition, during these workshops, faculty worked in interdisciplinary groups to develop assignments that promote active reading.

Discipline-specific Reading Strategies and Approaches

In BIO 1101, several modifications were made to the course. First, the syllabus was modified to include the details of the reading assignments. Lecture slides were
also modified to improve readability and to include details of the reading assignments. Several assignments were developed to ensure that students read the syllabus and to assist with the structure and orientation within the textbook. A detailed reading objective outline was developed for the instructors along with a reading companion for the students. Several assignments were developed to engage students with the reading, some of which were also used as in-class active learning assignments. The assignments were categorized as pre-, during and post-reading assignments (Smyth, 2014). Examples of all these materials are available on the biology Open Lab site (Smyth, 2013).

In EMT 1130, numerous tools and processes were involved in assembling a digital trainer. To help students understand and retain information better, and visualize the steps more clearly, faculty designed feature analysis charts and process maps that were used as pre-lab assignments and assessment tools. These were used repeatedly in varying formats to reinforce learning using the lab manual. Pre-reading assignments were also implemented to relate students’ background knowledge to technical information. Other reading and vocabulary activities were assigned to scaffold assignments and enhance students’ understanding of technical vocabulary and connect concepts and analyze procedures (But, Kwon, & Laboy, 2015).

In MKT 1100, marketing faculty chose to develop a series of engaging case studies for students to read and discuss in class. The selected case studies contextualized the concepts students learned in their lectures and textbooks. Low-stakes writing assignments were also designed to help students identify and analyze marketing strategies in the case studies, based on the lectures and textbook knowledge. Group discussions led by peer leaders also facilitated the application of concepts in real life examples. Students were also asked to define key terms to increase their professional vocabularies.

Open Lab

Open Lab is a web platform at the college previously launched through a Title V grant where faculty, staff and students can post materials and exchange ideas. The first Open Lab site was constructed for Biology (Smyth, 2013), also the most populated with content. It currently boasts 39 users from the City Tech community. An Open Lab site was also constructed for EMT 1130 (Laboy, 2014). Cengage, and the EMT 1130 manual was self-published by some of the faculty. Responses to questions were on a four-point Likert scale: (1) Poor, (2) Fair, (3) Good, and (4) Excellent.

Results and Discussion

Over the Fall 2012 to Spring 2014 period, the READ initiative was established at City Tech. The four components of READ were implemented in stages over each semester (Table 1), resulting in a series of faculty development and training workshops, the training of peer leaders and piloting of PLTL reading workshops, several assessments of reading and an Open Lab website for READ to disseminate findings. Faculty were introduced to strategies and approaches to engage students in their reading. Faculty then developed discipline specific assignments and approaches that
best meet their needs. The activities of READ resulted in faculty and peer leaders trained in reading strategies, the development of discipline specific reading assignments and assessments and the dissemination of our findings both on the web through our Open Lab website and at conferences and meetings. It is notable to mention that the peer leaders also presented on their experiences locally and at national meetings.

The READ initiative had several notable results. Pass rates increased in all three courses in both Fall 2013 and Spring 2014, compared to the non-READ sections in Fall 2011 (baseline data) as is shown in Table 2.

Table 2

<table>
<thead>
<tr>
<th>Fall 2013 and Spring 2014 READ sections and Fall 2011 (non-READ) Grade/Pass Rate Comparison</th>
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<tbody>
<tr>
<td>Fall 2011</td>
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<tr>
<td>-----------</td>
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<tr>
<td>BIO 1101</td>
</tr>
<tr>
<td>EMT 1130</td>
</tr>
<tr>
<td>MKT 1100</td>
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</tbody>
</table>

For MKT 1100 the pass rate (A-D) improvement of READ sections compared to Fall 2011 non-READ sections was 25.4% (Fall 2013) and 8.1% (Spring 2014); the increase in students who achieved “A-C” was 30.1% (Fall 2013) and 10.9% (Spring 2014).

For EMT 1130, the pass rate (A-D) improvement was 24.4% (Fall 2013) and 11.3% (Spring 2014); the increase in students who achieved “A-C” was 16.1% (Fall 2013) and 14.4% (Spring 2014).

For BIO 1101, there was no increase in the percentage of students who achieved “A-D” and “A-C” or better in Fall 2013; the respective increases in students who achieved “A-D” and “A-C” in Spring 2014 were 1% and 6%, respectively. The authors feel that the relatively small increase in pass rate in BIO 1101 could be attributed to the fact that the lab and lecture sections of the course were not linked, and were therefore taught by different instructors. While reading strategies were
implemented in the lecture, PLTL could not be imbedded into the laboratory course and active reading was not reinforced. The final BIO 1101 grade is 60% lecture and 40% lab.

The results of the READ pre- and post-assessments in Fall 2013 for the three courses are shown in Figures 1 to 3.

Figure 1a-d. Results of Fall 2013 pre- and post-reading assessment for students in Computer Engineering Technology (CET). 1a. Assessment of comprehension in CET. 1b. Assessment of context in CET. 1c. Assessment of analysis in CET. 1d. Assessment of interpretation in CET. Seven sections of the EMT 1130 course were assessed with 120 students completing the pre-test and 79 completing the post-test. Total enrollment was 150 students.
Figure 2a-d. Results of Fall 2013 pre- and post-reading assessment for students in Business (MKT). 2a. Assessment of comprehension in MKT. 2b. Assessment of context in MKT. 2c. Assessment of analysis in MKT. 2d. Assessment of interpretation in MKT. Four sections of the MKT 1100 course were assessed with 66 students completing the pre-test and 65 completing the post-test. Total enrollment was 133 students.
Figure 3a-d. Results of Fall 2013 pre- and post-reading assessment for students in Biological Sciences (BIO). 3a. Assessment of comprehension in BIO. 3b. Assessment of context in BIO. 3c. Assessment of analysis in BIO. 3d. Assessment of interpretation in BIO. Four sections of the BIO 1101 course were assessed with 140 students completing the pre-test and 59 completing the post-test. Total enrollment was 186 students.

Since the scopes and learning goals of the three target courses are different, the student populations also vary. EMT 1130 and MKT 1100 are required courses for Electromechanical Engineering Technology (AAS degree) and Computer Engineering Technology (B Tech) and Marketing Management and Sales (AAS degree) and Fashion Marketing (AAS degree) majors, respectively; however, BIO 1101 is a course generally
taken as either an elective general education course for students of all majors or a required course for bioinformatics and health sciences students.

The content of EMT 1130 is highly specialized and the only text used is the lab manual, which was also used in our pre- and post-assessments. Therefore, there was continuity and consistency between both sets of assessment. The assessment results in Fall 2013 demonstrated significant improvement in student reading. The increase in the percentage of students who met the criteria (3 or above) in comprehension, interpretation, analysis, and context ranged from 20 to 30%.

MKT 1100 is a course that requires students to connect content knowledge to real life applications. MKT instructors selected case studies/articles to be used in class from several designated publications, from which we also selected passages for the pre and post-assessments. Even though the articles had different authors, their readability levels were similar and students were somewhat familiar to the structure and language used. The results showed moderate gain in student reading proficiency in the post-assessment. The increase in the percentage of students who met the criteria (3 or above) in comprehension, analysis, and interpretation were 6%, 13%, and 10%. There was no marked improvement in context. Compared to EMT 1130 and MKT 1100, the reading requirements of BIO 1101, which consists of lecture (3 hrs) and lab (3 hrs), are broader and include diverse topics. The text is also conceptually dense and the chapters are longer when compared to those used in the other two courses. Therefore, students typically depend on lectures rather than reading to learn. For the reading assessments, our faculty team used readings that meaningfully contextualize topics that were covered in class. Newspaper articles with a research focus on biology were used. However, the selected articles varied in levels of complexity and requirements of background knowledge because of the nature of the topics and the manners in which the topics were discussed. While both readings in the pre-and post-assessments were college level, the pre-assessment was a factual report written in direct prose, and the post-assessment passage was based on a research report that consisted of complex ideas and arguments and therefore required more sophisticated cognitive skills and the use of context clues to understand general and technical vocabulary words. The assessment results also reflected that students found the post-assessment more challenging, not so much in understanding details and components in the text, as in making inferences and identifying and summarizing the overall main idea. As a result, the post-assessment showed improvement only in analysis, but not in comprehension, interpretation, and context.

The textbook survey results were also intriguing. We note from data presented in Table 3 that BIO 1101 faculty and students in the READ section with peer leaders rated the textbook (from a commercial publisher) most highly, with the lowest rating by non-READ students. This implied that READ students were able to gain more value from the text and thus better appreciated it. The reverse trend is seen in EMT 1130 with EMT faculty and students in the READ section with peer leaders giving the self-published, non-peer reviewed manual the lowest rating. A quick review of the EMT manual revealed typos, misaligned drawings, inaccurate instructions, etc.

...our faculty team used readings that meaningfully contextualize topics that were covered in class.
Faculty and READ students with peer leaders may have been most attuned to the manual’s shortcomings. These errors in the manual have been addressed.

Table 3

<table>
<thead>
<tr>
<th></th>
<th>BIO 1101 Faculty</th>
<th>BIO 1101 students</th>
<th>BIO 1101 students</th>
<th>EMT 1130 Faculty</th>
<th>EMT 1130 students</th>
<th>EMT 1130 students</th>
<th>EMT 1130 students</th>
<th>MKT 1100 Faculty</th>
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<tr>
<td><strong>BIO 1101</strong></td>
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</tr>
<tr>
<td>Faculty</td>
<td>3.19</td>
<td>3.24</td>
<td>2.9</td>
<td>2.57</td>
<td>2.89</td>
<td>2.94</td>
<td>2.99</td>
<td>3.12</td>
</tr>
<tr>
<td>READ with peer leaders</td>
<td>5</td>
<td>30</td>
<td>27</td>
<td>13</td>
<td>5</td>
<td>15</td>
<td>21</td>
<td>10</td>
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<td><strong>EMT 1130</strong></td>
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</tr>
<tr>
<td>Faculty</td>
<td>2.9</td>
<td>3.24</td>
<td>2.9</td>
<td>2.57</td>
<td>2.89</td>
<td>2.94</td>
<td>2.99</td>
<td>3.12</td>
</tr>
<tr>
<td>READ with peer leaders</td>
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<tr>
<td><strong>MKT 1100</strong></td>
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<td></td>
</tr>
<tr>
<td>Faculty</td>
<td>2.7</td>
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<td></td>
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</tbody>
</table>

**Note.** Evaluation rating scale: (1) Poor, (2) Fair, (3) Good, (4) Excellent

As reflected in the faculty workshop feedback survey (see Appendix B), both full-time and part-time faculty participants found our workshop effective and were eager to apply the techniques they learned. From our observation, most of the participants were exposed to active reading strategies for the first time. Some of them also expressed interest in more in-depth discussion specific to their disciplines. This was done in subsequent meetings and collaborative activities throughout the semester.

**Limitations of the Study**

Improvements in grade distribution pre-READ (Fall 2011) to post-READ (Fall 2013 and Spring 2014) were significant evidence of the success of this program. However, a detailed analysis of student characteristics was not made to confirm that these were appropriate comparison groups. It was just assumed that since the institution had not changed markedly, neither had the students.

In order to assess students’ reading proficiency in the target courses, the assessment tools used were not general and standardized, but discipline-specific. This presented a challenge to the faculty team who designed the assessment tools to ensure consistency between text complexities of the passages used and test items in the sets of pre- and post-assessments, although the same rubric was used in the process. While the same instructor rated the pre- and post-reading assessment results, another limitation of this study is that the resources to verify the reliability of the pre- and post-reading assessment tests were not available.

Our initial plan was to embed peer-led team learning in class sessions. However, because of scheduling of CUNY first, the university’s platform for course
scheduling and registration, BIO 1101 lecture and lab sections could not be linked as planned. As a result, different instructors taught lecture and lab sections. This caused difficulties in the implementation of PLTL workshops and grade analysis of the course. We observed that student attendance was not as satisfactory outside the scheduled class time as in embedded PLTL workshops. The lack of a uniform BIO 1101 final exam was another problem we faced in student assessment.

Lastly, another limitation was sampling. There was a relatively low response rate on the textbook survey.

**Conclusions**

The multimodal design of READ provides an interactive teaching and learning environment. Instructors are equipped with active reading strategies and are able to design discipline-specific assignments that make reading necessary and relevant. Students are engaged in active reading in both individual and group settings. Peer led team-reading workshops facilitated by student peer leaders additionally supported students.

The READ Open Lab site has been a useful resource for READ instructors. Populated with reading strategies, sample assignments and activities, the site also serves as a platform for exploring and sharing questions, feedback, and best practices.

Even though reading is an essential part of learning in all disciplines, content area literacy has not been addressed in most content area classrooms. Given that faculty members in the disciplines are generally unfamiliar with the “reading to learn” approach, it took significant effort to recruit faculty participants. The reading faculty team conducted several college-wide workshops to share the importance of content area literacy instruction. Since most of the participating instructors were adjunct faculty, their levels of commitment tended to vary, mainly due to time constraints. The program’s success relied on not only sound reading strategies and teaching approaches, but also faculty involvement and team communication in the implementation process.

Presently, we continue our efforts to enhance our students’ skills in “reading to learn” across the disciplines. We have expanded our focus on improving student reading to include additional disciplines including Architectural Technology, Dental Hygiene, Accounting, and Mathematics Education in 2015-2016.

**Acknowledgments**

The pilot of this initiative was funded by a City University of New York Office of Academic Affairs (CUNY OAA) grant. We are grateful to our colleagues Henry Laboy, Cindy Rodrigo, James Leung, Paul Salisbury and AE Dreyfuss for their participation and contributions to the initiative. We would also like to thank Tammie Cumming and her staff in the Office of Assessment and Institutional Research, Nina Bannett, Sunghoon Jang, Laina Karthikeyan, and Anne Zissu for their support as department chairs, Julia Jordan and her staff in the Faculty Commons, and Katherine Figueroa (Borough of Manhattan Community College) for generously sharing her wisdom and expertise. Finally, we would like to express our appreciation to Provost Bonne August for her continuous support. We would like to acknowledge our peer...
leaders: Shannon Massry, George Cobos, Ayesha Rasool, Loudjina Pierre, Yanna Chen, Hikma Abdulghani, Monika Ciereszko, Andris Pinkhasik, and Adedamola Shomoye.

References


### Appendix A

Reading Assessment Rubric

<table>
<thead>
<tr>
<th>Performance Criteria</th>
<th>Does Not Meet Criterion</th>
<th>Approaching Criterion</th>
<th>Meets Criterion</th>
<th>Surpasses Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehension</td>
<td>Unable to comprehend the main points; lacks vocabulary to summarize the information text/reading communicates</td>
<td>Comprehends some main points and major details; draws basic inferences to purpose of text/reading</td>
<td>Comprehends all main points, details, and able to determine the meaning of vocabulary in context</td>
<td>Comprehends the text fully and able to articulate the meaning</td>
</tr>
<tr>
<td>Context</td>
<td>Unable to apply information from the reading to a broader context either within or outside of the discipline</td>
<td>Struggles to apply information to a broader context, but aware that it is useful and important</td>
<td>Applies information from the reading to a broader context, indicating awareness that it is useful within the discipline</td>
<td>Proficiently applies information to broader contexts, both within and outside of the discipline</td>
</tr>
<tr>
<td>Analysis</td>
<td>Unable to identify the progression of the author’s ideas or argument; unable to evaluate or compare facts, positions and procedures amongst various texts</td>
<td>Identifies at least one idea or argument but does not provide an evaluation; struggles at comparing or contrast information between different sources</td>
<td>Identifies ideas or arguments but does not provide a complete evaluation; demonstrates increasing ability to compare and contrast ideas or arguments to support the understanding as a whole</td>
<td>Demonstrates an ability to evaluate ideas or arguments and an advanced understanding to compare or contrast information within and beyond the text</td>
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<tr>
<td>--------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Interpretation</td>
<td>Unable to identify implied ideas that are not directly stated in the text</td>
<td>Identifies implied ideas but unable to draw meaningful conclusions from the text</td>
<td>Understands inferences and draw meaningful conclusions</td>
<td>Articulates implied meaning and generates critical insights</td>
</tr>
</tbody>
</table>

**Appendix B**

READ Faculty Workshop Feedback Survey (August 2013)

1. Which of the following best describes your position at City Tech?

   Number of Responses: 15

<table>
<thead>
<tr>
<th>Full-time faculty</th>
<th>Part-time faculty</th>
<th>Administrator/Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>20.00%</td>
<td>73.30%</td>
<td>6.70%</td>
</tr>
</tbody>
</table>

2. Please indicate your department/program/area affiliation:

   Number of Responses: 13

   | Biology                      | 6 |
   | Business/Marketing           | 3 |
   | Computer Engineering Technology | 4 |

3. For the following statements, please indicate your level of agreement:

   Number of Responses: 15
<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Moderately Agree</th>
<th>Neutral</th>
<th>Moderately Disagree</th>
<th>Strongly Disagree</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Average</strong></td>
<td>94.1%</td>
<td>5.9%</td>
<td></td>
<td></td>
<td></td>
<td>4.94</td>
</tr>
<tr>
<td>The program/workshop was well organized.</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>100%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.00</td>
</tr>
<tr>
<td>The presenter’s knowledge of the content contributed to my understanding of the material.</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.00</td>
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<tr>
<td></td>
<td>100.00%</td>
<td></td>
<td></td>
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<tr>
<td>The presenter’s ability to communicate to my understanding of the material.</td>
<td>14</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>4.98</td>
</tr>
<tr>
<td></td>
<td>100.00%</td>
<td>6.7%</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>The program/workshop content was consistent with the description of the announcement.</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.00</td>
</tr>
<tr>
<td></td>
<td>100.00%</td>
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<td></td>
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<tr>
<td>The material presented was useful for my professional development.</td>
<td>14</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>4.98</td>
</tr>
<tr>
<td></td>
<td>93.00%</td>
<td>6.7%</td>
<td></td>
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</tr>
<tr>
<td>In general, I was satisfied with the content of the program/workshop.</td>
<td>14</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>4.98</td>
</tr>
<tr>
<td></td>
<td>93.30%</td>
<td>6.7%</td>
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<tr>
<td></td>
<td>12</td>
<td>3</td>
<td></td>
<td>4.80</td>
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<tr>
<td>The program/workshop</td>
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<tr>
<td>met or exceeded my</td>
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<tr>
<td>expectations.</td>
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<tr>
<td>80.00%</td>
<td></td>
<td>20.00%</td>
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<thead>
<tr>
<th></th>
<th>14</th>
<th>1</th>
<th></th>
<th>4.98</th>
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<tbody>
<tr>
<td>I would recommend this</td>
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<tr>
<td>or other similar</td>
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<tr>
<td>programs to my</td>
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</tr>
<tr>
<td>colleagues.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>93.30%</td>
<td></td>
<td>6.7%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Juanita C. But is Associate Professor of English and Reading Coordinator at New York City College of Technology/City University of New York, where she teaches literature, writing, and developmental reading. She has been the principal investigator of Reading Effectively Across the Disciplines (READ) since the program’s inception in 2013. She also served in the Research and Assessment Committee of the CUNY Reading Discipline Council and the CUNY Reading Assessment Panel. She received her PhD in Comparative Literature from the State University of New York at Buffalo. In addition to reading and disciplinary literacy, her research interests and publications focus on New York City and diasporic literature. She has been a volunteer leader and coordinator in a literacy program in Manhattan for over ten years.

Pamela Brown is Associate Provost at New York City College of Technology/City University of New York, where she previously served six years as the Dean of the School of Arts & Sciences. She is a faculty member in the Chemistry Department. The Emerging Scholars Program, an undergraduate research program founded under her leadership. She recently served on the National Research Council of the National Academy of Sciences Committee. She also served as a Program Director in the Division of Undergraduate Education at the National Science Foundation. Her work has focused on creating initiatives to improve the retention and recruitment of students interested in careers in STEM fields. She was the principal investigator of an NSF grant, “Metropolitan Mentors: (MMNet): Growing an Urban STEM Talent Pool across New York City,” She has a PhD in chemical engineering from Polytechnic University (now NYU Tandon School of Engineering) and an SM in Chemical Engineering Practice from the Massachusetts Institute of Technology (MIT).

Davida S. Smyth is an Associate Professor of Natural Sciences at Mercy College, Dobbs Ferry, where she teaches Environmental Science, Microbiology, Genetics and Introductory Biology. She has been the program coordinator for the Biomedical Informatics Program at New York City College of Technology and is currently an instructor of Bioinformatics at NYU Tandon School of Engineering. She did her Bachelors and PhD, both in Microbiology at the University of Dublin, Trinity College in Ireland and her postdoctoral training at New York Medical College, the University of Mississippi Medical Centre and New York University, where she maintains assistant research scientist status in the Skirball Institute of NYU Langone Medical Center. Her research focuses on the role of mobile DNA, biofilm production and antibiotic resistance in clinical and environmental strains of Staphylococci. In Spring 2016, she was elected a SENCER Leadership Fellow for her work to improve the biology undergraduate curriculum especially in the area of student reading skills in STEM disciplines, peer led team learning in Biology and incorporating undergraduate research experiences.
Futurology in the College Classroom

Skylar Davidson, MA
PhD Candidate, Department of Sociology
University of Massachusetts Amherst

There is little research on teaching futurology, which is surprising, given that instructors with a future-oriented perspective can encourage students to express constructive hope about controversial problems (e.g., climate change) rather than denying problems (Ojala, 2015). This study evaluates what learning outcomes can be accomplished through three different future-oriented in-class group activities: a future-oriented discussion, a future-oriented roleplay activity, and a backcasting activity. Analysis of student feedback suggests that these three activities encourage similar levels of student interest, understanding, and productive discussion while helping students practice both general college skills and skills specifically related to futurology. The main strength of future-oriented discussion is general understanding of both a topic and one’s own perspective on it; of future-oriented roleplay, debate and emotional engagement; and of backcasting, evaluation of different potential futures and a sense of ownership over the future.

Futurology is the process of forecasting or designing the future (Serra Del Pino, 1998), and futurology encompasses the short-range, mid-range, and long-range future. There is little research on teaching futurology, which is surprising, given that instructors with a future-oriented perspective can encourage students to express constructive hope about controversial social problems (e.g., climate change) rather than denying problems (Ojala, 2015). Future-oriented education is important for all instructors, not only those in the discipline of futurology, because it helps everyone learn how to live in a complex and rapidly changing society (Masini, 2011). Helping students develop a future-oriented perspective allows them to manage the uncertainty of the future logically, not only in academic settings but also in work and in everyday life (Masini, 2011). There are different ways to incorporate futurology into college classes, and because these methods require students’ active participation during class, they further the active learning approach that has been demonstrated to benefit students more than traditional lecture-based classes (Eglitis, Buntman, & Alexander, 2016; Roehl, Reddy, & Shannon, 2013).

By explaining three different kinds of futurology activities—future-oriented discussion, future-oriented roleplay, and backcasting—and with the evaluation of the learning outcomes these activities can accomplish, my study responds to the need to evaluate how instructors can enhance student engagement during active learning (Witkowski & Cornell, 2015) and contributes to instructors’ understanding of how to effectively incorporate futurology into postsecondary education. The structure of my article is as follows: background information on active learning activities; an overview of my study method, as well as detailed descriptions of the three activities I studied; and a discussion of the results of the study.
Background

One method of incorporating futurology into college classes is discussion. Modern students sometimes report that discussion is more valuable to them than lecture in that it helps them pay attention more easily, it helps them feel accountable for logical thinking, and it allows them to hear diverse viewpoints (Roehling, Kooi, Dykema, Quisenberry, & Vandlen, 2010). Class discussion can spark interest in a subject, and it can create a space to dispel misconceptions about course content as long as the facilitator provides an environment of openness and respect (Tran, Weigel, & Richmond, 2014). Therefore, a future-oriented discussion can encourage students' interest in considering diverse future trajectories and evaluating them logically.

Discussion has been shown to increase the likelihood that students come up with valid answers to questions even if no one in a discussion group knew the answer at the beginning of the discussion (Smith et al., 2009). In other words, students who do not know an answer can engage in productive discussion to find an answer through talking through problems logically (Smith et al., 2009). Following from this, discussion is particularly useful when engaging with futurology in a class, because no one knows the future, but people can collectively build reasonable suggestions for future actions.

Some other methods of incorporating futurology into college teaching are future-oriented roleplay and backcasting (determining a desirable future situation at a particular point in the future and working backward to think about what would need to happen between the present and the stated future time in order for that future situation to come about). While a major strength of discussion is its ability to encourage reflection (Roehling et al., 2010), roleplaying and backcasting are more solution-oriented; they provide the ability for a clear conclusion through a vote (in a roleplay) or a plan of action (in a backcasting activity).

Though much prior research on roleplay has focused on current events or historical events (e.g., Carnes, 2014; Simpson & Elias, 2011), roleplay can also be future-oriented. Educational theorists throughout the centuries have used roleplay as a method of encouraging students to engage with scholarly texts and complex ideas (Carnes, 2014). In college, professors sometimes treat roleplay skeptically, as if it were only entertainment (Carnes, 2014; Favila, 2015); however, evidence-based studies of roleplay have generally found it to improve students’ communication skills and understanding of course content (Carnes, 2014; Lightcap, 2009).

College-level roleplay can range in scope from small activities that make up part of a single class period to large-scale games spanning several weeks, such as Reacting to the Past, a type of roleplay in which students take on the roles of historical figures during particular turning points in history such as the French Revolution and engage in reading, debating, and strategizing both in and out of class (Carnes, 2014). Regardless of scope, roleplay activities often help students engage with course material and with each other. Roleplay can increase students’ emotional engagement, as demonstrated with students in Reacting to the Past classes reporting excitement, eagerness to attend class, and understanding of the feelings that accompanied historical events (Carnes, 2014; Houle, 2006). Thinking of potential future problems such as war, racism, and environmental degradation often elicits emotional reactions from students, both positive and negative, as they think about the need to solve these
problems; instructors can use roleplay to help students manage emotions constructively (Lloyd & Wallace, 2004; Miller, 2014). Effective college-level roleplay encourages students to feel as if their range of thought has been expanded rather than artificially limited by the range specified in the activity guidelines (Ching, 2014; Simpson & Elias, 2011).

Backcasting is another futurology technique that can be used in college classes. Backcasting helps students develop essential skills for understanding complex problems, including determining the size of social change necessary to solve a problem, relating the problem under investigation to other problems, and thinking of multiple different potential future trajectories (Quist, Rammelt, Overschie, & de Werk, 2006). Proponents of backcasting have emphasized how it encourages people to think of the future as something they can shape in a positive direction (Ojala, 2015; Serra Del Pino, 1998). To be maximally beneficial, scholars have stressed that backcasting must allow students the opportunity to express radical viewpoints (Biel, 2014; Ching, 2014; Simpson & Elias, 2011).

