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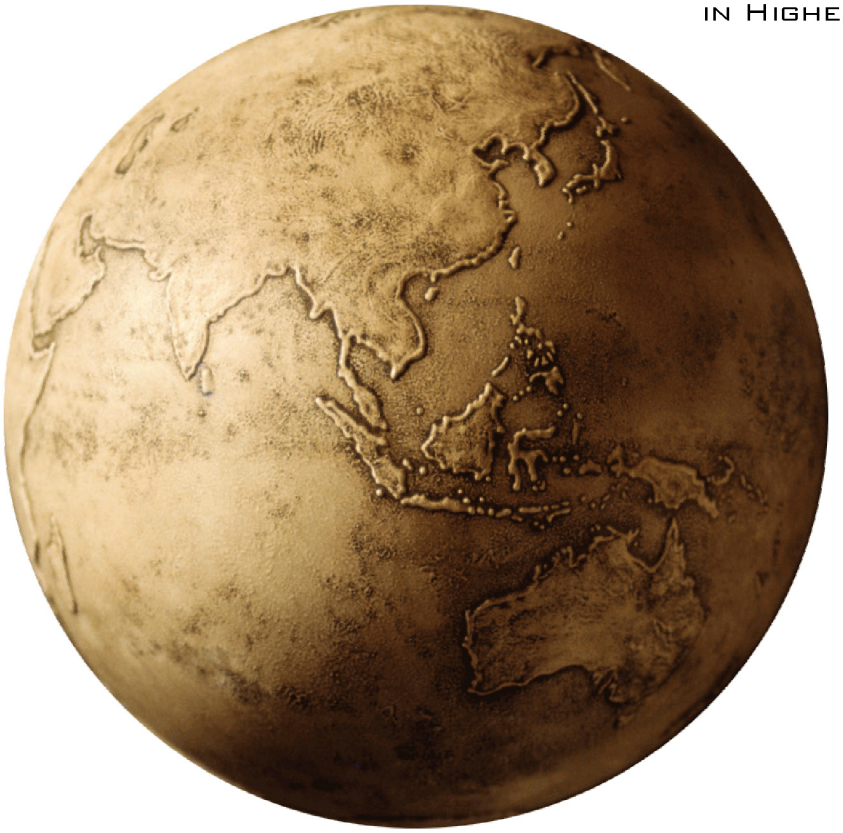

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Purpose
The International Journal of Teaching and Learning in Higher Education (ISSN 1812-9129) provides a forum for the dissemination of knowledge focused on the improvement of higher education across all content areas and delivery domains. The audience of the IJTLHE includes higher education faculty, staff, administrators, researchers, and students who are interested in improving post-secondary instruction. The IJTLHE is distributed electronically to maximize its availability to diverse academic populations, both nationally and internationally.

Submissions
The focus of the International Journal of Teaching and Learning in Higher Education is broad and includes all aspects of higher education pedagogy, but it focuses specifically on improving higher education pedagogy across all content areas, educational institutions, and levels of instructional expertise. Manuscripts submitted should be based on a sound theoretical foundation and appeal to a wide higher education audience. Manuscripts of a theoretical, practical, or empirical nature are welcome and manuscripts that address innovative pedagogy are especially encouraged.

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Research Articles

Instructional Articles

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Students' Appropriation, Rejection and Perceptions of Creativity in Reflective Journals

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This paper explores the intersection of reflection, journal writing and creativity. Undergraduate students who participated in a residential field camp were required to keep a creative reflective journal to demonstrate their theoretical and practical understandings of their experience. This study reports on the content analysis of 42 student journals and interviews with eight students that explored if and how an invitation to be creative in a reflective journaling assignment was appropriated or rejected (as evidenced by the content analysis) and experienced (as evidenced by the interviews) by students. Content analysis revealed that 14% of journals contained no creativity, 50% had basic levels of creativity, 31% had moderate levels and 5% had high levels. Interviews were analyzed using themes of relevance, ownership, control and innovation and provided insight into reasons why students did and did not use creativity to support their journals. In the discussion, the concepts of deep and surface approaches to learning provide some insightful explanation as to why students were creative in their reflective journal. This paper concludes by providing several support strategies to help students enhance their skills related to reflection, journal writing and creativity.