Since teaching methods involving less active student involvement sometimes leave students without essential critical thinking and leadership skills for life after college (Arum & Roksa, 2010; Carnes, 2014), it is important to investigate active learning activities further in order to improve their usefulness in terms of increasing students’ engagement with challenging material and themes. All three of the aforementioned activities—future-oriented discussion, future-oriented roleplay, and backcasting—have the potential to engage students actively such that they have the opportunity to practice valuable skills and achieve critical learning outcomes. To briefly summarize, future-oriented discussion as an activity is typically more open-ended. In contrast, both backcasting and roleplay are solution-oriented activities, but their intentions differ. In general, a major feature of backcasting is that it initiates student understanding of the multiple potential ways the future could play out (Quist et al., 2006). A major feature of roleplay is that it encourages students to actively engage with each other. Thus, although both backcasting and roleplay can be future-oriented, they can serve different purposes in college classes and support different learning outcomes.

Study Objective and Hypotheses

In this study, the overall objective was to see how student experiences with future-oriented roleplay and backcasting—two solution-oriented futurology activities—compared to a discussion about the future that was less structured and less focused on a solution. I hypothesized based on prior research on these activities that both a future-oriented roleplaying activity and a backcasting activity would encourage more student interest, student participation, and student understanding than a class discussion. I also further hypothesized, based on prior evidence of the emotional and interpersonal nature of roleplay, that a future-oriented roleplaying activity would encourage more student interest and student participation than a backcasting activity or a discussion.
Method

This study was conducted at a large, rural, public university in the United States with approximately 23,000 undergraduates. In compliance with the university’s guidelines regarding classroom research, all the study materials were reviewed and approved by the Institutional Review Board (IRB) prior to the implementation of the study. Data were collected in a sociology class, *Race and Society*, which had 31 enrolled students. Sample sizes for each activity below range from 25 to 27 due to student absence on the day of the activity or non-consent on the survey. Most students in the class were upper-level students, and most were not sociology majors (though most were social science majors). Presumably some of the non-majors took the class to fulfill general education credit. This class met for 50 minutes per session, three days a week.

Three different in-class activities were selected for the focus of this study: (a) a future-oriented discussion, (b) a future-oriented roleplay activity, and (c) a backcasting activity. These activities took place during different class sessions, which involved distinct course topics. All three activities involved approximately 40 minutes of student engagement. During the final 10 minutes of the period, I left the classroom and a representative from the Instructor Support Center distributed and collected surveys, to ensure the anonymity of the data collection process. Each survey had the same format, and they were completely anonymous (no names or other identifying information were collected on the forms). The surveys had four parts.

1. A list of learning outcomes that students could circle if they had practiced that outcome during the activity. Descriptive statistics from this list are in Table 1.

Table 1

*Student Perceptions of Skills, Activities, and Concepts Practiced with Discussion, Backcasting, and Roleplay, in percentages*

<table>
<thead>
<tr>
<th></th>
<th>Discussion N = 25</th>
<th>Backcasting N = 27</th>
<th>Roleplay N = 26</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding general information about (topic)</td>
<td>96%</td>
<td>67%</td>
<td>69%</td>
</tr>
<tr>
<td>Understanding the complexity of (topic)</td>
<td>60%</td>
<td>44%</td>
<td>65%</td>
</tr>
<tr>
<td>Understanding different potential future trajectories related to (topic)</td>
<td>44%</td>
<td>78%</td>
<td>54%</td>
</tr>
<tr>
<td>Public speaking and related preparation</td>
<td>28%</td>
<td>59%</td>
<td>50%</td>
</tr>
<tr>
<td>Writing (brainstorming/notes)</td>
<td>76%</td>
<td>70%</td>
<td>69%</td>
</tr>
<tr>
<td>Writing (more polished)</td>
<td>12%</td>
<td>4%</td>
<td>15%</td>
</tr>
<tr>
<td>Finding common ground with other people</td>
<td>56%</td>
<td>52%</td>
<td>69%</td>
</tr>
<tr>
<td>Debating</td>
<td>12%</td>
<td>41%</td>
<td>65%</td>
</tr>
</tbody>
</table>
Table 1 Continued

<table>
<thead>
<tr>
<th></th>
<th>Discussion N = 25</th>
<th>Backcasting N = 27</th>
<th>Roleplay N = 26</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questioning “common sense”</td>
<td>20%</td>
<td>26%</td>
<td>27%</td>
</tr>
<tr>
<td>Listening to others</td>
<td>88%</td>
<td>78%</td>
<td>81%</td>
</tr>
<tr>
<td>Clarifying your own point of view</td>
<td>60%</td>
<td>52%</td>
<td>42%</td>
</tr>
<tr>
<td>about (topic)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managing emotions constructively</td>
<td>20%</td>
<td>30%</td>
<td>38%</td>
</tr>
<tr>
<td>Feeling as if your generation can</td>
<td>32%</td>
<td>63%</td>
<td>31%</td>
</tr>
<tr>
<td>shape the future positively</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using specific evidence to support</td>
<td>56%</td>
<td>59%</td>
<td>58%</td>
</tr>
<tr>
<td>a conclusion</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Several Likert questions regarding student interest and engagement. Descriptive statistics from these questions are in Table 2.

Table 2

**Average Survey Responses to Likert Questions**

<table>
<thead>
<tr>
<th>Question</th>
<th>Discussion N = 25</th>
<th>Backcasting N = 27</th>
<th>Roleplay N = 26</th>
</tr>
</thead>
<tbody>
<tr>
<td>What was your level of interest in (topic) before today’s (activity)? [very low, low, moderate, high, very high]</td>
<td>2.20 (1.12)</td>
<td>2.00 (0.68)</td>
<td>2.35 (0.89)</td>
</tr>
<tr>
<td>What was your level of interest in (topic) after today’s (activity)? [very low, low, moderate, high, very high]</td>
<td>2.96 (0.79)</td>
<td>2.63 (0.69)</td>
<td>2.65 (0.80)</td>
</tr>
<tr>
<td>Pre-post change in interest</td>
<td>0.76 (0.88)</td>
<td>0.63 (0.69)</td>
<td>0.31 (0.47)</td>
</tr>
<tr>
<td>To what extent was your group discussion during this (activity) specific and on topic? [not at all, a little, somewhat, significantly, extremely]</td>
<td>2.88 (0.60)</td>
<td>3.10 (0.89)</td>
<td>2.92 (0.84)</td>
</tr>
<tr>
<td>How much did this (activity) increase your understanding of (topic)? [not at all, a little, somewhat, significantly, extremely]</td>
<td>2.40 (0.96)</td>
<td>2.15 (0.99)</td>
<td>2.19 (0.94)</td>
</tr>
</tbody>
</table>

**Note.** Likert scale was from 0 (very low / not at all) to 4 (very high / extremely). Numbers in parentheses are standard deviations.

3. Two questions that allowed for open-ended written responses. “What, if anything, do you think could have changed about this (activity) that would have made it a more effective learning experience for you?” and “Is there anything else you would like to share about your experience with the (activity) today?”

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4. Instead of a consent form, there was a question at the end of the survey that allowed students to mark yes or no to the question of whether their anonymous responses could be used in a published paper or presentation.

Explanation of the Selected Futurology Activities

Futurology activities respond to Goggin’s (2012) call for active learning opportunities that transition students from being knowledge consumers to knowledge creators. These activities are all feasible in many types of science, social science, or humanities courses with a small to medium number of students, so other instructors could easily adapt the structure to other topics and to other types of courses (introductory or upper-level). Regarding technical math, science, and professional fields, backcasting has been used extensively in sustainability fields (e.g., Ojala, 2015; Quist et al., 2006) and thus can be applied to other technical fields that require project planning.

Descriptions of how the three activities were conducted in the study follow. Futurology classroom activities are tools to be used for instructors’ particular pedagogical needs; thus the reason for sharing these descriptions is not to imply that other instructors must or should use these tools as laid out in this study, but instead to give instructors ideas for how to get started using these exercises for their own purposes. The descriptions also provide sufficient background information with which readers can understand the student feedback on these activities that is presented in this study. Instructors can modify these activities to fit the time frame they have available, the topic they are covering, the extent to which they would like to emphasize small-group work or presentation to a large group, or other factors.

Future-Oriented Discussion

For the discussion, I began by giving an overview of intersectionality, a social science theory of how different social identities (race, gender, social class, etc.) are interconnected. Students had already read and written about this topic for their homework assignment, but this was their first exposure to this theory in the course, so my introductory commentary was necessary to reinforce important themes. I then introduced a short video of a speaker discussing the future of intersectionality (using intersectionality as a strategy for activism). I told the students to focus on how the speaker used intersectionality rather than on their viewpoint on the types of activism featured (e.g., Muslim activism, LGBT activism). The purpose of this video was to give a specific example of how intersectionality can be used to think about mitigating future problems. After the video, students worked in small groups (approximately three people) to reflect orally and in writing on how the speaker used intersectionality and then on how intersectionality can be used to evaluate the future of a modern social problem they are interested in. In order to help students who were new to the topic develop a stronger understanding of this topic, in this discussion, students covered intersectionality in this broad, general way rather than providing specific solutions. After about 10 minutes of group freewriting, the groups spent the next 15 minutes presenting their views to the whole class.
Future-Oriented Roleplay

For the roleplay activity, the topic was the future of racially segregated neighborhoods. The class was split into four groups: the Republican Party, Democratic Party, Libertarian party, and Green Party. Students were already familiar with these four American political parties’ beliefs from the previous class activity, in which students had been randomly assigned to one of these four viewpoints for a different exercise. In the roleplay activity, students kept the affiliation they had been assigned during this prior activity. In contrast to the intersectionality discussion, which was students’ first exposure to the topic during a class session, the fact that students already had some prior exposure to this topic in a previous class session meant that they were prepared to participate in this solution-oriented, future-oriented roleplay about this topic.

Due to random chance, the Republican Party had 10 students; the Democratic Party, 5; the Libertarian Party, 8; and the Green Party, 5. Uneven numbers are more reflective of real political debate than assigning an equal number of people to each category. In this roleplay, students responded as a party to the question of how to increase investment in racially segregated neighborhoods. I gave an overview of how the roleplay would be set up, then handed a worksheet to each group with those same instructions as a reminder.

Each group was given about 12 minutes to pick a primary speaker and primary notetaker, and then brainstorm both orally and in writing about what kind of legislation their party would support. For the purposes of this roleplay, statements of legislation were a few sentences long and focused on basic ideas about what students wanted the government to do or not do. Then the primary speaker from each party stated their main point of view in one to two minutes; I asked each party one or two clarification questions as they did this. Students expressed the expected viewpoints based on current ideological standpoints known to each party with the only exception being the Libertarians, who were left-leaning. I then constructed an example of “compromise” legislation that included the one idea for legislation all groups indicated support for in their initial statements as well as the one idea for legislation each group thought was most important (which I asked for explicitly). Groups were given a few minutes to speak among themselves, both within their party and to other parties in an attempt to persuade them, and then a vote was taken, in which the Greens, Libertarians, and Democrats voted yes and the Republicans voted no (i.e., the compromise legislation passed).

Backcasting

I began this activity by explaining backcasting to the students. They were informed that for the purposes of this activity, everyone would be thinking of the mid-range future (2030-2050), though backcasting can be used for other time frames as well. The students had read and written on race and transhumanism already in two homework assignments. Again, similar to the future-oriented roleplay, this activity was able to be more solution-oriented because of students’ level of prior experience with the topic. I shared with the class what the four main themes people had written about in their homework were and then had them separate into four groups based on
what theme they wanted to focus on in this activity. I broke up a large group of 12 people into two smaller groups. I handed a worksheet to each group with three steps:

1. Determine a desired future occurrence at a particular year in the future.
2. Work backward to determine what would need to happen between now and that year in order for the occurrence you indicated in Step 1 to come about.
3. Suggest things that could be done in the near future to encourage your desired future outcome.

The students had about 25 minutes to work, and I walked around the room to see how students were doing and answer questions. With the last 10 minutes of the activity, each group stated their desired future outcome and summarized their evaluation of necessary steps to achieve it in one to two minutes.

**Results and Discussion**

A summary of student perceptions of skills, activities, and concepts practiced with the three selected activities can be found in Table 1. Means and standard deviations of student responses to Likert questions about interest, on topic discussion, and understanding can be found in Table 2. The paragraphs that follow highlight key findings and themes that emerged from student responses in the surveys that were administered following each of the three activities.

There was considerable variation among the three activities in some of the key learning outcomes. While about two-thirds of students in the future-oriented roleplay and backcasting activity indicated that they learned general information about the day’s topic, almost all (96%) indicated they did so in the future-oriented discussion. This pattern makes sense because the discussion was more general in nature, while the future-oriented roleplay and backcasting activity were more specific and focused on building solutions to known issues. More students (60% versus 42%) felt as if discussion helped them clarify their own viewpoint on a topic compared to future-oriented roleplay, which also makes sense, because students were assigned to a viewpoint in the roleplay and were allowed to more freely discuss their own personal views in the discussion activity.

After engaging in the future-oriented roleplay activity, a greater number of students reported that they learned to manage emotions constructively compared to after the discussion (38% versus 20%), which is consistent with the literature (Carnes, 2014; Houle, 2006). In addition, students reported that future-oriented roleplay led to the most debating, which is the primary intent of that activity.

Backcasting was the strongest activity for helping students understand multiple different future trajectories, with 78% reporting so, in contrast to 44% for future-oriented discussion and 54% for future-oriented roleplay. In addition, backcasting encouraged students to feel to the greatest degree (63%) as if their generation could positively shape the future, which was approximately double that of
either future-oriented discussion or roleplay. Students expressed intrigue over how futurology can be used to inform action about social issues they care about. As one student wrote, “I never thought about the idea of backcasting, and I think it [is] helpful in potentially solving problems in the future.”

Surprisingly, and in contrast to prior research on backcasting (Quist et al., 2006), only 45% of students in the backcasting activity indicated that they learned about the complexity of the topic, in contrast to about two-thirds of students in the other two activities. Perhaps, as Biel (2014) suggested, the activity did not incorporate enough opportunities to think about radical social or technological change within the next few decades. Students acknowledged the complexity of building ideas and solutions for the future. As one student commented in the backcasting survey, it is difficult to be “specific about including 'future' technology” in an argument.

Another surprising finding was that students’ ability to practice public speaking and related preparation in backcasting (59%) and future-oriented roleplay (50%) was approximately double that of discussion (28%). This may have been due to students’ interpretation of the question, because I explicitly stated at the beginning of the class period during the backcasting and roleplay that small groups would do presentations of their main viewpoints at the end of the period, while I spontaneously decided to have them do so at the end of the discussion period (though the total amount of time for small-group discussion and for presentation was approximately the same among the three activities). Though speculative, it is worth noting that a subtle difference in activity instructions may in part explain the differences students reported in the extent to which they practiced this skill.

Some noteworthy themes also emerged from the open-ended student comments on the three surveys. For instance, four students in the survey about the future-oriented discussion indicated that they would have liked more time for discussion, while only one said so in the survey about backcasting, and none said so in the survey about future-oriented roleplay. Corroborating Roehling et al.’s (2010) point that discussion serves as an opportunity for reflection on diverse ideas, the current study shows that future-oriented discussions are broader than solution-oriented futurology activities. These three activities have different strengths; future-oriented discussion can encourage broad thinking, while future-oriented roleplay and backcasting can provide a sense of closure through ending with a vote (in a future-oriented roleplay) or a plan (in a backcasting activity). In classes that have short periods, it may be preferable to limit the number of discussion questions or allow for discussions to span multiple sessions. Large-group discussion in a circle may also contribute to student success and engagement through allowing students to see and hear each other more easily (Wannarka & Ruhl, 2008). Three students indicated in the comments that they would have liked to incorporate this structure into the future-oriented discussion, and four said they would have liked to incorporate this structure into the future-oriented roleplay.

Many students reported enthusiasm about having a chance to speak to others in class; and, in the case of the future-oriented roleplay and backcasting, where I had students move around the room, they indicated enthusiasm about meeting new people.
But group work is not without its problems. One student who did not mark that they learned any of the learning objectives in the backcasting survey explained in the comments, “I was in a very unmotivated group; when doing group work, your learning depends a lot on the participation of the other group members!” Also, because of this university’s location, there is much homogeneity of students’ sociopolitical viewpoints, with many having center-left or liberal political viewpoints. As such, liberal viewpoints dominated all three activities, and some students holding other viewpoints may have felt as if their thoughts were ignored. For example, as one student wrote in the backcasting survey, “In my [group, who discussed] eugenics, we had a lot of groupthink. But the whole issue on [government] spending is a deeper topic that needs to be exposed.” Similarly, some students may have wanted more viewpoints to be represented for the sake of argument; as one student wrote in the roleplay survey, “I would have [liked to have] more polarization of political parties.”

Instructors who use futurology activities must be creative in order to make activities illustrative of various potential futures. Students in homogeneous classes could be assigned to argue unpopular viewpoints or even assigned to be argumentative or polarized.

Finally, it is worth pointing out that some outcomes did not differ among all three activities. Responses to the Likert scales indicated approximately equal interest in the topics before the activities and approximately equal increases in interest after the activities. Students also reported approximately equal amounts of specific and on-topic discussion, as well as approximately equal increases in understanding of the topics after the activities. Moreover, standard deviations for the Likert measurements ranged from .47 to 1.12, indicating that there was low variability in the Likert responses (i.e., most students responses fell within a point above or below the reported mean). Regarding learning goals, students reported practicing writing, questioning “common sense,” listening to others, and using specific evidence to support a conclusion approximately the same amount in all three activities.

Conclusion

It is valuable for instructors in all disciplines to incorporate futurology into their courses. When students think about the global context, they often worry about negative outcomes (Masini, 2011); futurology activities can help students feel constructive hope through providing an opportunity to counteract worries logically (Ojala, 2015). The three futurology activities included in this study serve different purposes, while achieving similar levels of student engagement and interest. The main

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1 Idiosyncratic characteristics may have contributed to some of the motivation or engagement issues noted by some students. I conducted the future-oriented discussion and backcasting during early September, when the non-air-conditioned classroom was warm and humid. In addition, there was also construction and/or yard work occurring outdoors near the classroom during all three activities, and all days the windows were open to allow for air. Any or all of these environmental factors could have contributed to the distraction and disengagement of some students during class.
strength of future-oriented discussion is general understanding of both a topic and one’s own perspective on it; of future-oriented roleplay, debate and emotional engagement; and of backcasting, evaluation of different potential futures and a sense of ownership over the future. Instructors must evaluate what their desired learning outcomes are before choosing between futurology activities for their class.

Acknowledgments

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References


Skylar Davidson received an MA in sociology from the University of Massachusetts Amherst in 2016 and is currently completing the PhD program in sociology at that same institution. Skylar has conducted research on incorporating futurology into college teaching in conjunction with the Center for the Integration of Research, Teaching, and Learning (CIRTL) at the University of Massachusetts Amherst.
Making it All Count: A Cross-Disciplinary Collaboration Model Incorporating Scholarship, Creative Activity, and Student Engagement

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Assistant Professor, Department of Communication Studies and Theatre
South Dakota State University

This study takes a grounded theory approach as a basis for a case study examining a cross-disciplinary artistic and academic collaborative project involving faculty from the areas of English, music, dance, theatre, design, and visual journalism resulting in the creation of research, scholarly, and creative activity that fosters student engagement with feedback, reflection, and mentorship. An emergent conceptual model of artistic and academic collaboration was developed featuring a combination of collaborative partnership, creative process, and product dissemination with feedback and reflection leading to greater collaborative partnership as well as a new community of practice for cross-disciplinary collaboration.

One of the challenges academics face is balancing the demands of teaching, scholarship, and service, as those aspects are often isolated from each other. As scholarship must be peer-reviewed and disseminated, the work that goes into it is only recognized if it finds an audience. A faculty member could spend months or even years on a project that does not meet these criteria. Further, teaching and service often have little interaction with scholarly or creative endeavors, especially to faculty teaching general humanities-based courses to large sections.

One response to this challenge is to integrate the roles of teaching, scholarship, and service. As stated by Dr. Kenneth P. Ruscio (2013), President of Washington and Lee University, “The dash between teacher and scholar is meant to be a link, not a line of demarcation” (p. 27). This is one of the reasons why the Scholarship of Teaching and Learning (SoTL) exists: to better integrate the duties of academics in those disciplines that do not have a clear link between teaching and scholarly or creative work (Huber, 2004).

Collaboration among academics and artists is not uncommon (Blom, Bennett, & Wright, 2011; Neuschäfer, 2008). The synergy created by collaboration can facilitate stronger works by calling upon the unique skills and knowledge of all involved. Such synergy can come from collaboration across disciplines; however, such collaboration is less common in the arts and humanities than in the sciences. Including approaches from the artistic community creates a form of collaboration that brings together a variety of academics and artists. Such a unique collaboration would bring with it unique challenges, so it is worth exploring ways to satisfy the goals of all involved.

This study takes a grounded theory approach (Charmaz, 2003; Geertz, 1973; Strauss & Corbin, 1998) as the basis for a case study examining a cross-disciplinary artistic and academic collaborative project involving faculty from the areas of English,
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music, dance, theatre, design, and visual journalism at South Dakota State University (SDSU) in Brookings, South Dakota. SDSU is a four-year public upper Midwest land grant university with a student population of approximately 12,500 and a basic Carnegie classification of a doctoral university with higher research activity and undergraduate instructional programs featuring professions plus arts and sciences. The Harvey Dunn Feminine Images Collaborative Project created research, scholarly, and creative activity to benefit all involved disciplines while fostering student engagement with feedback, reflection, and mentorship. Through examining their process, the collaborators developed models featuring artistic and academic as well as student and faculty collaboration. The artistic project initially developed from an idea among humanities faculty to feature the work of a well-known American painter Harvey Dunn (1934), whose work was displayed on campus at the South Dakota Art Museum.

The project began in 2009, with the first step being a series of poems inspired by the artist’s work composed by SDSU English Lecturer Darla Bielfeldt, who then sought out collaboration with SDSU Dance Coordinator and Assistant Professor Melissa Hauschild-Mork and SDSU Music Associate Professor Aaron Ragsdale to create performance work to complement the poetry and paintings. Graphic Design Professor Cable Hardin and Journalism and Mass Communication Professor Rocky Dailey were then brought in to develop visual arts to go along with the other elements. The complete collaborative project was presented as a multi-dimensional performance with further collaboration from SDSU Theatre Professors Billy Wilburn, Corey Shelsta, and Lynn Verschoor of the South Dakota Art Museum as well as the SDSU Yeager Media Center (Hauschild-Mork, Bielfeldt, Ragsdale, Dailey, & Hardin, 2015). Related projects include a video production featuring the performance and a documentary focusing on the collaborative process.

The goals of this collaborative project included contributing to the lifelong development of engaged student collaborators by fostering opportunities to work collaboratively with faculty mentors to encourage cross-disciplinary artistic endeavors as well as the professional, scholarly, and creative growth of collaborating faculty by facilitating creativity and artistic excellence among collaborators, which creates opportunities for ongoing research and presentations.

Through this project, an emergent conceptual model of artistic and academic collaboration was developed. This featured a combination of collaborative partnership, creative process, and product dissemination with informed feedback and reflection. This combination then leads to another level of collaboration, starting the model cycle over again while building towards further creative and scholarly work. This leads to the development of a new community of practice for cross-disciplinary collaboration and opportunities in teaching and learning by fostering student engagement with feedback, reflection, and mentorship towards producing a product that relates to experiential teaching and learning as well as research in student engagement.

The complete collaborative project was presented as a multi-dimensional performance...
Literature Review

Collaboration defined. The first step in creating a collaboration model is to define what collaboration is. In a review of collaboration literature, Patel, Pettit, and Wilson (2012) define collaboration as involving two or more people engaged in interaction with each other, within a single episode or series of episodes, working towards common goals. In another analysis of collaboration research, Mattessich and Monsey (1992) define collaboration as a more rigorous type of cooperation and coordination, with relationships being more formal and compatible with each collaborator having authority over their particular contribution to the whole. This relates well to work by artist Francois Deck (2004), who developed the idea of competence-crossing, meaning the individual artist or contributor keeps their artistic autonomy while still contributing to the whole.

Collaboration and the academic. French anthropologist Claude Lévi-Strauss (1973) discussed one aspect of artistic collaboration as being founded upon mutual interest. The interest for humanities faculty lies both in the area of creating peer-reviewed and disseminated scholarly and creative work and also to meet their own artistic aspirations. Research by Landry, Traore, and Godin (1996) indicates that collaboration among academics may increase productivity even across disciplines and should be encouraged at all levels. A review of the literature by Alberto and Herth (2009) suggests that the roles of research, scholarship, and service can be mutually supported through effective collaboration among academics.

Work by Burbank and Kauchak (2003) promotes the idea of collaborative action research, which combines groups of teachers in the design, implementation, and evaluation of action research projects as a mechanism for professional development. While action research is research that is either developed to solve an immediate problem or as a way to develop a community of practice, it illustrates the potential collaboration has to create works that provide professional development opportunities for those involved. This connects to the scholarship of teaching and learning by working to develop a new pedagogy through a community of practice by incorporating both self-evaluation and reflection on the effectiveness of educational design and implementation.

Models of collaboration. Collaboration can take many forms. In terms of collaboration models, the bulk of published research revolves around the development of systems and technology to support collaboration. One such model that has been used in the development of software designed to improve collaboration is the 3C model by Ellis, Gibbs, and Rein (1991). This model (Figure 1) has been used and adapted frequently as a way to classify collaborative systems, as done by Borghoff and Schlichter (2000) as well as Fuks, Rapaso, Gerosa, and Lucena (2005).
Research dealing specifically with creative collaboration across disciplines by Mamykina, Candy, and Edmonds (2002) defined collaboration as consisting of creative conceptualization, realization or implementation, and evaluation, with each collaborator adopting a specific role based on their area of contribution. The partnership model with artistic control developed by Candy and Edmonds (2002) brings collaborators together to fill a specific role while the entire group benefits from what is produced. For example, one collaborator may have the main responsibility of creating assessment instruments such as rubrics or assignments based on their skill in that area. These measures benefit the entire group, yet one contributor took the lead in that area. This collaboration is fueled by extensive discussions to create a common understanding of the artistic intention and what roles are necessary. While all collaborators are part of all key creative discussion, control over specific areas remains with whoever holds that role. Participants are distinguished by the general roles of artists and art-technologists in this model. In Figure 2, the darker shades indicate a strong level of activity where lighter shades indicate a significant, but not leading, role.

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In complex artistic endeavors, collaboration is often necessary to meet the demands of the project. It can also help to get the creative process going in new and
exciting ways. In Vera John-Steiner’s (2000) book *Creative Collaboration*, she explores artistic collaboration. John-Steiner suggests that artists begin collaboration in the hope that collaborators complement their own contribution, but then evolve into an integrative collaboration that both transforms their work and their personal lives.

One challenge to the idea of collaboration among academics is loss of autonomy. A cross-discipline collaborative model by Jones (2001) addresses the autonomy issue by giving the collaborators control over their specific contributions while maintaining continuous discussion on project goals (Figure 3). While the model is designed with course development collaboration in mind, there are elements applicable to other forms of cross-disciplinary collaboration.

![Figure 3. Jones Model for Cross-Functional and Cross-Disciplinary Collaboration](image)

Within the area of general education collaboration, the model developed by Simpson and Myles (1990) has a strong focus on student engagement and learning. Originally developed to help teach disabled students, the model is based on flexible departmentalization, program ownership, identification and development of supportive attitudes, student assessment as a measure of program effectiveness, and classroom modifications that support mainstreaming (Figure 4). This model differs from the others by recognizing the importance of flexibility and attitude while still recognizing the importance of individuals taking more of a lead in aspects they have more experience in.
All of these models focus on the need for continuous communication and reflection as well as well-defined roles, yet there is no modeling of how the work produced may foster further collaboration and how the fruits of that work can extend beyond the initial project.

The Harvey Dunn Feminine Images Cross-Disciplinary Artistic and Academic Collaborative Project

The intention of the project was for audience members to experience Harvey Dunn’s (1934) paintings through the creative vision of faculty, staff, and students from different disciplines. The performance piece used shared artistic language to capture the human condition. Audience members engaged in each of the paintings as an integrated member of the performance experience; images, textures, sound, movement, and visual art unfolded in a seamless integration around them.

The performance included five trans-artistic collaborations: (a) Music—Textural sound-score derived from an original music composition, choral performance, and the recorded natural sounds of the prairie landscape; (b) Dance—Live and recorded movement to include an original dance composition; (c) Lyrical language—Ekphrastic poetry (portrays the paintings in words) and language from Harvey Dunn’s (1934) art instruction book, *Evening in the Classroom*; (d) Visual arts—Projected images of the paintings, original felt installations and costumes design, graphic art, original
theatrical lighting, and a video performance piece; and (e) Documentary film—Entire trans-artistic process from development to presentation captured digitally to document the creative process as an education tool in documentary form. The project was developed at SDSU with live performances in November of 2015.

Scholarship of Teaching and Learning

In relation to the scholarship of teaching and learning, a goal of the cross-disciplinary artistic and academic collaborative project was to contribute to the lifelong development of engaged student collaborators by fostering opportunities for students to actively create and perform, as well as opportunities to work collaboratively with faculty mentors to encourage cross-disciplinary artistic endeavors. Students engaged in artistic collaborations as each of the artists in the project mentored emerging student artists as the creative process unfolded. Several faculty members in the collaboration developed research and scholarly work connected to creativity and its transforming effect on student growth and development.

Through this collaborative experience, an emergent conceptual model of artistic and academic collaboration was developed based on the experience of the collaborators and the work produced. This model incorporates aspects of artistic and scholarly collaboration as well as common collaboration themes; however, it expands on the benefits produced beyond those of the collaborators by creating a connection to students and learning.

Method & Results

This grounded theory approach (Charmaz, 2003; Strauss & Corbin, 1998) to a case study is interpretive in nature, as generalizability is not the main goal of this research, but rather a rich, contextual description (Geertz, 1973). This work best falls into the scholarship of teaching and learning category by Nelson (2003) of reports of particular classes. A grounded theory approach was implemented in order to review collaborative models that could be used in conjunction with this case study to construct a new theory or model.

This study was approved as exempt human subjects’ research since it involved the collection or study of existing data, documents, or records recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

Anonymous reflective statements were gathered from participating faculty and students after the November 2015 live performances. Process validity is achieved as all information was gathered via anonymous self-reporting measurements. The participating faculty members’ own impressions of effectiveness are often considered sufficient assessment through validity by analysis in this type of study (Riege, 2003). This is based on the faculty member’s own experience and expertise in the subject area as well as the various assessment measures expected at the collegiate level. Because of this, the reflective statements from participating faculty serve as a measure of effectiveness. As with any case study, generalization of the results cannot be applied to the larger population.
Collaboration Models

**Artistic and academic.** The first model developed from this experience starts out where other collaboration models end, with the collaborative process and partnership from an artistic and academic standpoint. From there, the product produced (creative and scholarly) is disseminated in a form appropriate for the product (performance, peer-reviewed article, etc.) and the collaborators come together again to provide feedback and reflection on work produced. This feedback and reflection then leads to future collaborations with either the core group or new members, or a combination featuring both new and old collaborators. At this point, the cycle begins again, building off the previous collaboration. As this collaborative process grows, each point produces its own trajectory. The collaborative partnership follows a path that leads to developing a new community of practice, and the creative process follows a path that leads to artistic and overall project growth. Dissemination follows a natural path of creative scholarship and peer review, and the feedback and reflection process not only creates a new community of practice but also deep and meaningful collegial relationships (Figure 5).

![Artistic & Academic Collaboration Model](image)

**Figure 5.** Artistic & Academic Collaboration Model

**Student and faculty.** An important aspect of the collaborative partnership model is the opportunity for student engagement and experiential teaching and learning. This cycle follows closely to the parent model, with the added processes of
student engagement, shared perspectives, and mentorship. This cycle grows in a similar fashion as the parent model while following a path to experiential teaching and learning and student engagement research (Figure 6).

**Figure 6. Student & Faculty Engagement Model**

**Reflective critique.** Members of the collaborative were solicited for open-ended comments on their overall experience and how it related to the collaborative models developed as a form of assessment through validity by analysis (Riege, 2003). This solicitation was administered using a Web-based survey tool that only collaborative members had access to. The one word used most often to describe the process was “organic.” As one collaborator stated, “Many people with a variety of ideas create the need to be humble, open, receptive, and flexible. As the collaborators have grown as professionals together, we have learned to risk, trust, practice gratitude, and be open to possibility.” The organic nature did create some challenges among collaborative members. As one collaborator stated:

(It) felt as if no one person within the collaborative was driving the project toward any specific goal. Though this was exciting for some, there was unease with the process for others... as the project rambled, unraveled, and re-invented itself through a variety of iterations over the years.
All collaborators stated that the project persevered due to the trust and confidence each collaborator had with their peers. Further responses related to three main areas: (a) student mentoring and engagement, (b) the creation of scholarly or creative works, and (c) collaborative partnership and community of practice.

**Student mentoring and engagement.** All faculty collaborators agreed that bringing students into the collaborative process was an important and fulfilling part of the project. As one collaborator stated, “It was important to me as an educator to allow students who were particularly interested in the project due to its innovative approach to have the opportunity to participate.” Student engagement was achieved both in the actual performance and in behind-the-scenes roles. This provided students with a more hands-on experience. One participating faculty member elaborated on this:

I am excited that we were able to provide our student musicians with some experiential learning in a “real world” environment, including the relative permanence of committing our performance to record, and that they have taken pride in their role in the project as a whole. (Student) participation in the collaborative has provided them with opportunities to practice and enrich compositional, performance, and technical skills; as well as, participate in a community of collaborative practice that is unique and exciting.

Another faculty collaborator mentioned being able to take student engagement back into the classroom due to this project:

I have developed an ekphrasis writing project in my creative writing class. Students choose one piece of artwork in the current gallery and, over the course of the semester, complete four writing projects in response to it. They also complete a reflective piece on their writing process in response to artwork.

As this project was completed over the course of several years, reflection from students came mainly from those involved in the latest performance. All students involved in the fall 2015 performance cited the experience as being positive, with the opportunity to practice the technical skills involved in music and dance. As one student stated:

We have practiced it so many times and then getting in front of an audience it kind of brings back that passion again. Once we can really embody the movement and the poetry and the music, then I think that just makes the (performance) that much better.

Faculty collaborators also indicated a positive reaction from the student body beyond those participating in the project. As one faculty collaborator mentioned, “(Students) have told me I will now go to the art museum and witness new work
having been to this (performance) when I wouldn’t have gone to the museum otherwise.”

Another faculty collaborator had a similar experience:

Students stop me in the bookstore to say I saw than and really enjoyed that, it was something I have never seen before. And the students who were involved have thanked me for doing (the project) and always ask when we are going to do something like that again.

**Creation of scholarly or creative works.** One collaborative model developed through this project deals with integrating scholarly or creative work into the collaborative process. Collaborators reflected on this aspect and how they have been able to achieve this:

One of the greatest benefits of the process has been the opportunity to tie my teaching/creative scholarship, research, and service into a tidy, sustainable package. The ability to do so has proven to be beneficial, effective, and efficient in terms of time management.

Another collaborator echoed this sentiment:

The project allowed me as a faculty member to focus my attentions intentionally, on sustainable exploration, creation, and research that benefits faculty, students, the community, and beyond. Truthfully, it has been the most engaging, holistic, challenging, meaningful, and rewarding experience on campus.

**Collaborative partnership and community of practice.** Faculty collaborators appreciated being able to work with other faculty that, under typical circumstances, they would never interact with. As one faculty member mentioned, “The interdisciplinary format of the project provided a broad and deep exploration of thematic content. An opportunity to share ideas with individuals from diverse disciplines cultivates new perspectives and avenues for creative exploration.”

Another faculty member went on to state, “The opportunity to coordinate and collaborate with other faculty outside of my department on a shared creative goal was something that I needed—even if I didn't know that I needed it.”

Faculty collaborators mentioned once again that crossing discipline lines was a unique and positive experience. As one collaborator stated:

In higher education we tend to work in silos surrounding our discipline and rarely get the change to draw upon the strengths of the holistic university environment. I think the level of input all members of the collaborative had on all aspects really makes the final production stronger, although it can slow down the overall process.
Collaborative weaknesses. The challenges identified included time on task and communicating across disciplines. Collaborators mentioned needing to learn a “different language” in terms of communicating with those outside their content area. As one collaborator mentioned, “Bringing together a large group of artists, teachers, and academicians can create a certain amount of chaos. However, our ability to come together and create a true collaborative team was the highlight of this experience.”

For some, dealing with the fluidness of a creative project was difficult at times; however, one collaborator stated that the final project was worth the challenges:

Each collaborator should share a PASSION for the work/project, has gifts/talents/abilities, and intellect that aligns with the project, is OPEN to AMBIGUITY, is willing to let go of their EGO, and is willing to OPEN THE DOOR even though what stands beyond looks daunting, messy, convoluted, and completely beyond their reach.

Creating Communities of Practice across Disciplines

As a case study, this research is more interpretive than generalizable; however, the hope is that these models developed through the Harvey Dunn Feminine Images Collaborative encourage educators to explore collaboration that benefits both scholarship and teaching. Previous collaborative models stop short of exploring how the work produced may foster further collaboration beyond the initial project, which is where these models pick up.

The artistic and academic model shares the work produced while also bringing the collaborators together again to provide feedback and reflection on work produced to encourage future collaborations, which spawn more collaborative work and a new community of practice.

The student and faculty model works in a similar way, yet includes aspects of student engagement, shared perspectives, and mentorship. This model works to create experiential teaching and learning pedagogy as well as student engagement research.

Faculty and students involved in the process indicated student mentoring and engagement was a key aspect at all points in the process. Being able to have one project that reached into all aspects of their role as an academic (teaching, scholarship & creative activity, service) was a positive factor among faculty collaborators. Those involved in the project were able to see a side of other disciplines that they would have not had the opportunity do otherwise, and while that was considered an advantage, they also mentioned that learning how other faculty in other disciplines work and communicate was a challenge.

These models are collaborative in nature and therefore could be adapted to fit a combination of other disciplines. Being these models are new, there is an opportunity to apply them in other collaborative projects and see how well they function. The hope is that other institutions and faculty apply these models in their own collaborative projects to add to the community of practice as well as to test effectiveness.
References


Dr. Rocky Dailey has worked as a journalist in broadcast, print and online mediums during his professional career. He received his Master’s in Journalism from the University of Memphis and his Doctorate in Education from Montana State University. Dr. Dailey’s academic career includes working as an adjunct at Grand Valley State University and Montana State University-Billings, and as an assistant professor in the School of Mass Communications at Virginia Commonwealth University. His professional career began at KSFY-TV as a videographer and his most recent work was as the online reporter for the Billings Gazette.

Dr. Melissa Hauschild-Mork, dancer, choreographer, studio owner/director, and educator enjoys dance and the Arts for the transformational opportunities they provide. She has participated in the Touring Artist Program and the Artist in the Schools Program for the South Dakota Arts Council. She owns Expanding Harmony Dance Studio, Directs Expanding Harmony Dance Company and Exaltation! Dance and Choral Company, and teaches dance and movement studies at South Dakota State University in Brookings, SD. She was awarded the Excellence in Teaching Award from the College of Education and Human Science in Spring 2010.
Arts Across the Disciplines: Using the Voices of the Oppressed and Vulnerable to Inspire Analytical Thinking in the Human Services Curricula

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This paper addresses how professors in a Social Work and Human Services Program in the Southeastern United States include voices of the oppressed and vulnerable through art forms to develop analytical thinking to prepare human service practitioners. This pedagogical practice is based on Gardner’s discussion of Multiple Intelligences. The authors also offer examples, discuss outcome measures for each, cite student responses, and provide considerations for inclusion in course work. This article is focused on human services curricula, such as social work, psychology, clinical psychology, and counseling, but the concepts can be used in a variety of human services professional education settings.

To be an effective teacher, the professor must include pedagogy that reaches as many students as possible. Students learn in different ways, and including arts in pedagogy allows the professor to reach students with an array of learning and information processing techniques. Gardner’s Multiple Intelligences provide a model for conceptualizing these differences, and includes linguistic, logical, visual-spatial, body-kinesthetic, interpersonal, intrapersonal, musical, and naturalist intelligences (Gardner, 1999, 2011). Gardner asserts that each one of us has multiple intelligences, but the amounts vary. The intelligences are found in various parts of the brain and can work together or separately. As educators we can either help weaken these intelligences, or we can reinforce them (Lunenburg & Lunenburg, 2014). This paper addresses how two professors include voices of the oppressed and vulnerable from various art forms to assist future practitioners in the human services field gain knowledge, understanding, and application of required professional competencies. In addition, the authors include outcome measures for each example, cite typical student responses and provide suggestions of items for inclusion in the curriculum. This teaching approach is used across the curriculum in lower and upper division undergraduate classes as well as graduate classes.

Background

Education, especially higher education, tends to focus on the linguistic and logical intelligences (Lunenburg & Lunenburg, 2014). As a consequence, students with these intelligences are most successful academically. When they become teachers, they tend to use the style or styles most comfortable to them, thus ensuring the perpetuation of the pattern, and perhaps, inadvertently, excluding those whose intelligences fall in
other areas. This emphasis on limited forms of intelligences does not completely capture the human service values of individual worth, diversity, and strengths-based perspectives. Such values are clearly expressed in the competencies and ethics of human services disciplines, such as human services, social work, and counseling psychology. These are codified in the Council for Standards in Human Service Education (CSHSE, 2015), Council of Social Work Education (CSWE, 2015), Society of Counseling Psychology of American Psychological Association (SCP, n.d.); National Association of Social Workers’ (NASW, 2008) Code of Ethics, and National Organization for Human Services (NOHS, 2015) Code of Ethics (see Table 1).

Gardner (1999) describes intelligence as “biopsychosocial potential to process information that can be activated in a cultural setting to solve problems or create products that are of value in a culture” (p. 23). This view of intelligence as different from Intelligence Quotient levels was a paradigm shift in looking at a person’s intelligence (Ghazi, Shahzada, Gilani, Shabbir, & Rashid, 2011). Gardner (1999) explains how cognitive skills are developed and how a person can use his or her intelligence in some areas but not in others. Gardner started with seven different intelligences, linguistic, logical, visual-spatial, body-kinesthetic, interpersonal, intrapersonal, and musical, but later added an eighth: naturalist (Gardner, 2011). He further states that because we are strong in one form of intelligence does not mean that we are weak in others. He also stresses that different intelligences are not synonymous with learning styles. Instead he recommends that educators individualize their teaching, drop the word styles and pluralize teaching, or teach curricular materials in several different ways.

Textbooks can be valuable classroom tools, by concisely providing material on important topics. There are also some challenges with textbooks in that the material is often stated in an authoritative voice and may present a single point of view (Zickler & Abbott, 2000). In their presentation of the material, textbooks may be intimidating and thus fail to stimulate discussion or provide real life insights (Cleovoulou, 2008). They may also create barriers to delivering diversity and social justice content (Deepak, Rountree, & Scott, 2015). A professor’s reviews of textbooks used in Human Services classes revealed that some textbooks use value-laden (or even judgmental) terms despite human services’ insistence on the importance of diversity in persons and experience (A. Peters, personal communication, September 15, 2014; American Psychological Association (APA), 2012; CSWE, 2015). Textbooks may be acceptable, if the author’s values are expressed openly, so that students are not led to believe that this is the only view. On the other hand, use of various art forms allows for more diversity of voices than the textbook author and the professor. They also allow the material to speak to students from a range of settings and cultures. Arts help to expand the notion of who the authority is, to include author/artist and students who come to the classroom with a wide range of experiences.

The field of human services approaches “the objective of meeting human needs through an interdisciplinary knowledge base...” (CSHSE, 2013, p. 1, para. 4). It stands to reason then, that students should be prepared to model this behavior by experiencing learning in an interdisciplinary manner. Furthermore, as professors in the human services field, it is important to impart the acquisition of certain theories as well as competencies as established by the discipline. Arts, such as poetry, storytelling,
and theatre, have been used in the social work classroom to emphasize non-verbal and metaphoric language (Sinding, Warren, & Paton, 2014). This use of the arts has been shown to help students acquire empathy, make ethical decisions, and increase critical thinking abilities (Turner, 2013).

In this paper, the professors describe using art forms, including music, poetry, novels, essays, social criticism, memoirs, film, and drama to express the voices of oppressed and vulnerable populations. This pedagogical practice honors the multiple intelligences of both artist and student and connects the students with both theory and professional competencies (see Tables 1 and 2 for an overview). Although competencies cited here relate to professional human services education in the United States, similar competencies exist in other countries (e.g., Australian Association of Social Workers, 2003; Health & Care Professions Council, 2012).

### Arts in the Classroom

Music can set the tone for a class, illustrate a point, or clarify values. The use of this art form is premised foremost on musical and linguistic intelligences. For example, one of the professors uses a sound track by New Orleans Bluesman Mem Shannon (2010) titled *Wrong People are in Charge* to open a Community Intervention course. This blues genre evokes New Orleans and the Katrina disaster. The lyrics encourage students to ask the questions: Who is in charge? How did they get to be in charge? How would it be different if someone else were in charge? These questions are particularly salient considering the focus on current police and community relationships brought to light by violent interactions between the two. These questions allow students to view phenomena from a macro level/sociological perspective and demonstrate the sociological imagination. Students are interested in the music genre and ask about the musician and suggest other options as well. Furthermore, non-traditional students are given the opportunity to educate younger students on the Blues.

In the same course, the students view and listen to a video posted on the Internet called *Do they know it is Christmas?*, giving the students the opportunity to use visual-spatial and musical intelligences. This fundraising cut by Band-Aid 30 (2014), subtitled *Buy the Song. Stop the Virus.*, is intended to raise money to stop the Ebola virus in some unstated fashion. It opens with a vignette of aid workers removing the emaciated corpse of a partially dressed African woman from her home. Then it cuts to elegantly dressed celebrities arriving at the recording studio in limos. In their discussions, the students generally pick up on cultural insensitivity, including wondering why a primarily Muslim country should care that it is Christmas, particularly in light of the devastation of the Ebola virus. The social and cultural differences between the people singing and the video pictured of the Ebola victim are marked, as is the apparent disregard for the dignity of the dead African woman. Thus the students are applying and integrating social stratification, cultural, and humanistic theories into their learning (Marx, 1967; Weber, 1947, 1958). In addition, in accordance with various human services competencies, students learn about cultural diversity, multiculturalism and social justice, socio-economic status and advocacy, the differences of governance and economics, political and ideological aspects of human
services, international and global influences on service, skills to effect and influence social policy, the worth and uniqueness of individuals, and the importance of welfare of others (American Counseling Association [ACA], 2015; CSHSE, 2013; CSWE 2015; SCP, n.d.). To measure the outcome of the resulting learning, class discussions are used. Comments from students include, “How does a donation to a celebrity fund stop Ebola?” and “How can they think it is OK to put their Christmas shopping trip next to the dead body of an African woman?” Questioning the relationship between a celebrity-led fundraiser and finding ways to stop a rapid spread of the epidemic shows evidence of critical thinking. Cultural competence is demonstrated through the understanding of the inappropriate linking of Western consumerism with the epidemic in developing countries. Further, the student identifies the violation of privacy of the woman’s dead body when used as a means to raise money.

Poems are primarily linguistic but also speak to interpersonal and intrapersonal intelligences. They can be romantic, humorous, festive, celebratory, and political. Poetry can demonstrate how one’s experience informs one’s interpretation of a piece of art or situation. In a Poverty and Culture course, Norman Jordan’s poem Feeding the Lions (1971) is used for a class discussion or essay. To maximize its impact for students, the poem is provided in both written form and a video of the author reading it to include the visual learner as well. In the piece, social workers move into a disadvantaged community to provide services and quickly leave. Based on their life experiences, students may see either the social workers or the community members as the lions. It depends on whether the lions are seen to be savage beasts to be sated or as predators destroying the weak. The classroom discussions help the students integrate conflict theory, as well as racism, power and privilege. Thus the students learn about cultural diversity and competence, social justice, advocacy, and local activism, political and ideological aspects of human services, and the worth and uniqueness of individuals, as well as how history and legislation affect service delivery (ACA, 2003; 2015; CSHSE, 2013; CSWE 2008). The professor uses essay questions to measure the acquisition of learning around these issues. Comments in student essays showing the students’ understanding of conflict theory include:

…the government seeing people as a number, higher class people seeing other people as animals, and yet trying to cover it all up with a patriotic twist…as they [people in poverty] know it [welfare system] is just for show and not because they [government] truly care.

The use of literature challenges the students to critical thinking and can help them understand and tolerate uncertainty (Zickler & Abbott, 2000). This art form, like poetry, speaks to linguistic, interpersonal and intrapersonal intelligences. James Baldwin’s wide-ranging work, as a novelist, social critic, essayist, playwright, and poet, provides a plethora of opportunities for integration into the human services curricula. Baldwin’s oeuvre can be used to teach students with strengths in linguistics, logic and interpersonal and intrapersonal intelligences.

Giovanni’s Room (Baldwin, 1995), when used in a Human Socialization graduate course, provides the framework for discussions of human development, gender identity and sexual orientation. This semi-autobiographical coming of age and
coming out story is set in Paris. David, a young American man has moved to Paris to find himself and separate himself from his father. He becomes engaged to an American woman, also finding herself in Paris. She travels separately for some time. During this period, David has an affair with another immigrant, Giovanni, a young Italian man. Sexual identity, sexual orientation, and the impact of culture are key elements of the novel and allow for discussion of Erikson’s (1968) developmental theory. This is prominent in Giovanni and David who vary between Erikson’s stages of identity and role confusion and intimacy and isolation depending on their cultural setting. Conflict theory (Marx, 1967; Weber, 1947, 1958) is a key element as students examine the power differentials between David and Giovanni and Giovanni and his harassing boss Guillaume. Students acquire knowledge about human development theory, expand their recognition of Lesbian, Gay, Bisexual, Transgender, Intersex and Questioning (LGBTIQ) issues, begin to understand the context of the role of diversity, learn to analyze and interpret historical data for application in advocacy and social change, and gain regard for the worth and uniqueness of the individual (ACA, 2012; CSHSE, 2013; CSWE, 2008).

Students also view a video of the 1965 Baldwin v. Buckley debate at Cambridge University (Baldwin, 1965). Video viewing caters to the visual-spatial and logical learner. The topic of the debate, The American Dream is at the Expense of the American Negro, allows students to see Baldwin’s intellect at work, as well as hearing powerful oratory on oppression. The debate structure also speaks to students with strong logical intelligence. Students bring together the debate video and the semiautobiographical coming of age novel in an essay question. They are asked to address Baldwin in an imaginary meeting on a plane on a way to a conference. Competencies addressed in the video viewing are multicultural and social justice among others (ACA, 2015). The acquisition of these learning outcomes is expressed in this student’s writing as she talks to Baldwin:

You became a spokesman for the different, the rights of all mankind...

Baldwin’s (1986) The Evidence of Things not Seen is a social criticism and political essay about the missing and murdered children cases in Atlanta in the mid-1980s. Political essays tap into linguistic and logical intelligences. Baldwin writes about power and corruption in government, racial politics and social class. The professor, who was employed by the Atlanta Police Department at the time, includes discussions on social class, racism, and political power, integrating conflict theory in the learning experience for the students. The students learn about the context and the role of diversity, analyze and interpret historical data for application in advocacy and social change, and are exposed to a spectrum of political ideologies as well as economic...
and social class systems, including systemic causes of poverty and their impact on social justice (ACA, 2015; CSHSE, 2013; CSWE, 2015). Analytical book reviews and classroom discussions measure the outcomes of learning. A recent classroom discussion of the missing and murdered children cases was eye opening to “Poverty and Culture” students. Current discussion of class and racial oppression in crime and law enforcement was set in a historical context for the students in the Atlanta metropolitan area.

Memoirs tell of a person’s life. They allow the reader, in this case, the student, to experience a life that may be very different from their own, through linguistic, interpersonal and intrapersonal intelligences. *Experiencing Poverty: Voices from the Bottom* (Eitzen & Smith, 2009), serves as a text for a Poverty and Culture class. This book gives the oppressed a voice through memoirs and essays by persons living in poverty, those who were poor, and social scientists who include their voices. As Eitzen and Smith states, “If we ignore the voices of the poor, we have dehumanized them, making their humanity invisible” (p. viii). Students learn about conflict theory, social stratification, inequality, prejudice and discrimination, and structural barriers to mobility (ACA, 2015; CSHSE, 2013; CSWE, 2015; SCP, n.d.). The evidence of acquiring awareness of social inequality and conflict theory is shown in this comment from a student:

The readings from “Experiencing Poverty: Voices from the bottom” made me realize that the poor are not all lazy, and in fact are some of the hardest working people in the country who do the most unglamorous jobs, yet are paid the least and treated the worst.

A Death, Dying, and Bereavement course uses the memoir *Tuesdays with Morrie* (Albom, 1997) which tells the story of the dying process of a sociology professor. In the book, the professor reflects on his life as described by a former student of his. Mitch Albom (1997) is a renowned sports journalist, who feels he may have lost himself in his success. He visits his former professor weekly on Tuesdays after his professor’s diagnosis of Amyotrophic Lateral Sclerosis (ALS). During these weekly sessions, Mitch facilitates a life review for Morrie. The students in the bereavement class discuss the vulnerability of the dying, and apply grief and developmental theories to the content (e.g., Doka & Martin, 2010; Erikson, 1968; Stroebe & Schut, 2010; Worden, 2008). The students are thus incorporating and applying theories of human development, gaining understanding of changing family structures and roles, acquiring insight into the capacities, limitations, and resiliency of human systems, and the conscious use of self (CSHSE, 2013; CSWE, 2015). They also start clarifying personal and professional values and develop strategies of self-care (APA, 2012; SCP, n.d.). Essay questions and classroom discussions are used to ascertain the acquisition of learning outcomes. The following represents typical student comments showing conscious use of self, “It taught me that life can change so fast and drastically and I don’t want that to be the last thought like, ‘Why didn’t I do more or see more?’” and:

If I get to an older age and I do a life review, have I done everything I wanted to do? Have I lived my life to the fullest? And that’s got me to create a bucket
list...I have to make sure I have hopes and dreams and that I have ways to achieve those...it [course] has made me think about how I can make my life fulfilling before I get to the death and dying point.