Introduction

There has been considerable discourse in the literature regarding the development of higher order critical thinking skills and reflective practice in students across a number of disciplines. Since Schön (1983) brought reflective practice to the forefront of higher education pedagogy with his seminal work, *The Reflective Practitioner: How Professionals Think in Action*, a variety of instructional methods have been employed with students to build these skills including reflective journals, individual and group narratives, portfolios, and more recently, the use of Web 2.0 technologies such as wikis, blogs and other forms of social media (Franklin & van Harmelen, 2007; Hemmi, Bayne, & Land, 2009). In the last three decades, reflective journals, one of the more established methods of encouraging the development of critical thinking skills and reflective practice, have received substantial attention in the literature.

Despite critical reflection being embraced across so many discipline areas in higher education, there have been a surprising number of mixed reports as to the quality of reflection displayed by students. A notable number of studies have found that a majority of students display low levels of critical thinking or reflective thought (Dyment & O'Connell, 2011; O'Connell & Dyment, 2011). Researchers propose a variety of reasons for this, including ill-structured assignments (Thorpe, 2004), a lack of ability to be reflective (Coulson & Harvey, 2012; Ryan, 2013; Smith, 2011; Thompson & Pascal, 2012), lack of time for both students and educators, negative opinions of reflective assignments (Shor, 1992), issues of trust and ethics (Epp, 2008; Ghaye, 2011), and the tension of assigning marks to subjective interpretation of experiences (Crème, 2005).

With a view to enhancing the experience of reflection through the use of journals, educators have provided training to students on reflection (Coulson & Harvey, 2012; Ryan, 2013; Smith, 2011; Thompson & Pascal, 2012) and journal writing (Moon, 2006; O'Connell & Dyment, 2013). Training in these realms has been shown to support students by allowing them to understand the theoretical underpinnings of reflective journals, by clarifying expectations, by offering exemplars and by encouraging creativity in reflective journals.

This paper reports on a research project that sought to explore the intersection of reflection, journal writing and creativity. Undergraduate students who participated in a residential field camp were required to keep a creative reflective journal to demonstrate their theoretical and practical understandings of their experience. This study reports on the content analysis of 42 student journals and interviews with eight students. It explores if and how an invitation to be creative in a reflective journaling assignment was appropriated or rejected (as evidenced by the content analysis) and experienced (as evidenced by the interviews) by students.

Literature Review

In this literature review, we begin with an overview of some of the key literatures related to *reflective journals* before turning to the literature related to *creativity*. We then point to the intersection between these two areas of literature by exploring *creative reflective journaling*.

Reflective Journals

John Dewey (1933) is credited with suggesting that reflection is an important component of learning and

theorized that reflection is necessary to incorporate experiences into an existing framework of knowledge, while taking into consideration a learner's life experience as well as present observations. Dewey (1933) defined reflection as, "… active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusion to which it tends" (p. 9).

In many higher education settings, there is a substantial focus on helping students develop higher order critical thinking skills to examine the core theories and concepts related to their program of study or academic discipline (Thorpe, 2004). Across a range of discipline areas, including nursing (Epp, 2008), physiotherapy (Wessel & Larin, 2006), teacher education (Hatton & Smith, 1995), music education, physical education (Tsangaridou & O'Sullivan, 1994), design/architecture and medicine (Boenink, Oderwald, De Jonge, Van Tilburg, & Smal, 2004), reflection is encouraged to help students take ownership of their knowledge and make connections between the theory and practice of their studies. Reflection occurs through any number of metacognitive activities designed to promote reflection, or the process of understanding experiences in relation to one's beliefs, values and existing knowledge (Boud, 2001; Colley, Bilics, & Lerch, 2012).