Also used in the Death, Dying, & Bereavement course is the movie *Rabbit Hole* (Kidman & Mitchell, 2010). Films, like literature, can create critical thinking among students and help them better accept ambiguity (Zickler & Abbott, 2000). Some of the learning styles supported in the use of movies include linguistic, visual-spatial, interpersonal, and intrapersonal. *Rabbit Hole* is the story of a family left vulnerable due to the loss of their young son in an accident. As they struggle to come to terms with their loss, the husband and wife grieve the loss of their son in different ways, which leads to conflict in the marriage. A third main character in the movie is the young man who inadvertently killed the couple’s son with his car. Several various grief reactions and grief theories can be applied to the movie: Worden’s grief model (2008); Silverman’s continuing bonds (Klass, Silverman, & Nickman, 1996); Stroebe and Schut’s (2010) dual process model, Doka’s Intuitive versus Instrumental grieving patterns (Doka & Martin, 2010); and Gilbert’s narrative approach (Besley, 2002) among others. Also incorporated and applied to the movie is Erikson’s (1968) developmental theory. The students thus apply theory of human development, learn about the changing family structures and roles, and begin to understand the capacities, limitations, and resiliency of human systems (CSHSE, 2013; CSWE, 2015). A test, in the form of application questions, is the outcome measure used for this course together with essay questions. One student gave the following comment, as part of her answer to an essay question on working with the bereaved population, showing evidence of increased theoretical knowledge and her own capacity to deal with the grieving population:

I feel like I’m more equipped with those terms to know what they mean and to differentiate between those and I feel like I can help more people now. I don’t feel like it’s something I run away from in the medical setting, now that I know more about the subject.

Drama, where actors depict and act out stories, can easily be incorporated into human services curricula. Drama reinforces the learning of students with kinesthetic, visual-spatial, interpersonal, and intrapersonal intelligences. In a Death, Dying, and Bereavement course, the professor utilizes a performance, *Fragments of Grief* (Potazek & McClatchey, 1997), presented by professional actors from a local non-profit theatre group. The professor of the class, together with the creative director of the theatre group, created this play. It was originally produced for children and adolescents who attend a local healing camp for bereaved children. The play follows two teenagers, Andrew and Heather, who have lost a brother to murder and a mother to a car accident. Their grief reactions and the insensitive reactions of their friends, relatives, and community are powerfully portrayed. After the actors perform the play, the students
apply their newly learned concepts to the story. The students learn about grief and developmental theories and changing family structures and roles, gain an understanding of the capacities, limitations, and resiliency of human systems, as well as the worth and uniqueness of individuals (CSHSE, 2013; CSWE, 2015; SCP, n.d.). To measure the outcome of competency specifications, the students write a reflection paper identifying the concepts depicted in the play. These were one student’s comments in regards to his dawning recognition about the uniqueness of each person and situation:

The play opened me up to be more competent to those who have lost a loved one. I can approach conversations with awareness and sympathy knowing that their experience is going to be unique to them and their emotions. The biggest takeaway I took from the play was that everyone grieves differently. The process is individual. What may work for me may not work for someone else. In knowing this, I have to be careful when talking to people who are experiencing grief. At the same time, I shouldn’t be shy when asking them questions about what would work best for them. In order to best help an individual in grief, I must meet them where they are at, knowing their biggest needs and concerns.

Discussion

In this paper, the authors have described how they use arts in the classroom to impart knowledge, values, and skills to correspond with competencies for a range of human services disciplines, as set out in ACA (2003, 2012, 2015), APA (2012), CSHSE (2013), CSWE (2015), and SCP (n.d). Using the voices of the oppressed and vulnerable through different art forms allows professors to introduce curriculum materials to students in different ways from regular textbooks and lets students apply a range of intelligences (Gardner, 1999, 2006, 2011). To measure the outcome of the learning experience, several methods are used: classroom discussions, tests, essays, book reviews, reflection papers, and correspondence from past students. The importance of implementing pedagogical practice curricula to deliver social justice and diversity content cannot be overstated in the human service professions (Deepak et al., 2015).

Considerations

Professors using the arts in the classroom need to consider several issues (see Figure 1). Among them are:

Multiple intelligences. The notion of multiple intelligences recognizes the need to select a variety of art forms. Music, for example, appeals to those students who possess musical intelligence. Drama may speak to those with visual-spatial and body kinesthetic intelligences. Memoirs are an example of an art form that would tap into interpersonal and intrapersonal intelligences of students.

Selection of material. Any reading list should be chosen with consideration to professional competencies, genre, level of accessibility, voice of the author, diversity of topic, application to course concepts and theories, literary values and timeliness. The professors’ control and selection of the course materials are critical, since students may
be heavily influenced on the topics by the media rather than the substance of the materials (Turner, 2013).

**Ethical issues.** Some authors have spoken of the importance of ethical behaviors in the materials presented in the sense that characters are acting in ethical manners (Moxley, Feen-Calligan, & Washington, 2012). On the other hand, it might also be argued that depictions of persons acting in unethical manners provide a base for a discussion of culture and decision making in difficult situations.

**Choice of main characters.** In all the art forms, there are primary characters for consideration. Students may benefit from exposure to characters like themselves, in order to gain insights into their own experience (Turner, 2013). Alternatively, students may benefit from exposure to characters unlike themselves, in order to push them to empathize with the Other. Selections need to provide a variety of characters in order to ensure that students can benefit in both ways.

**Choice of author/artist.** As noted earlier, use of art forms allows students to see a variety of persons as authorities. Diversity in authors and artists provides a voice of authority from a wider range of voices than the usual textbook author. Choice of author/artist should include: persons of color, vulnerable and oppressed populations, people of different ages, abilities, gender identities, nonheteronormative individuals, cultural and religious minorities, etc., in order to broaden the platform of voices.

**Student input.** When professors use these art forms, students are sensitized to seeing the concepts in everyday life and art. It is the professors’ experience that once students begin to make these connections, they make further recommendations of art materials for inclusion in classes. These suggestions have included books, film, poetry, speakers, editorials, documentaries, essays and TED Talks.

**Conclusion**

The human services curricula offer opportunities to incorporate the arts to deliver content about the oppressed and vulnerable and to achieve professional competencies. Professors need to consider the array of intelligences (Gardner, 1999, 2011) of her/his students as well as make every attempt to engage them in the learning experience. Using the voices of the oppressed and vulnerable through various art forms helps expand the students’ insights. In this paper, the authors discussed using already existing art. Other art forms, not mentioned here, might include the use of proverbs, editorial writing, dance, cartoons, quotations, and rap. However, professors may also have students create their own art, as a response to course content, experience, or issues of concern. Foremost, the professor must be open to new materials and course pedagogy in order to deliver knowledge and views from the oppressed and vulnerable, encourage student engagement, and maintain currency.

Use of the pedagogy described in this paper begs the question of comparison of awareness of learning outcomes in classrooms where teachers use traditional approaches and do not integrate the arts. This would be an interesting topic for a future study where multiple sections of a single course are possible. A common syllabus with shared rubrics would provide a critical tool to assess the impact of arts in the classroom.
References


Band-Aid 30. (2014). *Do they know it is Christmas?* Retrieved from https://www.youtube.com/watch?v=-w7jyVHocTk


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<tr>
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<th>Theory</th>
<th>Art Form</th>
<th>Example</th>
</tr>
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<tr>
<td>History and legislation</td>
<td>Conflict theory</td>
<td>Poetry</td>
<td>Feeding the Lions</td>
</tr>
<tr>
<td>Government and economic systems</td>
<td>Social stratification, cultural and humanistic theories</td>
<td>Music</td>
<td>Wrong People are in Charge, Do they Know it is Christmas</td>
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<td>Range of political ideologies</td>
<td>Conflict theory</td>
<td>Essay/social criticism</td>
<td>The Evidence of Things not Seen</td>
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<td>Novel, Essay/social criticism</td>
<td>Giovanni’s Room, The Evidence of Things not Seen</td>
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<td>Developmental and grief theories</td>
<td>Memoir, movie, drama</td>
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Table 1 Continued

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<th>Art Form</th>
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<td>it is Christmas, Feeding the Lions</td>
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<td>Music</td>
<td>Do they Know it is Christmas</td>
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<td>Music, poetry,</td>
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Table 2

**Learning Styles and Genres in Human Services Curricula**

<table>
<thead>
<tr>
<th>Intelligence*</th>
<th>Examples of Genres</th>
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<tbody>
<tr>
<td>Verbal/Linguistic</td>
<td>Novel, poetry, memoir</td>
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<td>Logical/Mathematics</td>
<td>Essay, social criticism</td>
</tr>
<tr>
<td>Spatial/Visual</td>
<td>Drama, dance, theatre</td>
</tr>
<tr>
<td>Bodily Kinesthetic</td>
<td>Drama, film, music</td>
</tr>
<tr>
<td>Musical</td>
<td>Music, film, drama</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>Memoir, drama, film</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>Memoir, drama, film</td>
</tr>
<tr>
<td>Naturalistic</td>
<td>Film, literature</td>
</tr>
<tr>
<td>Experiential</td>
<td>Drama, role play, video</td>
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</tbody>
</table>

*Note. *Gardner, 2011
Figure 1. Considerations when applying arts to human services curricula.

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Implementing Innovative Pedagogy and a Rainbow Curriculum to Expand Learning on Diversity

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A mixed methods approach analysis examines the impact of incorporating diversity education focusing on sexual diversity at an independent, Roman Catholic university, a site where Lesbian, Gay, Bisexual, Transgender, Questioning/Queer (LGBTQ) individuals face discrimination, harassment, and homophobia. The analysis demonstrates the positive impact of incorporating the sexual diversity education implemented in a cluster-course approach using common learning experiences and outcomes. In comparison to the beginning of the semester, by the end of the semester students were better able to articulate and implement culturally sensitive language, express an understanding of marginalization of sexual minorities as well as discuss heterosexual privilege.

Scholars argue that education and increased awareness of the struggles of the Lesbian, Gay, Bisexual, Transgender, and Questioning/Queer (LGBTQ) population are critical towards building a society that both tolerates and embraces this community (Case & Stewart, 2010; Rogers, McRee, & Arntz, 2009; Yep, 2002). It is widely recognized that schools are sites of intense homophobia, discrimination, and hate crimes directed at LGBTQ students, staff, and faculty (Fine, 2011; Gortmaker & Brown, 2006; Mccarty-Caplan, 2013; Woodford, Silverchanz, Swank, Scherrer, & Raiz, 2012). A 2010 Campus Pride National College Climate Survey conducted by the Q Research Institute for Higher Education found that in the United States, roughly twice as many Lesbian, Gay, Bisexual, and Queer (LGBQ) respondents experienced harassment on

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1 The acronym LGBTQ will be used generally in this paper to reference the Lesbian, Gay, Bisexual, Transgender, and Questioning/Queer community. In specific instances alternative acronyms may be used when only a subset of this community is being studied or referenced.
campus as compared to their heterosexual counterparts. Of those experiencing harassment, 83% of the LGBQ respondents stated that harassment was based on sexual identity compared to only 12% of their heterosexual counterparts. The situation on campus for transgender/gender non-conforming respondents was also unwelcoming (Rankin, Weber, Blumenfeld, & Frazer, 2010). K-12 and college classrooms are often described as spaces where both students and teachers feel it is risky to reveal their non-conforming sexual identities (Horvitz, 2011; Kissen, 2002). At our institution, current climate surveys point to similar issues. The 2009-2010 Diversity Learning Environment Survey developed by Higher Education Research Institution (HERI) and conducted at our institution indicated that LGBTQ students rank our institution as more “hostile,” “intolerant,” “sexist,” “conservative,” and “impersonal” than do their heterosexual counterparts (University of San Diego, Institutional Research and Planning, n.d.). Additionally, our institution received 2.5 out of 5 stars on the 2011-2012 Campus Pride LGBT-Friendly Campus Climate Index (Campus Pride, 2012).

Although in higher education, definitions and application of diversity and inclusion may differ in the curriculum, it is commonly acknowledged that the purpose of these courses is to expose students to potential biases and prejudices that they and society may hold and to allow an opportunity for reflection and change (Airton, 2009; Grauerholz, 2001; Johnson, 2001; Sedgwick, 1988). For example, curricular/co-curricular programs focusing on racial/ethnic diversity have been shown to be positively associated with student learning outcomes such as intergroup attitudes (Lopez, 2004); racial prejudice and intergroup understanding (Chang, 2002); attitudes toward campus diversity (Springer, Palmer, Terenzini, Pascarella, & Nora, 1996); critical thinking skills (Laird, Engberg, & Hurtado, 2005; Pascarella, Palmer, Moye, & Pierson, 2001); cognitive and affective development (Astin, 1993); and changes in the way white students read, consider, and research issues raised in class, and collaborate on class projects (Alger et al., 2000). While they have a narrow definition of diversity, Littleford (2013) found that 40.2% of students surveyed from a medium-sized Midwestern university reported that it was important or very important for instructors to include diversity issues in their courses. Students felt that diversity education would help prepare them to work in a culturally diverse workplace as well as gain more awareness and understanding of people from backgrounds that may be different than theirs.

At our institution, students are required to take a course that explicitly engages issues of diversity. However, this requirement only includes courses that focus on race and ethnicity; it does not include courses that focus on sexual diversity. The accreditation body for our institution specifically pointed out the narrow focus of our diversity requirement and recommended that we expand the definition. This exclusion along with the fact that the institution highlighted in this paper is an independent Roman Catholic university, motivated a group of faculty (the authors of this study) to design a cluster of courses that would directly address sexuality as a diversity issue. These faculty members implemented a novel approach in their courses that included a combination of common learning outcomes and experiences focused on sexuality as a diversity issue. The intentional design of the cluster facilitated the examination of the impact on attitudes and learning of incorporating diversity education into the curriculum that focuses on sexuality as the diversity issue. Dessel,
Woodford, Routenberg, and Breijak (2013), Case and Stewart (2010), Case, Hensley, and Anderson (2014), and Waterman, Reid, Garfield, and Hoy (2001) all provide examples demonstrating the positive impact of LGBTQ-inclusive curriculum on learning and/or awareness of the LGBTQ community. Additionally, GLSEN (2013) found that attending a K-12 school with a Lesbian, Gay, Bisexual, and Transgender (LGBT)-inclusive curriculum is related to a less hostile school experience for these students. Importantly, LGBTQ students are not the only ones who benefit from inclusive curriculum; heterosexual students benefit as well through an expanded understanding of LGBTQ persons and their struggles against homophobia, heterosexism, and genderism (Guess, 2011; Hubbard & De Welde, 2003; Munin & Speight, 2010; Nunn, Sgoutas-Emch, Sumner & Kirkley, 2016; Simoni & Walters, 2001).

Addressing the topic of sexuality as a diversity issue requires innovative teaching that engages students in the course material in a deep and meaningful way. Waterman et al. (2001) showed that based on student ratings, guest speakers, movies, lectures, and giving presentations were assessed to be more effective teaching strategies for discussing sexual diversity than textbook readings and viewing other students’ book presentations. In another example, Nunn and Bolt (2015) found that asking college students to wear a rainbow bumper sticker for 24 hours fostered ‘deep learning’ on heteronormativity and heterosexual privilege. Many students experienced discomfort wearing the rainbow sticker and articulated in self-reflection papers they were surprised by their own reactions. Although many heterosexual students thought of themselves as supporters of the LGBTQ community, they felt anxiety and fear over the possibility that people would see them as gay or lesbian themselves. Students rated the rainbow sticker activity positively in terms of helping them recognize heterosexual privilege, helping them empathize with others who hold minoritized sexual identities, and for helping them recognize how homophobia influences conformity to heterosexual norms. Taking this evidence into account, the authors designed their courses to include a variety of common learning experiences.

Integrative learning in the form of multi-disciplinary courses was also an essential part of the learning experience for the students enrolled in the cluster courses. In an issue of Peer Review (Carey, 2013) on capstone and integrative learning, the editor highlights the importance of providing students in higher education with opportunities “to integrate, synthesize and apply knowledge” (p. 4) as essential elements for deep and meaningful learning experiences. An example of such an opportunity is to have students take a cluster of courses from different disciplines around a theme such as Food or Social Justice. These cluster courses are becoming more common in higher education with institutions such as Boston University and Portland State University offering some form of cluster classes.

Along with cluster courses, others have outlined the importance of developing common learning assignments and rubrics in transforming learning outcomes into measurable and achievable outcomes (Goomas & Weston, 2014). The definition and measurement of diversity outcomes are difficult and therefore, any technique that helps to bring this vague, abstract concept to a more concrete and
measurable outcome is an important tool in higher education. Furthermore, diversity requirements are prevalent across the nation with many schools requiring some form of diversity coursework as part of the general education curriculum (Association of American Colleges & Universities, 2016).

Finally, it is important to note that the majority of studies cited thus far were done at secular institutions of higher learning. The literature on LGBTQ curricula in religiously-affiliated institutions is scant (Rockenbach & Crandall, 2016). As mentioned previously, our university campus is an independent Roman Catholic institution, which throughout its history has at times supported the LGBTQ and ally² communities and at other times, hesitated, for fear of violating or transgressing official Catholic teachings and offending alumni and potential donors. As a result our courses were among the first focused explicitly on sexual diversity and the first to measure student learning and attitudes related to sexual diversity. Developing this curriculum took several years and required a clear rationale aligned with our Roman Catholic mission and values as to why such courses should be included in the curriculum. We obtained the approval of not only our departments but also the Deans of our respective schools, a step unnecessary for a less controversial subject. This approval was requested in part due to the concern that alumni or donors may protest the inclusion of these courses as inappropriate for a Roman Catholic institution. To our knowledge no complaints were lodged.

To contextualize the current study further, our student population differs from that at a secular university. Compared to state universities in the area, our students have a higher percentage of Roman Catholic backgrounds. Approximately 50 percent of our student body identifies as Roman Catholic, with at least 25% of the student body having attended Catholic secondary schools. Anecdotally, many of our students identifying as Catholic are baptized but not confirmed, meaning their relationship with the Church may be tenuous at best. Many of our students identify as Republican, have wealthy socio-economic backgrounds, and entered college immediately after high school at 17 or 18. Some families undoubtedly send their children to our university because it is small, values-based, and provides many student resources, and we are perceived as an in loco parentis campus. At the same time, the students who self-selected our courses indicated a high level of interest in sexuality as a diversity issue; they were familiar with LGBTQ vocabulary (80.95%), were personally acquainted with at least one LGBTQ person (84.71%), and believed LGBTQ people should have the same rights as heterosexuals (89.29%). Therefore, despite being a university affiliated with an institution historically unfriendly to the LGBTQ community, our students indicated they were not.

Teaching these courses at the university, we highlighted Catholic teachings on homosexuality, same-sex marriage, and gender fluidity. We presented pro- and con-perspectives on most issues, to be both as balanced as possible and also in alignment with our university mission and values. While the courses may look slightly

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² At our university, the term ally (as used by the campus safe space allies program) refers to someone who validates and supports members of a community, regardless of whether or not they belong to that community.
different from how the same courses might be taught at a secular university, we offer this study as a means of approaching sexuality as a diversity issue in both secular and religiously-affiliated institutions. The intentional design of the courses incorporated two common identical learning outcomes in all courses, provided common learning experiences that allowed students to be exposed to sexual diversity issues from multiple disciplinary perspectives, and encouraged students to explore the intersectional nature of identity. The intention was that the unique design of the courses would advance students’ recognition and understanding of different sexualities and gender identities and increase empathy toward such diverse communities.

There are three main purposes to this study. First, to analyze whether exposure to LGBTQ curriculum in the cluster courses impacts student perceptions about the LGBTQ community and attitudes toward sexuality. Second, to assess student learning as it pertains to sexuality as a diversity issue. This was accomplished by developing rubrics with criteria that aligned with two common learning outcomes focused on sexuality as a diversity issue. Finally, to examine how the common learning experiences contributed to students’ perceptions of their own learning towards LGBTQ-themed topics.

**Method**

This study was approved by the Institutional Review Board at the university, and students had the option to opt out of having their data included in the study.

**Common Learning Outcomes and Learning Experiences**

In order to assess whether the courses provided students with opportunities to learn how sexuality fits within the realm of diversity, the faculty who taught the cluster courses developed two common learning outcomes for all courses. Rubrics were developed (on a scale of 1 = Missing to 5 = Advanced) to align with these learning outcomes (see Appendix A). The learning outcomes (LO) were the following:

1) Demonstrate the application of sophisticated, culturally sensitive vocabulary when discussing sexual diversity that expresses not only appreciation of differences but cultural empathy for and awareness of the social marginalization and political disenfranchisement of sexual minorities. **LO1**

2) Critically examine the intersections of sexuality, race, ethnicity, gender, religion, and age within the contexts of power relationships that lead to systemic inequities. **LO2**

Students participated in four common learning experiences designed to address one or more of the criteria developed for student learning. These included an LGBTQ awareness workshop, a transgender speaker, a tour of the local “gayborhood,” and a documentary film on same-sex couples (see Appendix B for details). Quantitative and qualitative data were gathered to assess learning using surveys (measuring attitudes about sex and LGBT individuals), a questionnaire (to assess
students’ experiences and perceived learning from the courses) and four reflective essay prompts (see Appendix C).

Participants

Participants for the study were all undergraduate students \((N = 85)\) from a private, independent Roman Catholic institution, representing 82.5% of students enrolled in one or more of four cluster courses designed to emphasize sexuality as a diversity issue. Faculty teaching the courses were all part of a learning community that focused on researching the theme of sexuality and developing linked and multidisciplinary cluster courses. The four courses included *Explorations in Human Sexuality* offered by the Department of Psychological Sciences, *Out of the Closet and into the Business World* in the School of Business Administration (Economics/Business), *Sexuality and Borders* in the Department of Sociology and *Homosexuality and Christianity* in the Department of Theology and Religious Studies. All courses are elective; however, the Christianity and Homosexuality course is one of many Theology and Religious Studies courses that may fulfill a graduation requirement.

Consent to participate in the study was received by 97 of the 107 (90.7%) unique students that originally enrolled in the courses. Four students were enrolled in two courses concurrently. Out of the 97 students who provided consent, one student was auditing the class and did not complete all assignments, and three students dropped the course. Only participants that had both pre and post survey scores and reflection prompt scores were included in the analysis resulting in an additional eight students that were dropped from the analysis. Therefore, the final data analysis was completed for 85 of the students. Table 1 shows the participation rate across the four classes. Gender was the only piece of demographic information that was collected and the sample was comprised of 62.4% female, 36.5% male and 1.2% other. Additionally, at the end of the semester the participants’ final course average grades were recorded. The average grade across all classes was 87.48% with a standard deviation of 6.91 percentage points.

Procedure

All students enrolled in the courses were invited to participate in the study. Only data from 85 students who signed the consent form were included in any analysis.

During the first lecture period, students were given a packet which included the questionnaires, pre-essay prompt, labelled scantron forms and the consent form to complete before the end of the class period. Instructors read from a script about the purpose of the study. All packets were returned to the instructors and then handed to the research assistants who coded each student’s name to ensure confidentiality. All data from students who did not sign the consent form were excluded from the analysis. The instructors did not see any of the survey data until after final grades for the course were submitted. Furthermore, all essay prompts were not analyzed until after names were removed and grades were submitted.
During the semester, reflection essays were collected for the LGBTQ awareness workshop and documentary film as other data measures. The four common learning experiences occurred at different time points across the semester.

At the end of the semester, students were handed another packet with post questionnaires, scantrons and the post-essay prompt to be completed in class. Again, packets were collected and handed to the research assistants.

Questionnaire scantrons were run through a machine that recorded the responses. Essay responses were coded for the criteria developed on the rubrics (see coding below). For the pre/post-essay and LGBTQ workshop reflection essay, the criteria examined included language/vocabulary, recognition and appreciation of difference, empathy, and recognition of social marginalization and political disenfranchisement. The reflection essay from the documentary was coded for intersectionality, understanding power and identifying inequities, and recognition of identities criteria.

Results

Pre-post comparisons. Non-parametric statistics were used to compare pre and post scores on the LGBT attitude and sexuality attitude scales. All essays were coded along a scale of 1 = missing and 5 = advanced for each of the criteria associated for that particular essay.

Coding of essays. The four faculty members scored the four pieces of student work according to rubrics (scaled 1-5) that were developed to assess our learning outcomes. Each writing task was scored independently of the other three tasks. In order to obtain inter-rater reliability, four essays were randomly selected to be scored independently by each of the four faculty members. A norming session followed in which scores were compared and discussed for each of the criteria and levels within the rubrics.

Each student case was randomly assigned to two coders (faculty members), with each coder sharing an equivalent number of cases with every other coder. Each coder had an equivalent number of cases from each of the four courses. When the two coders’ scores differed by more than 2 overall points (out of a possible 15 or 20 points, depending on the rubric), those two coders discussed the case and came to agreement (within 2 points).

The results of this study are provided in three parts. Part 1 considered how the courses impacted students’ attitudes toward sexuality and the LGBTQ community. Next the impact of the courses on students’ learning by assessing the learning outcomes related to sexual diversity for the courses were considered. Finally, students’ perceptions of how their learning was impacted by the common course experiences were examined. A 5% level of significance was used for all statistical testing.
Table 1

Participant Characteristics across Cluster

<table>
<thead>
<tr>
<th>Course</th>
<th>Participated</th>
<th>Enrolled</th>
<th>Participation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychology</td>
<td>17</td>
<td>25</td>
<td>77.3</td>
</tr>
<tr>
<td>Economics/Business</td>
<td>19</td>
<td>22</td>
<td>86.4</td>
</tr>
<tr>
<td>Sociology</td>
<td>26</td>
<td>33</td>
<td>81.3</td>
</tr>
<tr>
<td>Theology and Religious Studies</td>
<td>23</td>
<td>27</td>
<td>85.2</td>
</tr>
<tr>
<td>Total</td>
<td>85</td>
<td>107</td>
<td>82.5</td>
</tr>
</tbody>
</table>

*Note.* The participation rate is calculated as the number that participated divided by the number enrolled less the number that dropped/audited the class.