In higher education, educators encourage reflection through a range of approaches and techniques, including portfolios, reflective journals, online discussion groups, tutorials and formal academic papers (Ghaye, 2011). The focus on this paper is on one such approach: reflective journals.

Reflective journals can take many forms, from comprehensive, detailed application of experiences to theories and concepts to descriptive accounts of events and activities (O'Connell & Dyment, 2013). Reflective journals allow students to situate their learning experiences through comparing and contrasting their observations, their feelings and their understandings with their existing knowledge, values and beliefs and considering how this process can be applied to their future lives as professionals (Minott, 2008). Students can use journals to help them make sense of their practice through reflecting on context, values, improvement, and practice (Ghaye, 2011). They may also be used by students to reflect "in-action," "on-practice," "for-action," and "with action" (Ghaye, 2011). Ultimately, they allow students to experience "connected learning" in which they can critically analyze knowledge, skills and dispositions in different contexts (Connor-Greene, 2000).

With a view to understanding the level and quality of reflection in students' reflective journals, a number of frameworks have been used. Examples include Bloom's Taxonomy of Higher Order Thinking (1956), Valli's (1997) typology of reflection, Merizow and Associates' model (Merizow & Associates, 1990), and Hatton and Smith's (1995) framework, among others. While the number of levels and intricacies of specific types of reflection differ from model to model, there is general agreement that the most basic levels of critical thinking are primarily descriptive, and the higher (more complex) levels of thinking are critical in nature, analytical, and considerate of multiple perspectives based on theory and practice (Dyment & O'Connell, 2011). The ultimate hope is that journals will reflect at deeply critical levels, allowing students to experience a transformation of perspectives, to have changes in behavior, and to appropriate knowledge as their own (Wong, Kember, Chung, & Yan, 1995).

Creativity in Education

Within the last decade, there has been an "unprecedented resurgence" of interest in the field of creativity in education, as evidenced by an array of initiatives, scholarly conversations, special journal editions, conferences and events (Burnard, 2006, p. 313). The creativity agenda in international education circles can be found in academic literatures, policy contexts and curriculum documents. A number of landmark publications in the field of creative learning have significantly advanced the creativity agenda in recent years (e.g., Baer & Kaufman, 2012; Harris, 2014). Although there remains considerable debate around some aspects of the creativity agenda (e.g., defining creativity, whether or not it can be acquired, value of it, how it is learned) (Baer & Kaufman, 2012; Craft & Jeffrey, 2008; Jeffrey, 2006; Harris, 2014; McWilliam & Haukka, 2008), it is generally agreed that creativity has an important role to play beyond the learning areas that are traditionally thought of as being "creative," such as music, art and drama (Harris, 2014). The importance of creativity in both formal and informal education sectors across a range of ages of learners (from early years through higher education) has been acknowledged (Burnard, 2006; Byrge & Hansen, 2013; Orlando, 2012).

More recently, convincing arguments have been made that creative capacity is actually an observable and valuable component of social and economic systems (McWilliam & Haukka, 2008; Orlando, 2012). Seen from this perspective, creativity is "not a transient fad," but rather it has "an explicit role in the economy…therefore constitutes a fundamentally political imperative" (Burnard, 2006, p. 313), and is not new to higher education, faculty or students (Livingston, 2010). The implications of this perspective cannot be overlooked within education circles; indeed, it has been argued that "creativity is not garnish to the roast of industry or education…educators cannot ignore

the importance of developing a disposition to creativity in young people" (McWilliam & Haukka, 2008, p. 651), and the literature suggests that institutions of higher education can play an important role in this process (Hunter, Baker, & Nailon, 2014; Vance, 2007; Wince-Smith, 2006). Creativity is now moving from the margins of education systems to the center as its importance as a contemporary "capacity" is increasingly being demonstrated (Harris, 2014). Within the higher education context, important questions begin to be explored such as: (how) can university educators teach creatively and teach *for* creativity? Also, (how) will students embrace creative learning opportunities? In fact, fostering creativity has been cited as being a central focus in recent educational reforms (Yeh & Wu, 2006).