Attitudes toward Sexuality and the LGBT Community

At the beginning and end of the semester, participants completed a survey to record their attitudes toward sexuality and the LGBT community. Using the Related-Sample Wilcoxon Signed Rank Test, no statistically significant differences were found on any of the subscales for the Sexuality Attitudes Survey when comparing the pre- and post-surveys. Two statistically significant differences were found in terms of attitudes toward the LGBT community. At the end of the semester students had a more positive response regarding their familiarity with the term LGBT (*p* = 0.048) and their belief in the importance of having LGBT content in all courses (*p* = 0.006). In addition to the non-parametric analysis, we also computed the proportion of students that strongly agreed with a given statement indicating attitudes toward the LGBT community. Participants generally reported a very positive attitude toward the LGBT community at the start of the semester. As seen in Table 2, across all statements except one (LGBT themed content should be included in all courses) more than 80% of participants strongly agreed with the positive LGBT attribute. Furthermore, the percentage of participants strongly agreeing with the positive attribute increased for all of these statements except for the statement that LGBT individuals should have all the same rights as heterosexuals in the United States, which decreased slightly. As shown in Figure 1, the portion of participants that strongly agreed with the view that LGBT content should be included in all courses was considerably lower (42.35%) at the beginning of the semester. As shown in Table 2, dependent paired sample *t*-tests showed that a higher proportion of students strongly agreed with the idea that LGBT themed content should be included in all courses at the end of the semester than compared to the beginning of the semester with *t*(81) = 2.72, *p* = 0.008, *R*² = 0.08. The effect size indicates that this difference was small to almost medium. For all other statements, the differences in the proportion of students that strongly agreed with the given statement were not statistically significant (*p* > 0.05). Additionally, Mann Whitney tests demonstrated there was no evidence of gender differences found for any of the variables measuring the students’ attitudes toward sex or their attitudes regarding the LGBT community that we compared in this portion of the study.
Table 2

Percentage of Participants that “Strongly Agree” with the Following Statements

<table>
<thead>
<tr>
<th>Statement</th>
<th>PRE %</th>
<th>POST %</th>
<th>t-stat (p-value) (df)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Familiar with term LGBT</td>
<td>80.95</td>
<td>93.83</td>
<td>1.83 (0.072) (79)</td>
</tr>
<tr>
<td>Know an LGBT person</td>
<td>84.71</td>
<td>95.00</td>
<td>1.49 (0.141) (79)</td>
</tr>
<tr>
<td>Comfortable around LGBT</td>
<td>83.53</td>
<td>95.00</td>
<td>1.35 (0.181) (79)</td>
</tr>
<tr>
<td>Spend social time with LGBT</td>
<td>82.35</td>
<td>87.65</td>
<td>0.74 (0.459) (80)</td>
</tr>
<tr>
<td>LGBT theme in all course content</td>
<td>42.35</td>
<td>53.66</td>
<td>2.72 (0.008) (81)</td>
</tr>
<tr>
<td>LGBT same rights</td>
<td>89.29</td>
<td>88.89</td>
<td>-0.63 (0.530) (79)</td>
</tr>
<tr>
<td>LGBT legal to marry</td>
<td>82.93</td>
<td>88.61</td>
<td>0.93 (0.357) (76)</td>
</tr>
</tbody>
</table>

Note. Statistical testing was performed at p < 0.05.

Figure 1. Participant percentage response to statement “Believe in the importance of having LGBT content in all courses”.
Assessing Sexual Diversity Learning Outcomes

To assess student learning during the course of the semester we analyzed the pre and post writing reflections and the LGBTQ workshop reflection according to the four criteria (language/vocabulary, recognition and appreciation of difference, empathy, and recognition of social marginalization and political disenfranchisement) described in the rubric. Figure 2 shows the average score for the pre and post writing reflections (shaded and striped bars) for each of the four criteria. Across all four criteria there was an increase in the average score with the largest difference being for the recognition of social marginalization and political disenfranchisement criteria from 2.28 to 3.12 (out of a possible score of 5). Statistical analysis comparing pre and post measures was completed using Related-Sample Wilcoxon Signed Rank Test. All analyses showed statistically significant increases at \( p < 0.001 \) level. Change score calculations (POST – PRE Ratings) showed that a culturally sensitive accurate use of language had the smallest difference (\( M = 0.59 \pm 0.92 \)) and ability to describe relationships between one’s sexual minority status and social marginalization and political disenfranchisement showed the largest difference (\( M = 0.84 \pm 1.14 \)). All four component change scores were significantly positively correlated demonstrating these were interrelated concepts. Students also completed a writing reflection following an LGBTQ awareness workshop, which was scored on the same four criteria. As shown in Figure 2, across all four criteria the average score for the LGBTQ awareness workshop writing reflection (unshaded bar) was higher than for either the pre or post writing assignments. Interestingly, the empathy criterion that scored lowest out of the four criteria on both the pre and post reflection essay received the highest average score of the four criteria for the LGBTQ awareness workshop reflection essay.

Figure 2. Average scores on rubric criteria for pre/post (\( N = 85 \)) and LGBT workshop reflections (\( n = 72 \)).
A different set of criteria were used to assess the documentary film writing reflection. These criteria included intersectionality, understanding power and identifying inequities, and recognition of identities. The mean score for the documentary film writing reflection using the three criteria were 3.56, 4.01, and 3.74 for the intersectionality, understanding, and identity criteria respectively. Overall, students had the most difficult time articulating the concept of intersectionality. Students were best able to analyze the relationships between power and privilege and the resulting inequities.

Table 3

<table>
<thead>
<tr>
<th>Common Learning Experience</th>
<th>Intersectionality</th>
<th>Vocabulary</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>LGBT Awareness Workshop</td>
<td>9</td>
<td>9</td>
<td>30.6</td>
</tr>
<tr>
<td>Transgender Guest Speaker</td>
<td>9</td>
<td>9</td>
<td>34.1</td>
</tr>
<tr>
<td>Tour of Local “Gayborhood”</td>
<td>8</td>
<td>8</td>
<td>11.8</td>
</tr>
<tr>
<td>Documentary on Same-Sex Couples</td>
<td>9</td>
<td>8</td>
<td>21.2</td>
</tr>
</tbody>
</table>

*Note.* The percentage represents the percentage of students who reported that particular experience as having the most impact on their learning.

Impact of Common Course Experiences

We were also interested in whether or not students perceived the common course experiences as contributing to their learning. To do this the results of a survey that was completed at the end of the semester by the students was examined (see Appendix D). The students were asked to rate on a scale of 1 (*Not at All*) to 10 (*Very Much*) how the common course experience contributed to their learning (in terms of the two common course learning outcomes). Table 3 displays the median scores related to the two course learning outcomes for each of the four common course experiences as well as the percentage of students who reported that experience as having the most impact on their learning. The median score for the overall experience with the cluster course was 9. For all common experiences, the students with the median score perceived that the experience contributed highly to his or her learning related to the two common course learning outcomes. Furthermore, there was no single experience that was most valued by the majority of students, although the LGBTQ awareness workshop and Transgender Speaker were most impactful on student learning for at least 30% of the students, while the tour of the local “Gayborhood” was most impactful for approximately 10% of students.

In the survey, students were also asked to think about how the common experiences helped them to think about different aspects of their learning related to the
course. Responses, shown in Figure 3, measure how the experiences helped them think about the concepts learned in their course; recognize how homophobia influences conformity to heterosexual norms and expectations for behavior; empathize with people who hold minoritized sexual identities; and recognize some of their own heterosexual privilege. While approximately 10% of the students did not find the common experiences beneficial (strongly disagreed), a much larger majority of students found the experiences as contributing to their learning (agreed or strongly agreed). Overall, over 80% agreed or strongly agreed that the events helped them think about course concepts, recognize how homophobia influences conformity to heterosexual norms and expectations for behavior, empathize with people who hold minoritized sexual identities (e.g. homosexuals, bisexuals, and transsexuals), and recognize some of their own heterosexual privilege.

![Figure 3. Percentage of student who rated each common learning outcome.](image)

Using Spearman correlations, there was a small significant relationship between student’s final grade in the course and their overall rating of their experience with the cluster, $r_s(84) = 0.22, p = 0.04$. Students who had lower grades rated their experience significantly lower overall. Additionally, significant correlations were found between their overall experience score and the experiences for each of the individual common events, as well as a significant relationship between the overall experience and whether LGBT individuals should have the same rights as heterosexuals, $r_s(79) = 0.24, p = 0.03$. This suggests that the higher a student rated the overall experience, the more likely the student also perceived the individual common experiences as contributing to their learning and the more likely they are to support
that LGBT individuals should have all the same rights as heterosexuals in the United States. These variables were also positively correlated with the average grade in the course.

**Discussion**

The lack of diversity and inclusiveness on college campuses has been a concern for decades (Gurin, Dey, Hurtado, & Gurin, 2002; Hurtado, 2007). In that time, evidence has mounted to substantiate the importance of diversity to students’ learning and overall college experience (Chang, 2002). Historically, most efforts have focused on identities such as race, ethnicity and gender to define diversity. It is less often that one’s sexual orientation and gender identity have been considered. New solutions and interventions are offered in this research with the idea that once implemented, our campuses will be a more welcoming place for all students. Including curriculum that is inclusive of LGBTQ topics and presents the LGBTQ community positively is one method of improving campus climate and educating undergraduate students to the role sexual orientation and gender play as a diversity issue (GLSEN, 2013). In addition, utilizing innovative pedagogical approaches such as cluster course structures and common learning experiences has been shown to enhance student engagement and learning. The purpose of the current study was to examine how the implementation of a cluster of multidisciplinary courses with the theme of sexuality as a diversity issue would impact student learning around two common learning outcomes as well as their attitudes toward the LGBTQ community.

In this study’s four-course cluster, no statistically significant differences were seen across the semester with regards to students’ sexual attitudes. Considering students’ attitudes toward the LGBT community were already fairly positive at the beginning of the semester, it is perhaps not surprising that the scores either did not change or increased only slightly. Because all of the courses in the cluster were electives, selection bias may have played a role. Students enrolled in the courses may have been motivated to explicitly take up issues of sexuality and may have already been avid supporters of the LGBTQ community. Some students were community members themselves. Unfortunately, we did not ask whether students were LGBTQ; therefore, we were unable to do any analysis to see if students who self-identified as LGBTQ had different responses. Interestingly, we found statistically significant evidence that students’ familiarity with the term LGBT increased from the first day of class to the last day of class. In addition, students were more likely to agree at the end of the semester that LGBT-themes should be included in all courses than compared to the beginning. This suggests that participation in the cluster courses may increase awareness of the need and importance to have these topics carryover and discussed in other disciplines.

Overall, the data support the implementation of LGBTQ-themed courses in increasing students’ understanding, empathy and ability to critically think and write about sexual orientation as part of their identity that impacts quality of life and how society treats a person. Content analysis of the pre/post reflective essays showed that students’ scores improved for all criteria of the learning outcomes of the cluster courses. Empathy seemed to be the criterion on which students improved the most as
a result of the LGBTQ awareness workshop. During this workshop students completed a guided meditation spending a day in the life of a gay/lesbian individual. This activity may have elicited a greater sense of empathy than the pre and post writing prompt that simply asked the students to consider a situation about themselves. This finding parallels the results of other scholars that have seen an increase in empathy related to exposure to diversity curriculum (Carrell, 2009; Cole, Rios, Case, & Curtin, 2011).

Of particular interest was how quickly the learning and transition could take place with just one activity. Somewhat surprisingly, students scored higher on the writing reflections for the LGBTQ awareness workshop, which took place on either the first or second day of class, than they did for the pre (and post) writing reflection prompt. However, this assignment was a take-home assignment (due one-week after the workshop) on which the students had more time to reflect and edit their responses. It was clear that scores on the learning outcomes criteria were higher when students were given more time to reflect and may explain why the pre and post essay prompts produced weaker scores.

Empathy seemed to be the criterion on which students improved the most as a result of the LGBTQ awareness workshop.

As for the documentary film experience, many students did not seem to be able to articulate the concept of intersectionality as well as the concepts of marginalization, power, and privilege. This points to the need for better instruction with regard to the tenets of intersectionality and the importance of the concept. Reflecting back on our courses’ content, we realize that across all of the courses not enough time in class was spent examining this concept, and we need to change the curriculum to highlight the tenets of intersectionality more intentionally in the future. Students also seemed to confuse ethnoracial identity with national identity, as national identity was a focus of the film, but the prompt listed racial identity as a possible focus for the reflection essay. In the future, we need to explicitly discuss race as distinct from nationality in order to help students more successfully understand the distinction.

As for the common learning experiences, students reported that these experiences were instrumental in their learning. All common learning experiences were rated highly by the majority of students with the Transgender Speaker rating the highest. These experiences seemed to be perceived by the students as being helpful in their learning on intersectionality and use of culturally sensitive vocabulary. In addition, students overwhelmingly agreed that the common learning experiences helped them understand course concepts; recognize the influence of homophobia; feel empathy for sexual minorities; and recognize their own privilege. Correspondingly, the assessment of their learning corroborated the students’ self-reported perceptions. Using the criteria developed for the two common learning outcomes to score student work at the beginning and at the end of the courses, ratings on the rubric scale increased for all the criteria including language, recognition, empathy and marginalization. Because both student perception and measures of student learning were aligned, we believe exposure to the common learning experiences had a meaningful impact on the students. Finally, because student learning and not just attitudes and perceptions were measured and because gains were made in all classes
that were part of the cluster, regardless of content, our approach seemed to have improved students’ ability to discuss diversity issues as they apply to sexuality.

There are several limitations we should note. Since students were made aware that the courses they were taking were part of an LGBTQ-themed cluster of courses and the courses were electives, students interested in the topic probably self-selected into the courses. Additionally, the prompt that we utilized as the pre-post reflective essay prompt was written with a heteronormative bias and therefore, our LGBTQ students may not have known how to best respond to the essay question. The pre reflective essay prompt brought about the opportunity to discuss with our students heteronormativity in our course content. In the future, a more neutral prompt should be included so that all students are able to respond comfortably. As mentioned earlier, the post essay prompt was given at the same time as student evaluations and many students did not seem to have spent much time writing. It was clear that the LGBTQ awareness workshop and documentary film reflection essays in which the students had more time to reflect produced better quality responses.

The completion of our work on this research project has provided us with the opportunity to consider additional lines of investigation that could be completed in the future. Our analysis suggested that intersectionality was a topic that students had difficulty understanding. Research that provides concrete suggestions for how to better incorporate concepts of intersectionality into the curriculum would be welcomed. Likewise, both bisexuality and transgender issues are oftentimes misunderstood by students and overlooked in sexuality curriculum, so research that specifically analyzes understanding of these topics would help to further improve diversity education and student learning. Finally, our university recently adopted a new graduation requirement that students must complete two diversity courses. Future research might examine whether institutions that require more than one diversity course show stronger student learning results than institutions that require only one diversity course.

Institutions of higher education need to examine how they might improve and support the implementation of expanded definitions of diversity to include sexuality. Furthermore, the research supports using innovative pedagogical approaches such as cluster courses, common learning outcomes, integrated assignments, and common assessments to support student learning and experiences. In the future, institutions planning to implement diversity courses that outreach to identities, such as sexuality, should support the development of curriculum that is multi-disciplinary and innovative in its approach. It is suggested that institutions invest time and effort to design such courses and an equal amount of time to building assessments of student learning which provide a feedback mechanism for continuous improvement of diversity courses in efforts to improve student learning outcomes.


### Appendix A

**Rubric #1 Documentary Film on Same Sex Couples Reflection Essay**

<table>
<thead>
<tr>
<th>Rubric</th>
<th>5 points</th>
<th>4 points</th>
<th>3 points</th>
<th>2 points</th>
<th>1 point</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intersectionality</strong></td>
<td><strong>Advanced</strong></td>
<td><strong>Approaching Advanced</strong></td>
<td><strong>Adequate</strong></td>
<td><strong>Minimal</strong></td>
<td><strong>Missing</strong></td>
</tr>
<tr>
<td>• Exemplary articulation of the concept of intersectionality</td>
<td>• Clear articulation of the concept of intersectionality</td>
<td>• Generally describes concept of intersectionality</td>
<td>• Incompletely describes concept of intersectionality</td>
<td>• Unable to describe concept of intersectionality</td>
<td></td>
</tr>
<tr>
<td>• Provides concrete, relevant example related to the film</td>
<td>• Provides relevant example related to the film</td>
<td>• Provides an example at least somewhat related to the film</td>
<td>• Unclear, irrelevant, or inaccurate example</td>
<td>• Provides no examples</td>
<td></td>
</tr>
<tr>
<td>• Explains the compounding effects of multiple statuses and how they create a distinctive experience for the Individual</td>
<td>• Identifies compounding effects of multiple statuses</td>
<td>• Accurately identifies effects of multiple statuses, but treats them separately</td>
<td>• Incompletely identifies effects of multiple statuses</td>
<td>• Unable to identify effects of multiple statuses</td>
<td></td>
</tr>
</tbody>
</table>
### Understanding Power and Identifying Inequities
- Exemplary critical analysis of the relationships between power, privilege and the resulting inequities
- Provides concrete, relevant examples related to the film
- Critical analysis of the relationships between power, privilege and the resulting inequities
- Provides relevant examples related to the film
- Provides description of the relationships between power, privilege and the resulting inequities
- Provides examples somewhat relevant to film
- Incompletely describes the relationships between power, privilege and the resulting inequities
- Unclear, irrelevant, or inaccurate example
- Unable to describe the relationships between power, privilege and the resulting inequities
- Provides no examples

### Recognition of Identities
- Exemplary articulation of at least two distinct identities / statuses
- Clear articulation of at least two distinct identities / statuses
- Clear articulation at least one identity / status
- Incompletely describes at least one identity / status
- Unable to describe at least one identity / status

### Language Vocabulary
- Sophisticated, accurate, culturally sensitive use of language / vocabulary related to sexual diversity (by using inclusive terminology, recognizing fluidity, social construction, not casting group as the “other”)
- Accurate, culturally sensitive use of language / vocabulary
- Accurate use of language / vocabulary displaying inconsistent cultural sensitivity
- Incomplete or inaccurate use of language / vocabulary largely lacking cultural sensitivity
- Does not display accurate use of language / vocabulary (no evidence of cultural sensitivity)

### Recognition and Appreciation of Difference
- Sophisticated articulation of the differences among sexual identities
- Clear articulation of the differences among sexual identities
- Generally describes differences among sexual identities
- Incompletely or inaccurately describes differences among sexual identities
- Unable to describe differences among sexual identities

### Appendix A cont’d
Rubric #2: Pre and Post Essay and LGBTQ Awareness Workshop Reflection Essay

<table>
<thead>
<tr>
<th>Rubric</th>
<th>5 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language Vocabulary</td>
<td>Advanced</td>
</tr>
<tr>
<td></td>
<td>Approaching Advanced</td>
</tr>
<tr>
<td></td>
<td>Adequate</td>
</tr>
<tr>
<td></td>
<td>Minimal</td>
</tr>
<tr>
<td></td>
<td>Missing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rubric</th>
<th>1 point</th>
</tr>
</thead>
</table>

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<table>
<thead>
<tr>
<th>Recognition and Appreciation of Difference (cont’d)</th>
<th>• Displays appreciation for the role differences play in the lives of sexual minorities</th>
<th>• Displays some appreciation for the role differences play in the lives of sexual minorities</th>
<th>• Inconsistently displays appreciation for the role differences play in the lives of sexual minorities</th>
<th>• Largely lacking appreciation for the role differences play in the lives of sexual minorities</th>
<th>• Does not display an appreciation for the role differences play in the lives of sexual minorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empathy</td>
<td>• Sophisticated articulation and demonstration of the ability to place oneself inside the worldview or experience of members of a sexual minority</td>
<td>• Clear articulation and demonstration of the ability to place oneself inside the worldview or experience of members of a sexual minority</td>
<td>• General description of the worldview or experience of members of a sexual minority with some demonstration of the ability to place oneself inside that worldview</td>
<td>• Inaccurate or incomplete description of the worldview or experience of members of a sexual minority with minimal demonstration of the ability to place oneself inside that worldview</td>
<td>• Unable to describe the worldview or experience of members of a sexual minority and unable to demonstrate the ability to place oneself inside that worldview</td>
</tr>
<tr>
<td>Recognition of Social Marginalization and Political Disenfranchise ment</td>
<td>• Sophisticated articulation of relationships between one’s sexual minority status and social marginalization and political disenfranchise ment. Provides concrete, relevant examples</td>
<td>• Clear articulation of relationships between one’s sexual minority status and social marginalization and political disenfranchise ment. Provides relevant examples</td>
<td>• Generally describes relationships between one’s sexual minority status and social marginalization and political disenfranchise ment. Provides somewhat relevant examples</td>
<td>• Incompletely or inaccurately describes relationships between one’s sexual minority status and social marginalization and political disenfranchise ment. Unclear, irrelevant, or inaccurate examples</td>
<td>• Unable to describe relationships between one’s sexual minority status and social marginalization and political disenfranchise ment. Provides no examples</td>
</tr>
</tbody>
</table>

**Appendix B**

**LGBTQ Awareness Workshop.** Here Rainbow Educators (a group of students, staff, alumni/ae and faculty who create and present interactive workshops on diversity topics with particular focus on the LGBTQ community) did a workshop for each class separately and focused on three main activities. Culturally-sensitive vocabulary was emphasized in the first part of the workshop followed by an activity that asked students to think about their various identities called “Four Corners”. The last activity was a guided meditation called a “Day in the Life” and asked students to imagine what it would be like to be gay or lesbian for one day.
Transgender Speaker. The speaker was a Female to Male transgender individual who spoke to the students about what life was like for him prior to his transition and how life has changed. The speaker also emphasized culturally-sensitive vocabulary relevant to the transgender community. The speaker event occurred during the course time for the Psychology and Sociology courses.

Tour of Local “Gayborhood.” The tour began at the city LGBTQ Resource Center where students learned about the center and its programs. There was a neighborhood scavenger hunt where students visited businesses and historical landmarks in groups with members of each of the four classes. The day ended at a local gay-owned restaurant with a gay city council member and alumnus discussing his life and politics. This tour occurred during the weekend in which the majority of the students attended.

Documentary Film on Same-Sex Couples. The film followed a bi-national (one partner is a U.S. citizen and the other is a German citizen), gay couple and documented the difficulties they faced while attempting to stay together. The emphasis was on intersectionality. All students were required to view the documentary. Students had an option of watching in a large group setting which was followed by the four cluster faculty giving their perspectives from their specific disciplinary lens. The other option was to watch the video separately.

Appendix C

Surveys

The Brief Sexual Attitudes Scale (Hendrick, Hendrick & Reich, 2006). This 23-item Likert scale measures individual attitudes about sex. This shortened version was developed from the original multidimensional Sexual Attitudes Scale (43 items; Hendrick & Hendrick, 1987). Subscales include permissiveness, birth control attitudes, communion (communication) and instrumentality.

College Students’ Attitudes toward LGBT Individuals (Johnson & Greeley, 2007). This 7-item Likert scale measured student’s attitudes toward LGBT individuals including familiarity, gay marriage, and social interactions.

Learning Assessment Questionnaire. This 14-item survey was designed by the faculty to assess students’ experiences and perceived learning from the courses (see Appendix D).

Reflective Essay Prompts. Qualitative data was gathered through four reflective essays that students completed during the course of the semester. Details of the reflective prompts can be found in Appendix E.
Appendix D
Learning Assessment Questionnaire
Please mark the most appropriate answers on the Blackboard Survey Measure.

The Common Learning Activities for the cluster courses (Tour of Hillcrest, Rainbow Educators, Connor Maddocks Presentation, Film “Excluded”) helped me to:

1. Think about the concepts learned in this course
   a. strongly disagree
   b. disagree
   c. neither disagree nor agree
   d. agree
   e. strongly agree
2. Recognize how homophobia influences conformity to heterosexual norms and expectations for behavior
   a. strongly disagree
   b. disagree
   c. neither disagree nor agree
   d. agree
   e. strongly agree
3. Empathize with people who do not have normative sexual identities, e.g. homosexuals, bisexuals, and transsexuals
   a. strongly disagree
   b. disagree
   c. neither disagree nor agree
   d. agree
   e. strongly agree
4. Recognize some of my own heterosexual privilege
   a. strongly disagree
   b. disagree
   c. neither disagree nor agree
   d. agree
   e. strongly agree
   f. Not applicable (I do not identify as heterosexual)

Please rate on a scale of 1-10 (or N/A if you did not attend this event) how much each of the events contributed to your ability to critically examine the intersections of sexuality, race, ethnicity, gender, religion, and age within the contexts of power relationships that lead to systemic inequities (Learning Outcome on Syllabus).

5. Rainbow Educators
   1  2  3  4  5  6  7  8  9  10
   Not at all  moderately  very much
6. Connor Maddock’s Talk

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<tr>
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<tr>
<td>Not at all</td>
<td>moderately</td>
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7. Tour of Hillcrest

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<td>Not at all</td>
<td>moderately</td>
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8. Film “Excluded”

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Please rate on a scale of 1-10 how much each of the events contributed to your ability to demonstrate the application of sophisticated, culturally sensitive vocabulary when discussing sexual diversity that expresses not only appreciation of differences but cultural empathy for and awareness of the social marginalization and political disenfranchisement of sexual minorities (Learning Outcome on Syllabus).

9. Rainbow Educators

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<tr>
<td>Not at all</td>
<td>moderately</td>
<td>very much</td>
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10. Connor Maddock’s Talk

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<tbody>
<tr>
<td>Not at all</td>
<td>moderately</td>
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11. Tour of Hillcrest

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<tbody>
<tr>
<td>Not at all</td>
<td>moderately</td>
<td>very much</td>
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12. Film “Excluded”

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<tbody>
<tr>
<td>Not at all</td>
<td>moderately</td>
<td>very much</td>
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13. Please list which of these four experiences listed above you felt had the most impact on your learning experience and tell why.

________________________________________________________________
________________________________________________________________
________________________________________________________________
_____________________________________________________________
14. On a scale of 1 to 10 how would you rate your overall experience with the cluster course?

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<tbody>
<tr>
<td>Not very positive</td>
<td>moderately positive</td>
<td>very positive</td>
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Appendix E

Pre/Post Essay. Students were asked to respond during class to the following prompt at the beginning and the end of the semester:

Reflect on a time (or an experience or an interaction) when you gained privilege or power due to your sexual orientation and discuss why. What do you think would have been different about that experience if you had held a different sexual orientation?

LGBTQ Awareness Workshop Essay. Students were given one week following the LGBTQ Awareness workshop to respond to the following prompt:

How did the Rainbow Educators presentation impact your perception of and knowledge of the LGBTQ community? Please write a one-page reflection paper.

Documentary Essay. Students were given one week following the film screening to respond to the following prompt:

How did the film Excluded impact your understanding of the intersectionality between statuses? Select one of the following statuses from EACH COLUMN to discuss in a one-page reflection paper:

<table>
<thead>
<tr>
<th>COLUMN A</th>
<th>COLUMN B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual Orientation</td>
<td>Race/Ethnicity</td>
</tr>
<tr>
<td>Gender Expression</td>
<td>Socio-Economic Class</td>
</tr>
<tr>
<td>Gender Identity</td>
<td></td>
</tr>
</tbody>
</table>

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118 Volume 12 ● 2017
Steve Sumner joined the faculty of the School of Business Administration at the University of San Diego in 2003. His areas of specialization include macroeconomics, monetary economics, banking and applied econometrics. Prior to his graduate work he spent several years working at the Federal Reserve Board in Washington D.C. He is currently teaching undergraduate courses in business statistics, macroeconomics and money and banking. His primary research interest is in understanding the importance of financial intermediation for the distortion of economic shocks to the real economy.

Sandra Sgoutas-Emch is a professor of psychological sciences and director of the Center for Educational Excellence at the University of San Diego. She received both her master’s and doctorate at the University of Georgia and completed a two year NIH postdoctoral fellowship at the Ohio State University. During her tenure at USD, she has also been the director of the women and gender studies program. She teaches courses in health psychology and behavioral neuroscience. Dr. Sgoutas-Emch has research interests in the scholarship of teaching and learning, efficacy of alternative medicine, the impact of stress, and women’s health issues.

Lisa Michele Nunn is an Associate Professor in Sociology at USD. She is also the current President of the Sociology of Education Association. Her research areas include: Sociology of Education; Organizations; Cultural Sociology; Gender and Sexuality; Identity; Visual Sociology; and Social Psychology. Her book, Defining Student Success: The Role of School and Culture (2014 with Rutgers University Press), investigates how both schools (organizations) and students (individuals) refine and adapt cultural ideas about academic success, and how this process perpetuates existing social inequality in educational attainment. Her current research explores the ways that first-year college students develop a sense of belonging on different campuses.

Evelyn Kirkley, PhD, has been teaching at USD since 1995. She is an advisor to PRIDE, USD’s organization for gay, lesbian, bisexual, transgendered, queer, and questioning undergraduate students and allies. She has also served as co-director of the Gender Studies Program and director of the Faculty and Curriculum Development Program. She teaches about the history of Christianity and other religious movements, especially in the United States. Her research focuses on alternative religious movements (often called "cults" or "sects") in the United States and intersections between religion and gender, race/ethnicity, and sexual orientation.
This article examines Active Engagement, Active Communication, and Peer Engagement learning practices among various student groups. It examines which tools are most important for increasing student satisfaction with web-based and web-enhanced instruction. Second, it looks at how different tools lead to greater satisfaction among different types of students (undergraduate, master’s level, and doctoral level). Data were collected from 491 participants who answered an identical learning styles survey about technology-based pedagogical tools. This study revealed that students enrolled in web-based courses taught by one professor demonstrate high levels of satisfaction in courses that provide active, engaging learning environments.

Teaching and its associated technologies have been evolving over the past 30 years. Many institutions offer online courses to expand options for their students. In order to accommodate them, as well as their various active learning styles, educators have moved from singular reliance upon the didactic lecture hall or a discussion seminar format to a full array of multimedia tools and techniques for communicating course content. The software that delivers the course content has changed as well. The overriding issue is not whether educators like these tools, but rather whether students’ learning is enhanced. Part of the equation for improved learning is students’ satisfaction with their learning experience using instructional courseware. All of the participants in this study were in classes that utilized web-based platforms such as WebCT, Blackboard, and Canvas. The focus of this study is to examine active learning styles and student satisfaction of undergraduate, master’s level and doctoral students. However, first let us review the earlier work connected with this study.

The Earlier Studies

The initial work (Olliges, Wernet, & Delicath, 1999; Wernet & Olliges, 1999; Wernet, Olliges, & Delicath, 2000a, 2000b) documented several findings concerning student satisfaction with electronically-based learning. Three concerns were identified as: access, exposure, and utility.

The studies in 2000 involved 1587 survey respondents. The participants in this study were lower division undergraduate students enrolled in freshman and sophomore level courses. These participants represented 39 courses across 26 different academic departments. The survey contained demographic information, course specific information, and a student learning style inventory. Some of the statements on the student learning style inventory were selected from the student inventory that Jerome E. Oberst of SUNY Oswego developed. Oberst’s work was based on The Seven Principles for Good Practice in Undergraduate Education by Chickering and Gamson.
This work focused on improving undergraduate education and not on evaluating individual faculty.

Front-end access into course sites is a threshold for student satisfaction with web-based instruction. Like electricity, the network infrastructure is assumed to be constantly available. It should be a utility, not a commodity. This was not always the case in distance education prior to 2000. If a significant portion of the instruction time was spent addressing technical and network issues, then less time was spent on the actual course content. Not having adequate access had a negative impact on students' feelings about technology-based instruction. If students are frustrated before they ever access the course material, their satisfaction level will be low.

The next concern was exposure. While most students are positive about online learning, they often express concerns over technical problems that they encounter during coursework (Gibbs, 1998). Technical problems included network downtimes, students learning how to effectively configure and operate their own computers, and the time commitment needed to download the material or to decode/encode the material.

The third concern was utility. The findings of the study revealed that students' satisfaction with web-enhanced courses is a function of involvement attributed to communication and course content as well as the type of student and the gender of the student. Nontraditional male students who feel involved are more satisfied than traditional female students who feel uninvolved (Olliges et al., 1999; Wernet & Olliges, 1999; Wernet et al., 2000a, 2000b).

The 15-Year Study

In 2000, the decision was made to collect data using the same survey and follow one of the 39 instructors over the next 15 years (2001-2015) to see if these results would continue. This present study follows one instructor, in particular, the author of this paper. The instructor moved from a Midwest research university to a teaching university in the same city. Both were private institutions. The instructor taught undergraduate technology courses to primarily juniors and seniors, technology courses to graduate students, and a first year seminar which enrolled only traditional-age freshmen. Generally, first year seminars are taught by primarily full-time instructors on a topic that is of interest to them, but is not part of their discipline-based training.

Over time, the course software changed from Web Course Tools (WebCT) to BlackBoard to Canvas. However, the survey instrument remained constant over the 15-year period. It consisted of demographic information, course specific information, and a student learning style inventory. The learning style inventory dealt with how students interacted with their professor and their peers and how they sought assistance.

Although never perfect, access issues to computer networks during 2001-2015 continued to improve. Exposure to the internet kept growing because students saw a reason for using the internet. In particular, many graduate students preferred to take
online classes because of the flexibility of time that these courses provided. According to a Pew Research Report, adult internet usage in the United States rose from 50% to 84% from 2000 to 2015. In addition, for some groups internet penetration is at full saturation. These groups include young adults, those with high levels of education, and those in more affluent households. Fifty-eight percent of senior citizens use the internet. In 2015, 78% of blacks, 81% of Hispanics, 85% of Caucasians, and 97% of Asian-Americans (English-speaking) use the internet. Although rural dwellers are less likely than those living in urban areas to use the internet, still 78% of rural residents are online (Perrin & Duggan, 2015).

**Research Questions**

Fifteen years ago, the question that faced faculty and still does, is “Which tools are most important for increasing student satisfaction with web-based and web-enhanced instruction?” A second question would be: Do different tools lead to greater satisfaction among different types of students (undergraduate, master’s level, and doctoral level)? Clearly, communication tools are critical for learning and building learning communities in cyberspace (Palloff & Pratt, 1999). However, it is not as clear which tools (and in what combination) are most useful in enhancing student satisfaction.

Kablan and Kaya (2014) found that “it can be concluded that teachers who prefer active learning methods tend to be better in implementing constructivist teaching methods and they might have adopted those strategies that are more aligned with their own learning style” (p. 73). Therefore, which tools are more important for increasing student satisfaction with web-enhanced instruction?

Lumpkin, Achen, and Dodd (2015a, 2015b) found that when technology-nested instructional strategies are infused into classes, students perceive their learning as more engaging and enjoyable. Their study was limited to sport and health classrooms. The present study involves a wide range of disciplines such as educational technology, general education, and first year seminar students with various majors.

Whereas the previous study in 2000 looked at breadth (39 instructors), this longitudinal study focused on only one instructor. The purpose of the longitudinal study was to investigate how hybrid learning instruction affects students’ learning outcome, satisfaction and sense of community by following one instructor over the past fifteen years.

“Many learning style models exist in literature, such as the learning style model by Kolb (1984), Honey and Mumford (1982), Pask (1976), and Felder and Silverman (1988). While there are still many open issues with respect to learning styles, the learning style models agree that learners have different ways in which they prefer to learn,” according to Graf, Kinshuk, & Liu (2009, p. 3).

This study builds on the earlier studies, but because this study spans 15 years and includes different populations, it can ask questions that were not explored previously. Because the same survey was used over a 15-year period, it is possible to study active learning styles and student satisfaction with three WebCT platforms and it is also possible to investigate differences among undergraduate, master’s level, and doctoral level students.
The author was interested in two questions. First, do the LMS software platform tools impact student satisfaction as a function of active learning and education level? Second, do undergraduate, master’s level, and doctoral students have different learning styles, peer interactions, and expectations of their professors?

Method

This 15-year study is part of an ongoing tracking and assessment of web-based implementation by one instructor. These courses include both instructional technology (i.e., Curriculum/Instructional Design, Web Design, and computer literacy courses) as well as a first year seminar, non-technology related (i.e., an introductory course to an university general education program).

Participants

There were 460 survey respondents. The participants in this study were fairly evenly split between undergraduate (212) and graduate (248) students. Most of the graduate students were seeking a master’s degree in educational technology; a few graduate students were studying at the doctoral level. Most (131) of the undergraduate students were enrolled in a computer literacy course with the remaining 81 enrolled in a first year seminar. There were 326 females (71%) and 134 males (29%) in the study. Most students were enrolled in traditional face-to-face courses using the LMS for web-enhancement to submit assignments, to post discussions between class sessions, and to take exams. Often only one section of the course was offered. The format was mostly face-to-face.

Of the several demographic variables collected from students, three were used in the analysis: type of student, gender and technology course or non-technology course. The First Year Seminar classes were comprised of 18-19 year olds. The students in the undergraduate technology courses were anywhere from 18-40 years old. However, most undergraduate students were of traditional age. The graduate courses were mainly comprised of students aged 23 to 55, and overwhelmingly the majority were “non-traditional” working adults.

Procedure

The survey was conducted during the final weeks of each course. Rather than data collected online, data were collected using paper and pencil surveys so as not to bias the results of satisfaction with web-based education. Participation was voluntary and data were collected anonymously over a 15-year, five-terms per year period.

Survey Instrument

Students were asked about the course and their experiences with the technology used in the course (WebCT, Blackboard, Canvas) on a 5-point Likert-type scale ranging from 5 (very positive) to 1 (very negative). Students were also asked the degree to which they engaged in active learning while taking the course. These 14 items had good internal reliability (Cronbach Alpha = .837) and were derived from
earlier work by the researcher. (See Olliges et al., 1999; Wernet & Olliges, 1998 for a fuller discussion of the instrument and its validation).

**Results**

**Active Learning and Student Learning Styles Inventory and Factor Analysis**

Using 14 items, students were asked to report the degree to which they engaged in active learning while taking their course. A principal components analysis with varimax rotation was conducted on active learning items to determine how these items clustered. The results revealed that there were three factors underlying these variables. After rotation, the first factor (Active Engagement) accounted for 31.61% of the variance, the second factor (Active Communication) accounted for 15.71%, and the third factor (Peer Engagement) accounted for 15.15%. Table 1 displays the items and factor loadings for the rotated factors, with factor loadings less than .40 omitted to improve clarity.

Table 1

<table>
<thead>
<tr>
<th>Item</th>
<th>Active Engagement</th>
<th>Active Communication</th>
<th>Peer Engagement</th>
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<tbody>
<tr>
<td>I am open to considering ideas that are different than mine.</td>
<td>.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My professor encourages dialogue in class.</td>
<td>.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My professor makes the course expectations clear at the beginning of the course.</td>
<td>.76</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I assist other students when they ask for help.</td>
<td>.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I ask questions when I don't understand course material.</td>
<td>.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My professor encourages students to work together on coursework.</td>
<td>.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I discuss issues with students whose background &amp; viewpoints differ from mine.</td>
<td>.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I consciously adjust my learning style to the teaching of my professors.</td>
<td>.59</td>
<td></td>
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Table 1 Continued

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<tr>
<th>Active Engagement</th>
<th>Active Communication</th>
<th>Peer Engagement</th>
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<tbody>
<tr>
<td>I seek feedback from my professors about my work.</td>
<td>.57</td>
<td>.47</td>
</tr>
<tr>
<td>I correspond electronically with my professors about my courses.</td>
<td></td>
<td>.79</td>
</tr>
<tr>
<td>I confer with my professor if I am concerned about keeping up with a particular class.</td>
<td></td>
<td>.75</td>
</tr>
<tr>
<td>I correspond electronically with my professors about other stuff.</td>
<td></td>
<td>.68</td>
</tr>
<tr>
<td>I work with other students in informal groups.</td>
<td></td>
<td>.90</td>
</tr>
<tr>
<td>I study with other students in my course.</td>
<td></td>
<td>.90</td>
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**Eigenvalues**

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<thead>
<tr>
<th>Active Engagement</th>
<th>Active Communication</th>
<th>Peer Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.43</td>
<td>2.20</td>
<td>2.12</td>
</tr>
<tr>
<td>Percent of Variance</td>
<td>31.61</td>
<td>15.71</td>
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**Active Learning Difference between Student Populations**

A multivariate analysis of variance (MANOVA) was conducted to assess if there were differences between the different groups of students (undergraduate, masters, doctorate) on the Active Engagement dimension. A significant difference was found, Pillai’s Trace =.15, $F(18, 900) = 4.12$, $p<.001$. Follow up univariate ANOVAs revealed significance among all of the variables which make up this dimension (see Table 2). In each case, doctoral students scored significantly higher than undergraduate students in their degree of Active Engagement. Masters students typically scored in between these two groups. A MANOVA was conducted to assess if student groups differed on the Active Communication dimension. Although means were in the expected direction, there were differences between groups, Wilks Lambda =.98, $F(6, 910) = 1.51$, $p=.17$. A MANOVA was also conducted to assess if groups differed on the Peer Engagement dimension. For each item, doctoral students scored significantly higher than masters and undergraduate students, Pillai’s Trace =.07, $F(4, 914) = 8.17$, $p<.001$. 
Table 2

*Means and (Standard Deviations) of Active Learning Differences between Student Populations*

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<th></th>
<th>UG</th>
<th>MA</th>
<th>PhD</th>
<th>F</th>
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<tbody>
<tr>
<td><strong>Active Engagement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>I am open to considering ideas that are different than mine.</td>
<td>4.20&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.68&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.52&lt;sup&gt;c&lt;/sup&gt;</td>
<td>19.91***</td>
</tr>
<tr>
<td></td>
<td>(0.78)</td>
<td>(1.29)</td>
<td>(0.62)</td>
<td></td>
</tr>
<tr>
<td>My professor encourages dialogue in class.</td>
<td>3.87&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.54&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.35&lt;sup&gt;c&lt;/sup&gt;</td>
<td>11.14***</td>
</tr>
<tr>
<td></td>
<td>(0.99)</td>
<td>(1.31)</td>
<td>(0.77)</td>
<td></td>
</tr>
<tr>
<td>My professor makes the course expectations clear at the beginning of the course.</td>
<td>4.25&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.66&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.30&lt;sup&gt;a&lt;/sup&gt;</td>
<td>16.16***</td>
</tr>
<tr>
<td></td>
<td>(0.87)</td>
<td>(1.37)</td>
<td>(0.76)</td>
<td></td>
</tr>
<tr>
<td>I assist other students when they ask for help.</td>
<td>3.98&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.56&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.26&lt;sup&gt;a&lt;/sup&gt;</td>
<td>13.56***</td>
</tr>
<tr>
<td></td>
<td>(0.93)</td>
<td>(1.16)</td>
<td>(0.68)</td>
<td></td>
</tr>
<tr>
<td>I ask questions when I don’t understand course material.</td>
<td>4.13&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.65&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.26&lt;sup&gt;a&lt;/sup&gt;</td>
<td>14.83***</td>
</tr>
<tr>
<td></td>
<td>(0.86)</td>
<td>(1.16)</td>
<td>(0.71)</td>
<td></td>
</tr>
<tr>
<td>My professor encourages students to work together on coursework.</td>
<td>3.40&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.23&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.02&lt;sup&gt;b&lt;/sup&gt;</td>
<td>10.50***</td>
</tr>
<tr>
<td></td>
<td>(1.00)</td>
<td>(1.16)</td>
<td>(0.86)</td>
<td></td>
</tr>
<tr>
<td>I discuss issues with students whose background &amp; viewpoints differ from mine.</td>
<td>3.76&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.39&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.17&lt;sup&gt;c&lt;/sup&gt;</td>
<td>15.54***</td>
</tr>
<tr>
<td></td>
<td>(0.91)</td>
<td>(1.05)</td>
<td>(0.77)</td>
<td></td>
</tr>
<tr>
<td>I consciously adjust my learning style to the teaching of my professors.</td>
<td>3.63&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.32&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.89&lt;sup&gt;a&lt;/sup&gt;</td>
<td>8.14***</td>
</tr>
<tr>
<td></td>
<td>(1.02)</td>
<td>(1.07)</td>
<td>(0.80)</td>
<td></td>
</tr>
<tr>
<td>I seek feedback from my professors about my work.</td>
<td>3.78&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.52&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.22&lt;sup&gt;c&lt;/sup&gt;</td>
<td>8.61***</td>
</tr>
<tr>
<td></td>
<td>(1.07)</td>
<td>(1.16)</td>
<td>(0.66)</td>
<td></td>
</tr>
<tr>
<td><strong>Active Communication</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I correspond electronically with my professors about my courses.</td>
<td>3.40</td>
<td>3.19</td>
<td>3.50</td>
<td>3.14</td>
</tr>
<tr>
<td></td>
<td>(0.99)</td>
<td>(1.02)</td>
<td>(0.94)</td>
<td></td>
</tr>
<tr>
<td>I confer with my professor if I am concerned about keeping up with a particular class.</td>
<td>3.46</td>
<td>3.28</td>
<td>3.59</td>
<td>1.98</td>
</tr>
<tr>
<td></td>
<td>(1.16)</td>
<td>(1.14)</td>
<td>(1.00)</td>
<td></td>
</tr>
<tr>
<td>I correspond electronically with my professors about other stuff.</td>
<td>2.86</td>
<td>2.85</td>
<td>2.76</td>
<td>0.12</td>
</tr>
<tr>
<td></td>
<td>(1.26)</td>
<td>(1.28)</td>
<td>(1.30)</td>
<td></td>
</tr>
<tr>
<td><strong>Peer Engagement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I work with other students in informal groups.</td>
<td>2.79&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.84&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.63&lt;sup&gt;b&lt;/sup&gt;</td>
<td>9.52***</td>
</tr>
<tr>
<td></td>
<td>(1.18)</td>
<td>(1.29)</td>
<td>(0.93)</td>
<td></td>
</tr>
<tr>
<td>I study with other students in my course.</td>
<td>2.66&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.71&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.83&lt;sup&gt;b&lt;/sup&gt;</td>
<td>16.93***</td>
</tr>
<tr>
<td></td>
<td>(1.22)</td>
<td>(1.39)</td>
<td>(0.90)</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* `p<.05;  "p<.01, ""p<.001 significance. All F-ratios had 2 and 457 as their degrees of freedom. Means and standard deviations with shared superscripts are not significantly different according to Games-Howell post-hoc analyses.*
Online Course Tools vs. Course Assessments as a Function of Active Learning

Over the past 15 years, the stimulus materials have been given to 212 undergraduates, 202 master’s level, and 46 doctoral level students. An ANOVA was conducted to examine if there were any differences in course satisfaction between the three groups of students. The results revealed that student satisfaction differed between students, $F(2, 457) = 9.50, p<.001$. A Games-Howell post-hoc analysis revealed that doctoral level students ($M = 4.30, SD = 0.81$) and master’s level students ($M = 3.63, SD = 1.38$) reported a significantly better experience with the online platform than undergraduate students ($M = 3.41, SD = 1.25$). There was no difference between PhD and master’s students. Interestingly, when participants were asked if they would like to sign up for another online class, 97% of undergraduates and 100% of doctoral students were either supportive or indifferent to taking another online course. On the other hand, 17% of master’s students were opposed to taking another online course, $X^2 (4, N = 460) = 50.88, p<.001$.

A series of analyses were conducted to examine how active learners felt about the online environment. The 14 active learning items were summed and split into the upper and lower quartile. Students who were high in active learning ($N = 107$) were compared to those students who were low on this dimension ($N = 107$) to determine if there were any differences in online course satisfaction, $t(210.22) = -5.96, p<.001$. Those students who were high in active learning reported being statistically more satisfied with the course ($M = 3.96, SD = 1.21$) than those students low in active learning ($M = 2.93, SD = 1.33$). In addition, when participants were asked if they would like to sign up for another online class, 26% of students who were low in active learning were opposed to taking another online course. None of the students high in active learning expressed a desire to avoid online courses in the future, $X^2 = 32.22, df = 2, N = 214, p<.001$.

According to a MANOVA, students who were high in active learning were significantly more likely to rate online course tools (e.g., syllabus, calendar, gradebook, email) as having positively impacted their course involvement [Pillai’s Trace =.37, $F(4, 205) = 29.87, p<.001$.] and grade [Pillai’s Trace =.38, $F(4, 202) = 30.62, p<.001$.] than those students low in active learning (see Table 3). Similarly, MANOVA results revealed that students high in active learning were significantly more likely to rate online course assessments as positively impacting their course involvement [Pillai’s Trace =.35, $F(6, 199) = 17.56, p<.001$.] and grade [Pillai’s Trace =.38, $F(6, 198) = 19.88, p<.001$.] than those students low in active learning (see Table 3).
Table 3

**Differences in the Impact of Online Course Tools and Course Assessments as a Function of Active Learning (AL)**

<table>
<thead>
<tr>
<th>Online Course Tools</th>
<th>Course Involvement</th>
<th></th>
<th></th>
<th>Course Grade</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High AL</td>
<td>Low AL</td>
<td>F</td>
<td>High AL</td>
<td>Low AL</td>
<td>F</td>
</tr>
<tr>
<td>Course Syllabus</td>
<td>3.83</td>
<td>2.53</td>
<td>97.27</td>
<td>3.78</td>
<td>2.49</td>
<td>104.57</td>
</tr>
<tr>
<td></td>
<td>(0.45)</td>
<td>(1.27)</td>
<td></td>
<td>(0.44)</td>
<td>(1.20)</td>
<td></td>
</tr>
<tr>
<td>Course</td>
<td>3.36</td>
<td>2.45</td>
<td>33.71</td>
<td>3.29</td>
<td>2.45</td>
<td>34.44</td>
</tr>
<tr>
<td>Calendar</td>
<td>3.97</td>
<td>2.66</td>
<td>83.26</td>
<td>3.87</td>
<td>2.60</td>
<td>86.41</td>
</tr>
<tr>
<td>Online</td>
<td>3.93</td>
<td>2.66</td>
<td>83.26</td>
<td>3.87</td>
<td>2.60</td>
<td>86.41</td>
</tr>
<tr>
<td>Gradebook</td>
<td>0.35</td>
<td>1.38</td>
<td></td>
<td>0.48</td>
<td>1.31</td>
<td></td>
</tr>
<tr>
<td>Platform Email</td>
<td>3.75</td>
<td>2.46</td>
<td>76.13</td>
<td>3.62</td>
<td>2.40</td>
<td>73.73</td>
</tr>
<tr>
<td></td>
<td>(0.65)</td>
<td>(1.36)</td>
<td></td>
<td>(0.70)</td>
<td>(1.26)</td>
<td></td>
</tr>
<tr>
<td>Online Assessments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online Quizzes/Tests</td>
<td>3.79</td>
<td>2.74</td>
<td>53.84</td>
<td>3.74</td>
<td>2.69</td>
<td>55.30</td>
</tr>
<tr>
<td></td>
<td>(0.60)</td>
<td>(1.32)</td>
<td></td>
<td>(0.58)</td>
<td>(1.30)</td>
<td></td>
</tr>
<tr>
<td>Hyperlinks</td>
<td>3.63</td>
<td>2.39</td>
<td>64.25</td>
<td>3.49</td>
<td>2.44</td>
<td>46.19</td>
</tr>
<tr>
<td></td>
<td>(0.81)</td>
<td>(1.33)</td>
<td></td>
<td>(0.86)</td>
<td>(1.29)</td>
<td></td>
</tr>
<tr>
<td>Online Notes/Lectures</td>
<td>3.76</td>
<td>2.46</td>
<td>71.30</td>
<td>3.81</td>
<td>2.40</td>
<td>90.26</td>
</tr>
<tr>
<td></td>
<td>(0.69)</td>
<td>(1.40)</td>
<td></td>
<td>(0.54)</td>
<td>(1.39)</td>
<td></td>
</tr>
<tr>
<td>Online Assignments</td>
<td>3.98</td>
<td>2.74</td>
<td>77.68</td>
<td>3.97</td>
<td>2.64</td>
<td>88.47</td>
</tr>
<tr>
<td></td>
<td>(0.14)</td>
<td>(1.41)</td>
<td></td>
<td>(0.17)</td>
<td>(1.41)</td>
<td></td>
</tr>
<tr>
<td>Chat Room</td>
<td>2.38</td>
<td>2.30</td>
<td>0.22,</td>
<td>2.49</td>
<td>2.31</td>
<td>1.03,</td>
</tr>
<tr>
<td></td>
<td>(1.31)</td>
<td>(1.29)</td>
<td>p=.64</td>
<td>(1.21)</td>
<td>(1.29)</td>
<td>p=.31</td>
</tr>
<tr>
<td>Bulletin Board</td>
<td>3.44</td>
<td>2.34</td>
<td>50.00</td>
<td>3.40</td>
<td>2.39</td>
<td>41.26</td>
</tr>
<tr>
<td></td>
<td>(0.93)</td>
<td>(1.28)</td>
<td></td>
<td>(0.92)</td>
<td>(1.28)</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Reported F-ratio values were statistically significant at *p* < .001, but when they were not the *p*-value was provided.

**Discussion**

**Interpretation of Findings**

Several important findings emerge from the present study. The same 14-item learning style inventory that was used with 1587 lower-level undergraduate students at the turn of the century in 1999 and 2000 proved to be a valuable survey instrument for 15 years and appropriate for use with both undergraduate and graduate students. During this 15-year period, internet use rapidly increased and many new educational technologies emerged. And yet, the survey continued to demonstrate the importance of active learning and student engagement in web-based and web-enhanced courses.
Table 1 for the active learning factor analysis item loadings has three factors: Active Engagement, Active Communication, and Peer Engagement. An example of an active engagement tool is clickers or a website such as poll everywhere (https://www.pollev.com) where students provide immediate feedback to the instructor during a class session. Active communication refers to providing students a timely response within 24 hours to their questions or text messages. A peer engagement example is creating team projects where students need to work together to solve issues. It could include students arguing opposite viewpoints on a particular topic. It might include a team project where they need to take a photo of their team mates in front of various campus buildings.

The key to satisfaction is involving the students in the course. Online courses need to go beyond the text-heavy material with minimal interaction. As was found previously, the online courses need multimedia presentations which simulate the classroom experience, interactive communication opportunities that incorporate feedback loops and student interaction, and electronic testing (Navarro & Shoemaker, 1999; Olliges et al., 1999). Unlike traditional classrooms, mediated communication through tools and course content, which replace face-to-face interaction, are crucial to enhancing student satisfaction. These tools and content must consciously hook and engage students. Engagement equates to interaction that equates to involvement. If students’ feel involved through communication and through course content, they will be satisfied. Therefore, faculty need to take special care in their design of course content and the means by which it communicates with students in web-enhanced and web-based courses.