In response to these questions, researchers have explored the various impacts of courses, curricula and workshops designed to enhance student creativity and found positive results. For example, Byrge and Hansen (2013) implemented and evaluated a course that included both creative pedagogical approaches and training in being creative. Additionally, the course exposed students to theories explaining creativity. The researchers reported statistically significant gains in 8 of 9 domains of creativity measured. Similarly, in a quasi-experimental study of the use of weblogs with education students, Auttawutikul, Wiwitkunkasem, and Smith (2014) reported a clear increase in levels of creativity in the experimental group (which used weblogs) and the control group (which didn't). Among other reasons for these increases, they suggested that weblogs allowed students to use others' posts as a springboard for more creative responses and provided a unique forum for expression not bounded by traditional classroom structures. Finally, Wu, Hwang, Kuo, and Huang (2013) found that students using mind-mapping techniques with both mobile devices and computers enhanced the creativity of students more so than students taught in a traditional fashion. By and large, research indicates that creativity can be developed through appropriately designed learning activities.

A number of reference disciplines and theorists have been drawn upon to make sense of the creativity agenda in education (Hunter et al., 2014). Hunter, Baker and Nailon (2014) propose that the three most "influential approaches in the educational studies" (p. 77) are: Guildford's (1950) research that stems from a cognitive psychology perspective, whereby creativity is seen as a divergent rather than convergent production of knowledge; Sternberg's (2012) investment theory, which proposes there are six resources of the creative individual; and Gardner's (1993) multiple intelligence theory that postulates that creativity plays an important role in understanding learners and learning styles.

For the purposes of this paper, we draw on the work of Woods (2002), who offers an additional framework for understanding and conceptualizing creativity. In regards to the teaching and learning of creativity, Woods (2002) proposes four characteristics—relevance, ownership, control and innovation—that he contends are important conditions for creativity to be enhanced. These four characteristics are used throughout this paper as a theoretical lens through which to analyse the results and present the discussion. The Woods framework has been selected because we believe it does a fine job of bringing together, in a simple but comprehensive manner, some of the key literatures around conceptualizing conditions for creativity, which was of interest to this research. Brief definitions will now be offered (Woods, 2002):

- Relevance: Learning that is meaningful to the immediate needs and interests of the pupils and group as a whole.
- Ownership of knowledge: The pupil learns for herself – not for the teacher's, examiner's or society's knowledge. Creative learning is internalized and makes a difference to the pupil's self.
- Control of learning processes: The pupil is self-motivated, not governed by extrinsic factors or purely task oriented exercises
- Innovation: Something new is created. A major change has taken place – a new skill mastered, new insight gained, new understanding realized, new meaningful knowledge acquired. A radical shift is indicated, as opposed to more gradual, cumulative learning, with which it is complementary.

Creativity and Reflective Journals in Higher Education

Of general interest to this paper is the power and potential of creativity within the higher education sector. When considered in light of the "economic and social capital" argument (see above), creativity and creative capital can be seen as a valuable asset and generic attribute that educators in universities across a range of discipline areas should be working towards encouraging. Our specific focus of this paper is to explore if and how an invitation to be creative in a reflective journal was experienced, adapted, appropriated or rejected by students. It seems that reflective journals stand to be a suitable means for allowing higher education students to learn about, explore and demonstrate the concepts of creativity. Although the role of creativity has been explored somewhat in the literature related to reflective journals, more remains to be understood (O'Connell & Dyment, 2011, 2013).

Bridging the creativity agenda with the higher education agenda does not come without challenges.