Another finding focuses upon cooperation among students. The students need opportunity to work with others who have different points of view. Prompt feedback is important for all three groups. Lumpkin and others (2015a, 2015b) found that when technology-nested instructional strategies are infused into classes, students perceive their learning as more engaging and enjoyable. Their study was limited to sport and health classrooms. The present study involves a wide range of disciplines such as educational technology, general education, and first year seminar students with various majors. The present study supported the original findings of Lumpkin and colleagues.

Limitations

One obvious limitation is that this 15-year study followed one professor. It is possible that results might differ following other professors. However, this limitation could be considered a strength of this study. Lumpkin et al. (2015) encourage faculty to “conduct action research in their courses so they can discover more about how students perceive their learning” (p. 132). Helpful in this process would be the development of valid and reliable assessments of student perceptions to connect learning outcomes to specific active learning strategies used. The present study has already accomplished what the authors called for in 2015. The present study uses a
“valid and reliable” instrument that discovers “how students perceive their learning.” The present study demonstrates that active engagement, active communication, and peer engagement are tied to student satisfaction in web-based and web-enhanced courses.

Future Studies

This paper used data collected to examine the effect of one demographic (undergraduates, master’s and doctoral students) on student satisfaction. Several questions evolve from these findings. A deeper examination of the data needs to take place. The means for the undergraduates and doctoral students were higher than for the master’s students. Does this imply that doctoral and undergraduate students have a higher curiosity and openness to learning or different motivations for learning than master’s students? The implications of the findings should be studied more. Future research will examine the relationship of the demographics on student satisfaction.

Acknowledgments

I owe a great deal of gratitude to two colleagues, Stephen Wernet and Tim Delicath, who started me down the path of researching learning styles and technology. I would like to thank Mike Hulsizer for his help with the statistics and Debbie Stiles for her suggestions in the paper.

References


Ralph H. Olliges is Associate Professor of Education at Webster University in Saint Louis. Also, he is the Educational Technology Coordinator with over 100 students in the master’s level program. He coordinates the Master’s of Educational Technology (MET), the Certificate in Online Teaching and Learning, and the EdS in Technology Leadership. Dr. Olliges possesses over thirty-three years of teaching experience in the classroom and online. His area of expertise deals with how to successfully integrate technology in the classroom. He has numerous publications and presentations with regards to using technology in the classroom and with student learning styles.
An Engaging, Yet Failed Flip

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Assistant Professor, College of Education
Middle Tennessee State University

The flipped classroom is growing significantly as a model of learning in higher education. However, there are ample problems with the research on flipped classrooms, including where success is often defined by student perceptions and a lack of consistent, empirical research supporting improved academic learning. This quasi-experimental study describes a semester-long comparison of two of the same courses taught by the same instructor utilizing a primarily didactic lecture approach and a flipped classroom approach. The experiment found results in which students in the didactic lecture class had significantly higher end-of-course scores than those in the flipped classroom; however, with regards to a document-based analytic essay question there was no statistically significant difference.

Institutions of higher education are facing considerable challenges in the twenty-first century. While there are many challenges, perhaps two of the most important are the diverging demands of increasing access and increasing outputs in terms of graduates. On one hand, institutions are pushed to enroll more and more students. Of significance for discussion here are the increase of these new students who are, statistically speaking, among the least likely to succeed in college (Tinto & Pusser, 2006). On the other hand, the institutions are increasingly being evaluated by the public in terms of their retention and graduation rates (Eaker & Sells, 2015). Correspondingly, there is growing interest and advocacy for change in the classroom since that is at the core of where issues regarding student success must reside. And at the core of the pushes for change are the many voices seeking to see increased emphasis on technology-integration in the classroom as a means to promote student development for the 21st century.

In particular, many are now seeking to integrate technology more frequently and to use it specifically as a means for improving learning outcomes of students. The pervasive force of technology is undoubtedly a driving force in our age of information, communication, and globalization. And through technology, we are seeing major shifts occurring within the walls of academia.

Literature Review

One of the most prominent of these changes is the increase in use of the flipped classroom. Since its popularization by Bergmann and Sams (2009) there has been an increasing optimism towards flipping one’s class. The flipped classroom alters the traditional model for instructional allocation of time so that what had been traditionally done during class time (lectures) are completed using technology as homework and the notion is to do so to create much more engaging classroom activities, discussions, and opportunities for looking deeper at course content. Some studies have found evidence suggesting that flipping the classroom can improve student learning (McLaughlin et al., 2014; Stone, 2012). However, such empirical
studies are few and far between when the emphasis of the research is on gains in student knowledge as measured in empirical means. So, while the flipped model of instruction is gaining popularity in both K-12 and higher education settings, “there is very little scientifically based, empirical research to substantiate the effectiveness of this instructional model” (Fraga & Harmon, 2015, p. 19).

And unfortunately, in many cases, the evidence shared regarding the ‘success’ of a flip is tainted from an inadequate definition of success. Illustrations of this include simply ascribing success as measured by student feedback on their perceptions as opposed to comparing learning gains against a reasonable control group (Abdulrahman, 2015; Dove, 2013; Gaughan, 2014). Another example of this stems from Toto and Nguyen (2009) in which the researchers used the learning styles of students along with their perceptions to determine which were perceived as being most impactful for learners. This particular study faces several problems. First off, the empirical research on “learning styles” indicates that they simply do not exist (De Bruyckere, Kirschner, & Hulshof, 2015; Pashler, McDaniel, Rohrer, & Bjork, 2009; Willingham, 2009). Secondly, there is also empirical evidence suggesting that students may know what they prefer, but that their preference often does not correlate to improved learning. Rather, student preference is often misleading or outright incorrect with regards to their actual learning because they generally prefer what is easier and not what improves learning (Kirschner, & van Merrienboer, 2013). This is an important reality for researchers to consider because use of student preferences and perceptions are becoming increasingly utilized as a metric for improving learning environments but as noted, are more often than not, incorrect.

Additionally, there is frequently a significant pedagogical antipathy held by many towards the lecture (Sipress & Voelker, 2008; Solomon, 2004) that is evident within the narratives of many researchers. Such obvious disdain for the ‘comparison group’ at least suggests that there is a real potential for those implementing the methods to fail to adequately present each in the best of all circumstances. This dovetails with a growing sense of concern regarding the real learning that takes place on college campuses (Arum & Roska, 2011). Ultimately, then, the problem that exists is that success is defined in a multitude of ways, many of which do not keep student learning at its core, and many use their definition of success and subsequent studies to draw conclusions that simply are not justified.

Context and Purpose

Thus, as an educator and pedagogue who values the lecture, loves technology and seeks to build in lots of discussion, I felt that exploring the flipped classroom would be of particular benefit in two ways. First, this study would be justifiably implemented by an instructor who acknowledges his own use and support for both the lecture and the integration of technology. As an avid user of technology, I particularly value its potential for enhancing assessment practices in the classroom (Krahenbuhl, 2016) and integrate it into instruction frequently in that regard. So, in completing a small-scale investigation as one who values didactic lecture, albeit desires more discussion and activity, I felt equipped to give a fair shake to the traditional method as a basis of reasonable comparison. Additionally, in 2014, the faculty at our small, rural
college all were provided with Bergmann and Sams’ (2012) *Flip your classroom: Reach every student in every class every day.* A group of six faculty members read and met bi-weekly to discuss their book and consider its potential for application in our courses. The reading and discussion of that book led to several of us trying out the flipped model in our courses in small scales, including flipping particular units to design, revise, and pilot videos of lectures for online viewing, and to follow up discussions reflecting on perceived impacts of our efforts. Ultimately, this quasi-experimental study describes the findings of a full-scale implementation of the flipped model as it was implemented and investigated in an American Indian history course. The model of the flipped class was focused on increasing in-depth discussions students could have in our face-to-face classes with facilitation of those discussions by the instructor1. In order to provide a direction of investigation and to add to the growing body of literature on flipped classrooms, the following hypotheses were developed to be tested:

With regards to students’ performance on an end-of-course selected response exam:

\[ H_0: \mu_{FlippedMC} = \mu_{LectureMC} \]
\[ H_1: \mu_{FlippedMC} \neq \mu_{LectureMC} \]

With regards to students’ performance on an end-of-course document-based question:

\[ H_{0A}: \mu_{FlippedDBQ} = \mu_{LectureDBQ} \]
\[ H_{1A}: \mu_{FlippedDBQ} \neq \mu_{LectureDBQ} \]

The null hypotheses (\(H_0\) and \(H_{0A}\)) each suggest that there will be no difference between mean performance of students in the flipped classroom and those in the lecture-based classroom. The alternative hypotheses (\(H_1\) and \(H_{1A}\)) are both left as two-tailed outcomes such that a statistically significant result would be found if the flipped classroom significantly outperformed the lecture-based classroom on either summative assessment or if the lecture-based classroom statistically outperformed the flipped classroom on either summative assessment. Furthermore, the hypotheses were deliberately designed to consider two forms of summative assessments – one more traditional: a selected-response end of course exam, and one more focused on application of learning: an end-of-course document-based essay question.

**Method**

This study employed a quasi-experimental design in which two sections of a history course for educators were taught in subsequent semesters, one as a primarily lecture-based course (\(n = 18\)), and the other as a flipped course (\(n = 20\)). The same

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1 Within the methodology section, you will find a specific elaboration on how the flipped class differed from the traditional class. But, hopefully offering this model gives the reader a general sense of the model used since the flipped class is not necessarily a one-way only method. A short online article includes a nice summary of this approach and its alignment to history classes: https://www.panopto.com/blog/7-unique-flipped-classroom-models-right/.
Instructor taught both sections, and both courses had the same number of class meetings and total number of face-to-face hours. The lecture-based course was taught in the fall of 2015 and the flipped class was taught in the spring of 2016. Each section met on Tuesday and Wednesday from 11-12:15 during its respective academic semester. On the first day of each semester, students were informed that their class was designed to specifically be part of an IRB-approved investigation on instructional delivery modality. The students were informed that anonymized and aggregated data would be used to compare modalities for student learning and provided informed consent forms. All students agreed to participate and if any would have refused it would have had no impact on their enrollment or participation in the course, merely their data would have been exempted.

The major assessments used were identical and the same content and objectives were used in a backwards design model for building each course. Students enrolled in the course using typical registration methods and had no knowledge of different instructional formats in either section. On the first day of each section, students were informed that the class was using its particular method of instruction as part of a study and informed content was obtained; however, details of the intervention and its comparison were not specified.

Within both courses, there were of course variations in use of class time but each attempted to follow a template for consistency of delivery. First, the same PowerPoint presentations were utilized in both settings. In the lecture-based course, they were used during the didactic lecture with the class and in the flipped class, the Power Points were integrated into and/or utilized in design of the video lectures. However, the flipped class sought to create concise and focused videos of less than ten minutes in length in accord with recommendations (EDUCAUSE Learning Initiative, 2012). In a few instances, two or three shorter videos (approximately 5 minutes each) were used when conceptually appropriate. Lecture videos were created with several different tools including Adobe Voice and Camtasia as primary means. The video lectures were developed during the fall of 2015 during the week in which they were being delivered to the lecture-based sections. It was thought that this would benefit the instructor in ensuring topical consistency and simply helping focus on key concepts in the fall course itself. In all instances, the flipped class was provided the full PowerPoint presentations as a supplement to download and the face-to-face class was provided the full PowerPoint as well as a supplement to download on the course management system’s course site. This was another point of commonality. Both courses had an electronic platform through Desire 2 Learn (D2L) that included weekly agendas, materials for download, discussion forums, and quizzes.

There were two primary differences in each face-to-face session, although it should be noted that as with any course, there were many divergences from this template. The first primary difference for each section included either an instructor-

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2 The instructor is the author and thus, the reader should be clear on that and its potential for bias. However, I hope to have conveyed well that I am a strong supporter for both lectures and the leveraging of technology to enhance learning as evidenced by past publications in addition to my own assertions as such.
driven class review and discussion from the readings (lecture-based class) or a student-led, instructor-facilitated, small group activity reviewing material from the web-based lecture and associated readings (flipped class). The second primary difference for each section was the inclusion of a didactic lecture (lecture-based class) or an in-depth time of class discussions and/or activities (flipped class). The flipped class sought to place a high emphasis on integration of discussions so discussion questions were frequent focal points for class time – sometimes generated by the instructor, sometimes by students. However, other methods were employed as deemed conceptually appropriate, including the use of Jigsaw activities (Aronson, Blaney, Stephen, Sikes, & Snapp, 1978), exploration of comparative interpretations of historical events/people/ideas, primary source analysis, and video clips with extended discussion. In the lecture-based class, each of these were also employed but generally at a reduced scale as a result of less face-to-face class time. When possible, both sections utilized the same extension and/or reinforcement activities; however, based on formative data obtained from each class, adjustments were made as deemed necessary to maximize the productivity of each class.

The general templates for face-to-face time are outlined in Table 1 below.

Table 1

<table>
<thead>
<tr>
<th>Time</th>
<th>Lecture-Based Class</th>
<th>Flipped Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00 – 11:05</td>
<td>Welcome, Day Overview, &amp; Review</td>
<td>Welcome, Day Overview, &amp; Review</td>
</tr>
<tr>
<td>11:05 – 11:15</td>
<td>Extended Review and Q&amp;A from Readings</td>
<td>Sub-Groups Opening Activity</td>
</tr>
<tr>
<td>11:15 – 11:45</td>
<td>Lecture</td>
<td>Class Discussion</td>
</tr>
<tr>
<td>11:45 – 12:00</td>
<td>Extension and/or Reinforcement Activity</td>
<td>Extension and/or Reinforcement Activity</td>
</tr>
<tr>
<td>12:00 – 12:10</td>
<td>Allocated as appropriate</td>
<td>Allocated as appropriate</td>
</tr>
<tr>
<td>12:10 – 12:15</td>
<td>Closure, Review, &amp; To Do Discussion</td>
<td>Closure, Review, &amp; To Do Discussion</td>
</tr>
</tbody>
</table>

Throughout the semester, the models were employed exclusively. It should be noted that when one student requested more lecture in the flipped classroom, the request was denied reminding her that the material was available online and that the alternative strategies employed during class time were included by design to improve learning outcomes. In terms of data collected to evaluate student performance, three primary assessments were utilized. At the beginning of each semester, all students completed a selected-response pre-assessment that consisted of twenty items. Each of the items was matched with an end-of-course selected response assessment given at the end of the semester that had a total of forty items. In addition to this, the end-of-course evaluation also included a document-based essay question evaluated using a nine-point rubric. All students were given a list of four possible topics for the document-based question two weeks prior to the administering of that assessment. An
An independent samples t-test was run to compare means of both groups on their end-of-course assessments (including both selected-response exam and document-based question). The pre-tests were explored descriptively to confirm that there were insignificant differences in each class regarding prior knowledge.

Although this investigation is primarily a quantitative study, some ex post facto qualitative data were collected from selected students to help make meaning of the findings. This took place solely at the end of each course in which several students were randomly selected and asked to participate in a focus group discussion on the section regarding their experiences. Four students were drawn from each section and all eight agreed to participate. The focus group sessions were transcribed, coded, and several specific quotes are drawn from them to provide some personal accounts to the quantitative results and following discussion, but the themes from within them are not woven into the findings because they were constructed as an after-the-fact inclusion.

**Results**

Table 2 outlines a summary of the descriptive data collected regarding both classes. Levene’s Test for Equality of Variances reported significance values of .427 ($H_0$) and .523 ($H_{OA}$) respectively suggesting that equal variances could be assumed. This is an important assumption for a t-test so when interpreting results from SPSS the data that are reported herein are drawn from the test assuming equality of variances. So, the t-test for equality of means reported t-values of 2.626 ($H_0$) and 1.752 ($H_{OA}$). From these t-values, there is a statistically significant difference ($p = .013$) in the mean performance of students on a selected-response assessment based on participation in a lecture class as opposed to a flipped class, $t(36), 2.63, p=.013$. Students in the flipped classroom ($M = 62.39$) performed worse than those in the lecture-based classroom ($M = 72.64$) on the end-of-course selected response assessment. Given that the means reflect the overall percentage score out of a maximum of one-hundred, the lecture-based classroom scored a full letter grade higher on this selected-response assessment. The effect size was calculated using Cohen’s $d$ to be .86 indicating a large effect. As such, we have reason to reject the first null hypothesis, $H_0$. However, there was no statistically significant difference with regards to student performance on a document-based analytic essay question, $t(36), 1.75, p=.088$. Consequently, we fail to reject $H_{OA}$. On the document-based question, while the lecture-based class ($M = 4.94$) outperformed the flipped class ($M = 3.95$), the statistical analysis was not sufficient to proclaim any significant difference between the groups.

Table 2

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Pre-Test Mean</th>
<th>Pre-Test SD</th>
<th>Post-Test Mean</th>
<th>Post-Test SD</th>
<th>DBQ Mean</th>
<th>DBQ SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture-Based</td>
<td>18</td>
<td>26.39</td>
<td>8.05</td>
<td>72.64</td>
<td>11.13</td>
<td>4.94</td>
<td>1.83</td>
</tr>
<tr>
<td>Flipped Class</td>
<td>20</td>
<td>25.25</td>
<td>7.48</td>
<td>62.39</td>
<td>12.75</td>
<td>3.95</td>
<td>1.67</td>
</tr>
</tbody>
</table>

*InSight: A Journal of Scholarly Teaching*
Discussion

Practical Implications

In both cases the students in the lecture-based class outperformed those in the flipped class; however, only with regard to the performance on a selected-response assessment did a statistically significant difference emerge. It is interesting that the document-based analytic essay question did not also receive statistically significant findings. One might wonder if there is some parallel between forms of assessments and alternative instructional methods that may serve as a confounding variable. Considering that there were no important differences among the groups from pre-test means nor variances in performance it lends support to the notion that an effective lecture-based class can outperform a flipped class. There are, of course, some obvious limitations with this study. First off, the sample was not randomly chosen nor did it include a large number of participants. As such, the study is not easily generalizable to larger student populations. Furthermore, this was the first full-scale flip of a class for the researcher while he had years of experience in a lecture-based class. While the collegial discussion of Bergmann and Sams (2009) and small-scale applications and reflections hopefully helped reduce any failure to implementing the flipped model effectively, this is still something important to consider with respect to these findings. Considering these limitations, however, the disparity between groups and the large effect size suggest that an effective lecture is still an effective method to consider and does echo some of the concerns regarding the lack of empirical research into the flipped classroom.

Although the results of this study showed lower performances of students in the flipped classroom as opposed to the traditional, lecture-based classroom, there were several points to hone in on in reflection. First off, since students have a varied completion rate of all readings in normal undergraduate education, adding a video – even a short one as the ones used here – on top of readings does not necessarily make discussion or collaborative work any better. In fact, many students may choose to watch the video exclusively and ignore – or at most skim – the readings. This was something echoed by the flipped class focus group. One student captured this sentiment when he stated: “You know, when the professor gives me a video and the reading is on the same thing, it’s like, why spend the time reading the text when the video covers it better and quicker?”

4 Of course, lectures should not be mere restatements of the reading and certainly were not designed to be so in this course, however, the parallel topics may have led to this perception among students. Perhaps, in redoing this study I might look carefully at lecture titles to be sure the students could not, on face-value alone, perceive them as being just another exploration of the same thing.
mind. Considering this, were I to implement the flipped classroom again I would redesign the sub-groups opening activities such that they addressed material from the video and the text, specifically. While this would not guarantee increased productivity in discussion, it certainly would make an environment conducive to that.

Second, should many professors shift to more flipped classroom models and yet wish to hold onto the core readings, it seems we are merely shifting the burden of in-class work versus out-of-class work in a way that students are not normed for. This is not to say that it ought not to happen but surely we must be aware that students in five flipped classes in a semester who all maintain the reading deemed appropriate simply have five\(^5\) additional videos required to view per session. Bergmann and Sams (2012) have some suggestions on dealing with this issue in Chapter 8 of their book but it feels geared more towards K-12. And when all is said and done, extra work sounds good to me— but it is important to think beyond the scope of one’s own classroom. The magnitude of multiple professors making a switch in a similar timeframe could pose an overload problem for students. This is another of those patterns of reaction I received in the flipped class focus group as another professor flipped his class the same time and at least six students were co-enrolled in my and his courses. These students both felt that the videos and the reading were too burdensome. I disagree but take their comments as valuable nonetheless and worthy of inclusion in this discussion for practical implications.

Third, there is a group of students who feel that when they pay to be in a college classroom, they are partly paying for the expertise of their instructor. In a flipped classroom, the instructor’s role is not patently obvious and thus, it may be useful to underscore how your expertise has contributed to the design of the course as well as within the context of in-class activities. Another quote perfectly illustrated this challenge when one focus group member said, “I don’t really care what my peers have to say about history. They know as little as I do. I took the class to learn from you, not them.” As noted by Strayer (2012), there is a disequilibrium or unsettledness that students face in flipped classrooms and they “need support structures built into the course” (p. 192) to monitor learning and can help students see the expert role the instructor is playing in such an environment.

In identifying these three focal points for discussion, I wish to reiterate that the primary means in which I developed them was based off interactions with the focus groups and my own perceptions based on informal interactions throughout the semester. So for those who wish to employ a flipped classroom in the future, I suggest making it clear in advance your policy on videos and reading and setting a norm for that early on for the high standards you seek to set. Second, consider the context and culture of those whom you serve. If your students are not familiar with such a model, consider beginning small— both for your own sake and to help foster such a transition. And third, be sure to make it explicit how you, as the expert in the room, are contributing to the student’s learning when they ask. Robyn Jackson (2010) outlined several principles master teachers embody and among these include knowing where

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\(^5\) Or more, of course they should not be excessively long, but nonetheless, it is worthy of consideration.
the students are going, supporting them along the way, using feedback to help students grow, and never working harder than their students. All of these principles are clearly aligned with a flipped classroom but aren’t quite as visible as a teacher who does the heavy lifting for a class. As such, this might be a good place to deliberately point out when these things are occurring and how they are helping students learn in the context of a flipped classroom.

Implications for Research

The flipped classroom has certainly shown potential to transform the classroom, to make active learning more prominent, and to “promote more teacher/student interactions” (Fraga & Harmon, 2015, p. 19). However, given the lack of strong empirical research in support of its positive impact on student learning and the findings of this quasi-experimental investigation there are reasons to be judicious about jumping into this model. In terms of implications from this investigation, two stand out with respect to future research. First, the theoretical frameworks employed by researchers in flipped classrooms must clearly define success in a way that includes a specific focus on student learning. As noted by Kirschner and van Merrienboer (2013), “students are really not the best managers of their own learning with respect to… choosing the best way in which to study and learn” (p. 178). So, perhaps less emphasis ought to be placed on student’s preferred way of learning as a means for defining success. Second, the findings of this small-scale study do reinforce some of the concerns held by researchers regarding the lack of empirical evidence for the flipped classroom. As such, it seems crucial that future research employ larger-scale and randomized experiments exploring the flipped classroom and various other models as well.

Conclusion

This experiment found that the flipped classroom was less effective than the didactic lecture method in this particular case. As such, it adds to the growing body of research using empirical methods to explore this model of instruction. Although the experiment had various limitations of consideration, the effect size, parallels to other research (Strayer, 2012), and that “there [remain] few research-based investigations that provide evidence about flipped classrooms” (Fraga & Harmon, 2015, p. 19), it

...make it explicit how you, as the expert in the room, are contributing to the student’s learning when they ask.

\footnote{Success in and of itself is something there is much disagreement about what qualifies for. But, the claim here is that success of any instructional model should only be considered as it relates to “student learning”. If student learning and performance are not considered, it seems wholly inadequate to justify a model for use when the purpose of any instructional model is to cultivate an environment that promotes student learning.}
suggests there is need for continued research before proclaiming that either particular instructional model is the way of the future.

Ultimately, this failed flip may underscore what others have already shared – there is a significant need for randomized experiments (Bishop & Verleger, 2013), as opposed to quasi-experiments, in order to come to any meaningful conclusions of the real impact of this methodology. While there is ample evidence that many students prefer more activity in the classroom, there are still those who wish to have the expert direct use of class time.

References


Bergmann, J., & Sams, A. (2012). Flip your classroom: Reach every student in every class every day. Alexandria, VA: ASCD.


Appendix A: Flipped Class Overview

Overview

This appendix provides two specific examples of activities that took place in the flipped class face-to-face that occurred in the traditional class at home on their own in line with the standard approach to flipping the classroom. It is hoped that readers will use these illustrations to have a clearer sense of the distinctions in each setting.

General Classroom Format

<table>
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<tr>
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<td>Class Discussion</td>
</tr>
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<td>Extension and/or Reinforcement Activity</td>
</tr>
<tr>
<td>12:00 – 12:10</td>
<td>Allocated as appropriate</td>
<td>Allocated as appropriate</td>
</tr>
<tr>
<td>12:10 – 12:15</td>
<td>Closure, Review, &amp; To Do Discussion</td>
<td>Closure, Review, &amp; To Do Discussion</td>
</tr>
</tbody>
</table>

Inserted from Table 1 within text of the document

Sample Flipped Activities

Example #1: Why some states celebrate Native American Day on Columbus Day?

Quick Synopsis: Students explored how states memorialize particular events based upon historical significance. In addition to a popular article illustrating this as a contemporary controversy, students were provided a set of primary source materials to read, discuss, and utilize in the development of a historical argument in support of their chosen name for the holiday.

a. Students in the traditional class received a packet of materials introduced in the extension/reinforcement activity time and were required to complete it on their own before the next session

b. Students in the flipped class spent the sub-groups opening activity reading the contemporary article as an ‘entry event’ to the controversy and the entire class discussion and extension time completing the task together in teams
Example #2: Perspectives on Federal-American Indian Relations

Quick Synopsis: Students were required to interact with definitions of civilization and sovereignty, with historical descriptions from varied perspectives on federal rulings and laws, several primary source excerpts related to boarding schools, and their knowledge from reading/lectures to distinguish between the perspectives and to take on a particular perspective.

a. Students in the traditional class took part in an instructor-led, sub-group discussion on the concepts of civilization and sovereignty and received instructions as to how to complete a subsequent packet exploring historical descriptions, primary source materials, and their textbook/notes to differentiate between diverse views on assimilation policies (during the extension and/or reinforcement activity time).

b. Students in the flipped class spent the sub-groups opening activity discussing definitions and concepts of civilization and sovereignty, the full class debriefed together, and then during class discussion time groups interacted with the provided readings drawing on aspects from their previous knowledge and with one another. Finally, during the extension/reinforcement time, teams took on the historical perspective of an assigned role (either assimilationist or non-assimilationist) and discussed from that vantage point and in alignment with resources from the provided materials various topics. Finally, the class completed a whole class debriefing in the last ten minutes of class.

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Convincing Students That Their Groupmates’ Success Can Increase, Not Diminish, Their Own Success

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Both theory and research support the use of group activities to aid student learning. However, some students are reluctant to learn with peers for fear that the peers will gain more. The article attempts to address this fear. This article provides educators with explanations to give their students as to why, even in norm referenced assessment environments, by helping their groupmates, students are positively, not negatively, impacting their own success on assessments. The article opens with a review of assessment options: norm referenced, criterion referenced and ipsative. Next, Social Interdependence Theory is explained for the insights it might offer as to how students view their peers’ success. The article’s third section summarises some of the research on peer learning, in particular research on what forms of peer interaction might best promote learning. Finally, the article examines three contexts in which norm referencing is applied – standardised exams, class grades and class ranking – and concludes that the chances are small of groupmates’ success diminishing the success of students who have helped their groupmates. This conclusion is reached based, first, on mathematical calculations and, most importantly, on the research based premise that when students provide elaborated help to groupmates, the helpers are likely to boost their own scores.

Group activities feature regularly in many classrooms. Furthermore, students may study together outside of class, both in person, i.e., face-to-face interaction, and electronically, e.g., via text messaging. However, some students, sometimes influenced by parents, other adult family members and societal beliefs, are reluctant to work with peers (Allen, 2016; Chaviaris & Kafoussi 2010). Reasons for this reluctance include:

(a) lack of times and places conducive to peer collaboration,
(b) negative experience with peers who only wish to receive help but seldom reciprocate,
(c) negative experience with peers who attempt to dominate groups, and
(d) students’ lack of skill in providing and receiving academic assistance.

The inspiration for the current paper arose from yet another reason students might not want to assist peers: the fear that by improving the outcomes of their fellow students, students are jeopardizing their own chances of successful outcomes, as measured by such indicators as scores on standardised exams, grades in courses and class rankings. This concern about diminished relative success was the explanation given to one of the authors of the present paper during an informal conversation with a tertiary student who stated that as far back as primary school, it had not been her
habit or the habit of her peers to provide each other with academic assistance. This paper was conceived to answer this student and the other students and stakeholders with similar concerns.

The fear that helping peers constitutes a zero sum game stems in part from the use of norm referenced assessment to assign grades, ranks, etc. to student performance. Norm referenced assessment compares students’ outcomes with those of other students. Norm referenced assessment contrasts with criterion referenced assessment, which compares student performance against a fixed standard of quality.

This article makes two main arguments. First, the authors claim that by helping peers, students can increase their own learning and academic achievement. Thus, while the helped students’ outcomes may improve, so too may the outcomes of the students who provided the help. The second argument looks at what happens if norm referenced assessment is utilized and the helped students improve their outcomes but, surprisingly, the helping students’ outcomes do not advance. Even in such circumstances, a more in-depth understanding of norm referenced assessment reveals that the helping students’ outcomes are unlikely to suffer.

The article begins with a review of assessment options, followed by an exploration of Social Interdependence Theory with reference to helping behaviours. Next, to support the article’s first main argument – that students boost their own learning by attempting to teach peers – the benefits of cooperation among students are discussed, along with the types of cooperation most likely to promote those benefits. Then, to support the article’s second main argument – that improvement in peers’ outcomes is not likely to detract from the outcomes of peer helpers – examples are presented based on norm referencing applied to standardise test scores, grades and ranks.

**Literature Review**

This literature review has three sections. This first section discusses three of the options for assessment, focusing on norm referenced and criterion referenced assessment. The literature review’s second section discusses Social Interdependence Theory, a theory that offers a perspective on what might motivate students to assist or not assist the learning of peers. The third section moves from the theoretical to the practical, reviewing some of the literature on the benefits students can enjoy by learning collaboratively.

**Norm Referenced and Criterion Referenced Assessment**

Three main options exist for assessing the performance of students on measures of skills and knowledge: (a) comparing student performances with those of other students, (b) comparing student performances to predetermined standards, and (c) comparing each student’s performance to their own past performance. These three assessment methods are known as norm referenced, criterion referenced and ipsative, respectively, with norm referenced and criterion referenced, in the authors’ experience, being the most common, with various combinations of these two options also being employed (Kim, Lee, Chung, & Bong, 2010). The current article focuses on the impact of norm referenced assessment on students’ attitudes towards peer collaboration.
In norm referenced assessment, students’ performances are compared to those of a “normative” group. This group can consist of those doing the assessment at the same time as the students or at different times. Norm referenced assessments allow assessors to give the distribution of students’ scores the shape they like. The desired distribution is often bell-shaped, with a majority of students near the middle, and the number of students decreasing near the ends of the distribution. For instance, with a bell-shaped distribution, in a grading system from A to F, the smallest numbers of students receive A’s and F’s, e.g., 15% each, with the next largest numbers of students receiving B’s and D’s, e.g., 20% each, and the largest number, those at the middle of the curve, receiving C’s, e.g., 30%.

In norm referenced assessment, student performance can be compared within the same cohort or between cohorts. When the reference group is the same as the group of students actually assessed, in an A-F grading system, the proportion of students receiving each of the five grades is fixed, regardless of the performance of any cohort of students in terms of the actual quality of the students’ work, the amount of their effort, or of any comparison to these students’ previous performances (Center for Teaching and Learning, 2015). On the other hand, when the students assessed are compared with a previous cohort, as in the Scholastic Aptitude Test (CollegeBoard, 2015) exam, the distribution of the current cohort’s grades is not known in advance. Only the proportion of grades of the students that composed the reference cohort is predetermined. However, that reference cohort is usually chosen because of its supposed resemblance (or partial resemblance) to the assessed group of students. Therefore, it is expected that the grade distribution of the assessed students will also resemble the predetermined distribution. The advantage of using an external reference cohort lies in the possibility of comparing several groups to this cohort and, therefore, with each other.

Social Interdependence Theory

Insights into the reactions of students and others to norm referenced assessment may be gained from Social Interdependence Theory (Deutsch, 1949, 1962; Johnson & Johnson, 2006; Lewin, 1935). This theory seeks to understand how people view their connections with others. When applied to formal education, the theory provides ideas that educators can use to understand and positively impact interactions among students, so as to encourage students to learn from and with each other and to make education a satisfying experience for all. Social Interdependence Theory is often cited as a foundation for cooperative learning (also known as collaborative learning), a system of principles and techniques for encouraging successful peer interaction among students.

Social Interdependence Theory discusses three lens through which people, including students, can view others: positive interdependence, negative interdependence or no interdependence. A feeling of positive interdependence exists when people believe their outcomes are positively correlated with those of others, i.e., what benefits one benefits the other(s), and what harms one harms the other(s). Negative interdependence refers to the situation when people feel that their outcomes are negatively correlated, i.e., what benefits one harms the other(s), and what harms
one benefits the other(s). No interdependence describes the situation when people perceive little or no correlation between their outcomes, i.e., they believe that their outcomes neither benefit from nor are they harmed by what happens to others. Please note the repeated use of the subjective term feel which is used to highlight that people’s perceptions do not necessarily mirror the reality of others’ impact on their outcomes, i.e., two people in identical situations could feel different forms of interdependence.

The three forms of interdependence can be illustrated in a simplistic manner by a sports example. If two people are doubles partners in badminton, they may feel positively interdependent, i.e., they believe that their outcomes are positively correlated. For example, if one helps the other improve their backhand, both are more likely to achieve the joint goal of winning the next match they play as a team, i.e., the outcomes of both could be seen as likely to improve. Similarly, if one member suffers an ankle injury, they both have less chance of winning, i.e., the outcomes of both could be seen as likely to worsen.

Negative interdependence can be seen when the pair play singles, with each person in the pair on a different side of the net. Now, their outcomes might be perceived as negatively correlated. For instance, when one person’s backhand improves, that person’s chances of winning increase, while the person who is now their opponent sees their own chances of winning decrease. Similarly, an ankle injury still could be seen as harming the prospects of the person who suffers the injury, but now the ankle injury might be taken as improving the prospects of the person on the other side of the net.

To picture a situation in which no interdependence might be perceived, imagine that one of the two badminton players leaves the badminton court to go swimming, while the other continues playing badminton. The success of the one person in swimming might not be seen as impacting whether the other person wins at badminton. In such a situation, the two people may feel that no correlation exists between their outcomes.

The above examples are simplistic, because within any one situation, more than one form of interdependence can exist in people’s minds. For instance, when playing singles in badminton, if one person is injured, while the other person’s chances of winning improve, a game with an injured opponent may be less enjoyable and provide less exercise and less challenge. Thus, while at first glance, the situation may appear to be a clear cut one of negative interdependence (their outcomes are negatively correlated, as one person’s chances of winning increase, while the other’s chances of winning decrease), positive interdependence may also be present in the minds of the players who both may want to enjoy a game with a closely matched player.

Many student behaviors might be taken to indicate that they feel negatively interdependent with groupmates and other classmates. For instance, in the case of students asking questions to teachers, either face-to-face or electronically, do students wait until after class when no other students are able to know the teachers’ response? Perhaps, these students do not want to risk embarrassment by asking what might be perceived as “dumb” questions, or, indicative of feelings of negative interdependence, perhaps these students want to be in sole possession of the teachers’ answers. Another example of a behavior that might indicate that students, consciously or unconsciously, feel negatively interdependent with peers is students giving answers to their partners.
but not explaining to their partners how to find the answers on their own and not checking to see if their partners understand the given answers. This answers-only assistance is similar to “giving someone a bowl of rice” but not helping them “learn how to grow their own rice.”

Returning to the topic of assessment, norm referenced assessment may foster a competitive environment among students, because students may be likely to view themselves as negatively interdependent with those involved in the same assessment (Johnson & Johnson, 2003). A feeling of negative interdependence discourages helping behaviors among students, as students may feel that when norm referenced assessment is used, by boosting their peers’ scores, they are jeopardising their own outcomes. Such an attitude potentially decreases the learning of all.

To promote cooperation for learning among students, Johnson and Johnson (2003) advocate the use of criterion referenced assessment, because such assessment reduces the potential for feelings of negative interdependence among students, i.e., it may reduce feelings of hostile competition among students (Eggen & Kauchak, 2007). Furthermore, Eggen and Kauchak maintained that because criterion referenced assessment compares students with standards, not with other students, such assessment provides stakeholders with a more accurate view of the current state of students’ knowledge and skills. This article seeks to present evidence that even when norm referenced assessment cannot be avoided or is preferred for whatever reason, students nonetheless gain from collaborating with peers. To build this argument, the next section of the paper reviews benefits of student-student collaboration.

Benefits of Cooperation among Students

In addition to Social Interdependence Theory, many other theories in the education literature can be referenced in support of the use of student-student interaction as a significant mode of learning. These include Sociocultural Theory (Vygotsky, 1978), Humanist Psychology (Maslow, 1968), Social Constructivism (Palincsar, 1998) and Multiple Intelligences Theory (Gardner, 1993). Additionally, a great many studies have been conducted on the efficacy of methods of promoting student-student interaction. This research has involved a wide range of learners, subjects and modes of learning, including online learning. In general, the research suggests the collaboration among students is associated with positive effects on both cognitive and affective variables (Ibáñez, García Rueda, Maroto, & Kloos, 2013; Johnson, Johnson, & Stanne, 2000; Kyndt et al., 2013; Slavin, 1991b). To aid in the implementation of student-student interaction, the education literature is replete with guidance for teachers (e.g., Baloch, 1998; Cohen & Lotan, 2014; Gillies, 2007; Johnson, Johnson, & Holubec, 2008; Sharan, 1999; Slavin, 1995).

Two elements may be particularly important to successful interaction among students. First, when students feel concern for each other, they may be more likely to strive for effective interaction. This concern links with positive interdependence, discussed in the section on Social Interdependence Theory. A second element crucial
to successful student-student interaction involves how students interact. Do they only give each other answers, or do they discuss, explain, give examples, debate and otherwise engage in elaborated interactions? Many studies by Webb and her colleagues, e.g., Webb (1991) and Webb et al. (2009), as well as by other researchers, such as Gillies (2007) and Kuhn and Crowell (2011), have suggested the importance of quality interactions.

Unfortunately, many students, including the one cited in the second paragraph of this article, and other stakeholders in education, believe that the benefits of student-student interaction flow mostly in one direction: from the students who help their peers to the peers who receive the help, with no benefits accruing to those who assist their peers. For instance, Allen (1991) and Matthews (1992) raised the concern that when students engage in peer interaction, the high achievers are forced to tutor their lower achieving peers and to serve these peers as role models. The higher achievers, according to this concern, waste time they could have otherwise spent on enrichment. In other words, they only give; they do not receive.

Johnson and Johnson (1993) and Slavin (1991a), long-time researchers in the field of cooperative learning, responded to the claims of Allen and Matthews by highlighting two points. First, following on the research cited above by Webb (1991) and others, the way that students interact plays an important role in determining whether students of all achievement levels (both those who help and those who receive help) benefit. In this regard, the Johnsons and Slavin urged that student interaction be facilitated with reference to the literature on cooperative learning, including the use of thinking skills and collaborative skills. Second, the Johnsons and Slavin referred to the large body of research, cited above, suggesting that when cooperative learning was properly implemented, both high and low achievers outperformed similar students who did not study in cooperative learning environments. The research cited by the Johnsons and Slavin supports one of the two key points of this paper: when peers interact, the potential exists for all to learn, even those students of relatively higher achievement levels.

In addition to cognitive goals, the research cited by the Johnsons and Slavin suggests that cooperative learning is also associated with affective benefits, such as gains in self-esteem and increased liking for school. For instance, when students feel positively interdependent with peers, i.e., they feel they are living by the “All for one and one for all” motto of the Three Musketeers (Dumas, 1844/1998), students may develop deeper ties with their peers, for example, across potential divides of race and social class. Such ties may make school a place where diverse students of all achievement levels build friendships with people with whom they might not otherwise interact.

To conclude this discussion of the benefits of cooperation among students, concepts from Chinese culture and Malay culture deserve mention (Jacobs, 2013a, 2013b). These concepts may well resonate in other cultures. In Chinese culture, two cooperation-friendly concepts are guanxi and renqing. Guanxi involves building relationships. When students live up to their responsibilities as group members, they may develop a reputation for reliability. Based on this reputation, others may be more willing to collaborate with them, both in the present and in the future, in academic and non-academic endeavours. Students who ignore opportunities for relationship...
building do so at their own peril, for as the proverb states, “Often, it is not what you know but who you know that determines your success”. Renqing also concerns relationship building. It means to return favours. By assisting in the learning of their peers, students build the pool of favours from which they can later collect, whether in academic or non-academic realms.

In Malay culture, perhaps the concept that most clearly embodies cooperation is gotong royong, which can be translated as communal effort. Gotong royong is seen in the spirit of the kamplings, rural places where people aid each other, to put a roof on someone’s home, to harvest rice or to celebrate a festival. The same cooperative spirit can be applied in education, where adding the social element not only makes learning more efficient it also makes learning more enjoyable.

Two Malay proverbs also can be used to encourage students to learn together. First, “A rope of three strands is not easily parted (Tali yang tiga lembar itu tak suang-suang putus)”. When students work alone, their learning may be okay, but they may be more likely to make errors and omit perspectives. Fortunately, the act of collaborating with groupmates can add important strands that individuals learning alone may lack. Another Malay proverb that teachers can use to encourage students to learn together is, “When the load is light, you carry together, when the load is heavy, you carry together” (Ringan sama dijinjing, berat sama dipikul, ke bukit sama didaki, ke lurah semua dituruni). This is similar to the English proverb, “Many hands make light the work” and reinforces Vygotsky’s (1978) view that learning is social.

Examining the Impact of Norm Referenced Assessment in Specific Contexts

This section of the paper examines the concrete impact of norm referencing on the assessments which students experience, beginning with assessments normed via other cohorts. Then, the section looks at assessments normed with the same cohort. Here, the discussion centres on assessment involving grades and assessment involving rankings.

Assessments with Scoring Based on the Scores of Past Cohorts

Some standardised exams, e.g., the Scholastic Aptitude Test (CollegeBoard, 2015), apply norm referencing by comparing students’ scores not with the scores of those who took the exam at the same time, but with scores of test takers from a previous year. In this case, students’ outcomes could not be impaired if students preparing for the exam provide assistance that boosts the scores of peers taking the same exam at the same time as norming is not done within their cohort. Furthermore, it bears noting that even when standardised exams are normed on the same cohort, the outcome of one or two peers is very unlikely to affect a student’s final score, as cohorts often consist of many thousands of students.

Assessments with Scoring Based on the Scores of the Same Cohort - The General Case

With norm referenced assessment that uses the same students as the reference group, e.g., all the students in the same class, for a given number of students, it is only when the performance of the helped students surpasses the performance of the helpers...
that the helpers’ final outcomes could be negatively impacted. This low incidence of negative impact pertains whether those assessments are expressed as grades, such as A or C, or as rank, such as students in a class of 40 being ranked #5 or #35. Next, the two cases, i.e., grades and percentile rank, will be illustrated as to the potential impact of helped students’ outcomes on the outcomes of students who help them.

The case of grades. This subsection considers whether, under a norm referenced regime, there might be any negative impact on the grades of students who successfully teach their peers. When norm referenced assessment is applied to grades, e.g., A, B, C, D and F, the number of students who will receive each grade is fixed, e.g., with 60 students, if 15% are to receive A’s, nine students will receive A’s, and if 30% are to receive C’s, 18 students will receive C’s. Please note that, as stated earlier, the authors do appreciate that not all institutions and not all teachers apply a pure version of norm referencing.

An example of the potential impact of the improvement of helped students on the outcomes of helper students would be the case of Student 1 with a past average of 75 helping Student 2 with a past average of 50. On the next assessment, Student 1 again scores 75, while thanks in part to Student 1’s help, Student 2 scores 72. In this case, student 2’s improvement has no impact on the grade of Student 1, because 2’s score is not above 1’s score.

Student 2’s improvement only has the potential to lower Student 1’s grade if 2 scores above 1. However, even if 2’s score is higher than 1’s, Student 1 would only drop down a grade under special circumstances. An example of such circumstances would be if Student 1’s score of 75 would have been high enough to be 9th highest among the class of 60 students - please remember that in this scenario only 15% of the class, i.e., nine students, can achieve an A. For instance, if Student 2’s score, after 1’s help, is 85, thus exceeding 1’s score, Student 1’s 75 now becomes 10th highest in the class, dropping Student 1 out of the list of nine students to receive a grade of A.

To generalise from the above example, with norm referencing applied to an A-F grading system, even if helped students surpass the scores of their helpers, the probability of the helping students experiencing a grade drop is slight. This situation obtains due to the fact that it is only when helpers’ scores lie on the lower edge of a grade range that those whom they help can inadvertently bump them down a grade. To return to our example of Students 1 and 2, if the norm referencing system being applied in a class of 60 students assigns an A grade to 15% of the class, i.e., nine students, it is only when Student 1’s score is 9th highest that Student 2 surpassing Student 1’s score could bump Student 1 down to a B.

Thus, in a class of 150 students, the probability of a helped students higher score pushing down the grade of their helper is 4/150 = 3%. In a small class of 20 students, helpers have a probability of 4/20=20% of seeing their grade drop in the event that their helped classmates surpass them. These percentages are calculated by dividing the number of students on the edge of falling a grade (4 students, i.e., falling from A to B, from B to C, from C to D and from D to F) by the total number of students in the class.
The case of ranking. Norm referencing measures students in comparison with other students. The previous subsection of this paper examined the case of grades being used to compare students. This subsection examines the case of rank being used to compare students. For instance, in some schools, the students in each class are ranked, e.g., in a class of 40, one student will be #1 in the class (the highest achieving student), another will be #23, yet another will be #40, etc. Heffernan (2014) recounted the story of a secondary school student who was ranked in the top five in her class. The student recalled that, “The top five are particularly conscious of each other... I asked one of them to help me—and he wouldn’t!... He said his mother had told him not to because it might jeopardize his ranking” (p. 36).

When ranking is used, formerly low achieving students who show significant improvement, perhaps due to the help of higher achieving peers, can move their helpers down a rank. For instance, if Student 1 who was ranked #3 in the class, continuously helped Student 2 who was ranked #8 in the class, over time, Student 2’s achievement level might eventually have increased to the point where Student 2 rose to become #3 in the class, with Student 1 moving to #4. However, please note that Student 1 fell only one place, i.e., from #3 to #4, not one grade, e.g., from an A to a B.

When helping students improve. The two previous subsections of this part of the paper have considered scenarios in which the performance of helped students improves while no change takes place in the performance of those students who help their peers. However, as noted in the literature review earlier in this article, e.g., in the findings of the research of Webb and her colleagues (2009), when students provide elaborated help to peers, both the providers and recipients of such help benefit. Theories of learning, such as Social Constructivism, support this view. Furthermore, Social Interdependence Theory provides ideas for how teachers can promote positive interdependence and, thereby, a learning climate in which students want to foster each other’s success. Thus, both in the case of grades and in the case of ranking, students are very unlikely to suffer from helping peers, because the helped peers are unlikely to overtake those who help them, as the more likely scenario may be that the helpers’ scores rise in tandem with the scores of those whom they help.

Suggestions for Future Research

This paper has provided evidence for educators to use to overcome students’ concerns that helping peers might be detrimental to their own success. Future researchers might investigate the actual impact of teacher interventions on student assistance to peers. These interventions could include:

1. Using criterion referenced or ipsative assessment rather than norm referenced assessment
2. Presenting to students and other stakeholders the evidence compiled in this paper about the small chance that helping peers would impair the helpers’ outcomes
3. Teaching students how to assist peers by supplying elaborated help rather than merely giving answers
4. Building rapport within groups via teambuilding activities
5. Encouraging students to create a common identity among group members, e.g., via a group name, group logo, group motto or group mascot
6. Giving group members a stake in each other’s outcomes, such as (a) via group goals, (b) grades that are a combination of individuals’ scores and the scores of their groupmates or (c) shared information, such as in the Jigsaw technique (Aronson, 2016) in which students teach their groupmates.

Conclusion

In conclusion, the purpose of this paper has been to help teachers encourage students to learn together with peers, even in the presence of norm referenced assessment systems. Specifically, the paper sought to provide evidence that teachers can utilise to allay students’ fears that helping peers is a one-way street with the helped students enjoying all the benefits and the helping students not only not benefiting but potentially losing out, as those students they help lower the helpers’ exam scores, course grades and class rankings.

To ease this concern, two main points were made. One, from the perspective of theory and research on what promotes learning, when students help others by providing elaborated explanations, the helpers learn, too. Furthermore, when a spirit of positive interdependence blooms among students, the environment for learning brightens considerably. Two, from a mathematical perspective, in the case of standardised exams, grades and class rank, even when outcomes of helped students improve, that improvement is unlikely to impair the outcomes of the helping students.

To return to the conversation that inspired this paper, the conversation one of the authors had with a student who did not want to study with others for fear that learning is a zero sum game, unfortunately, the author has lost contact with that student. However, the authors urge those educators reading this article to engage students and other education stakeholders in frank and open discussions about why they do or do not favour peer collaboration for learning. Certainly, in the process of preparing this article, the authors have deepened their own understanding of the topic and will continue to promote cooperative learning and to encourage people to look for and act on the positive interdependence in their lives in education and elsewhere.

References


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Call for Papers
Volume 13: Scholarly Teaching and Learning

InSight: A Journal of Scholarly Teaching is a scholarly publication designed to highlight the work of postsecondary faculty at colleges and universities across the United States. It is a refereed scholarly journal published annually by the Faculty Center for Innovation (FCI) at Park University that features theoretical and empirically-based research articles, critical reflection pieces, case studies, and classroom innovations relevant to teaching, learning, and assessment.

InSight articles focus broadly on Scholarly Teaching. Faculty are encouraged to submit original manuscripts that showcase scholarly teaching processes or critically discuss the scholarship of teaching and learning (SoTL) as a scholarship paradigm. While reports of scholarly teaching projects are welcome, InSight is also committed to continuing broader conversations about SoTL’s value as a tool for advancing student learning and demonstrating faculty commitment to teaching.

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- Examples of SoTL projects at the course or discipline-level
- Intersections of SoTL and service-learning, eLearning, learning communities, and other learning initiatives
- Future directions in SoTL
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- STYLE - All manuscripts must be formatted in APA style.
- LENGTH - Manuscripts may range from 2,000 - 5,000 words (not including abstract, references or appendices). Authors are encouraged to include appendices that promote application and integration of materials (i.e., assignments, rubrics, examples, etc.).
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The following “Quick Tips” provide suggestions and guidance for preparing manuscripts for potential publication in InSight: A Journal of Scholarly Teaching. InSight is a peer-reviewed publication highlighting the scholarly contributions of postsecondary faculty. As is the nature of refereed journals, acceptance and publication of original manuscripts is a competitive process. The goal of the following information is to assist faculty in preparing manuscripts in a manner that maximizes the chances of publication.

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The organization and style your manuscript will be largely dictated by the type of submission (e.g., theoretical, empirical, critical reflection, case study, classroom innovation, etc.). Thus, while guidelines will follow to assist you in preparing your manuscript, the key to successful submission is clear, effective communication that highlights the significance and implications of your work to post-secondary teaching and learning in relation to the target topic. To prepare and effectively communicate your scholarly work, the American Psychological Association (2010) provides the following general guidelines:

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    o [http://www.thejeo.com/MandernachFinal.pdf](http://www.thejeo.com/MandernachFinal.pdf)
    o [http://www.athleticInSight.com/Vol7Iss4/Selfesteem.htm](http://www.athleticInSight.com/Vol7Iss4/Selfesteem.htm)

  - **Theoretical articles and literature reviews** should include an introduction (purpose), subheadings for the relevant perspectives and themes, and a detailed section(s) on conclusions (applications, recommendations, implications, etc.). The following links provide general examples of this type of article:
    o [http://www.westga.edu/%7Edistance/ojdlawinter84/royal84.htm](http://www.westga.edu/%7Edistance/ojdlawinter84/royal84.htm)
    o [http://www.westga.edu/%7Edistance/ojdlawinter84/mclean84.htm](http://www.westga.edu/%7Edistance/ojdlawinter84/mclean84.htm)

  - **Classroom innovation and critical reflections** should be organized via an introduction (purpose, problem, or challenge), relevant background literature, project description, evaluation of effectiveness (may include student feedback, self-reflections, peer-insights, etc.), and conclusions (applications, implications, recommendations, etc.). If describing classroom-based work, please include copies of relevant assignments, handouts, rubrics, etc. as appendices. The following link provides a general example of a critical reflections article:

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The importance of clear, effective communication cannot be highlighted enough. Many manuscripts with relevant, original, applicable ideas will be rejected because authors do not communicate the information in a manner that facilitates easy understanding and application of key points. The value of a manuscript is lost if readers are unable to overcome written communication barriers that prevent use of the knowledge. With this in mind, authors are strongly advised to seek informal feedback from peers and colleagues on manuscripts prior to submission to InSight. Requesting informal reviews from relevant professionals can highlight and correct many concerns prior to formal submission, thus improving chances of publication.

References


“Through [student-faculty] partnerships, students develop approaches to their studies that make them a joy to teach – and learning becomes more joyful for them.”
~ Alison Cook-Sather, Catherine Bovill, Peter Felten – *Engaging Students as Partners in Learning and Teaching: A Guide for Faculty*