There are a number of tensions, dilemmas and contextual factors that are clearly at play. At a starting point, there is the dilemma of how creativity can align with the culture of accountability, economic constraint and performativity and other neo-liberal discourses that pervade the higher education system (Craft & Jeffrey, 2008). A second important tension to note is that the academic orientation and commitment of contemporary students is so varied and different than what it used to be (Biggs & Tang, 2011). Many students are juggling their higher education studies alongside a range of other commitments and are seen to use "surface" approaches to learning as opposed to "deep" approaches to learning. How will surface learners appropriate creativity? Will they just see it as an "add-on" and fail to understand the economic and social capitals it stands to afford? How will they respond to the characteristics (relevance, ownership, control and innovation) suggested by Woods (2002) to enhance teaching and learning for creativity? This paper explores these and other questions.

Methodology

Sample and Context

Forty two post-secondary students from a teacher education program in Australia volunteered to participate in the study. All students involved were enrolled in a first year introductory course in outdoor learning and participated in a residential weekend field experience that required them to partake in a series of lessons such as a high and low challenge course, sustainability education, art, storytelling, environmental education, leadership and problem solving. The weekend was designed with pedagogical intent to embody the creativity literature that points to the importance of having creative learning environments that afford creative teaching and learning opportunities (Jeffrey, 2006). For example, lessons in which students participated were experientially focused and combined content such as history and storytelling, place-based pedagogy and the arts, and problem solving through active participation in large scale activities focused on resolving issues, making decisions, and generating creative solutions to unique challenges and questions. It was the intent of the weekend residential program to be seen as a real, critical and strategic event that allowed for creative experiences for students. Students were encouraged to fully engage in the creative approaches in order to experience alternative pedagogies in creative learning environments.

Creative Reflective Journal

All students enrolled in the course were required to complete a creative reflective journal, worth 30% of their final grade, which required them to reflect on three of the lessons observed during the weekend camp. For each lesson, the students were required to answer three questions: what happened (in enough detail that the activity could be replicated), so what (what are the implications for you as a teacher educator?) and now what (how might you use this lesson/activity and adapt it given your professional context?).

Workshop

With a view to supporting the students to complete their creative reflective journal, all students participated in a one-hour training workshop that provided strategies and scaffolding for developing students reflective skills, journal writing skills and creative skills (O'Connell & Dyment, 2013). Specifically, the workshop included a range of activities designed to introduce students to a large variety of ways creativity can be embedded in a journal to support deeper levels of reflection and criticality (e.g., drawing, poetry, story writing, PowerPoint, blogs and audio recordings). The two lecturers giving the workshop provided students with sample journal entries designed to model these creative approaches to journaling and to illustrate how they support deeper reflections. One lecturer provided structure and focus by reviewing the questions to which students were required to respond, while the other lecturer used creative methods (e.g., drawings, dot points, key words) to demonstrate examples of being creative. Students were provided with a number of exemplars of journals that embedded creativity and were shown how the creativity fostered depth of reflection and criticality.

In addition, students worked in groups to produce one sample journal entry that embodied creative techniques to enhance reflection, and the lecturers provided feedback on this work. Several groups worked simultaneously, resulting in a number of highly creative and deeply reflective exemplar entries for different lessons and activities. The workshop concluded with the lecturers focusing on the positive aspects and reasons for encouraging the use of creativity to foster criticality as well as how assessment would occur. In addition, a one page handout of a summary of creative examples was provided along with an academic reading on reflective journal writing.

The workshop drew on the literature in relation to strategies for supporting the development of reflection (Coulson & Harvey, 2012; Ghaye, 2011; Ryan, 2013; Smith, 2011; Thompson & Pascal, 2012) and journal writing (Moon, 2006; O'Connell & Dyment, 2013). In regards to creativity, students were provided with numerous examples and illustrations of creative journal entries including a range of previous student work. While certainly not comprehensive, the list of creative

approaches to journal writing was compiled from numerous sources, including O'Connell and Dyment (2013), Raffan and Barrett (1989), Raffan (1990), Scheider (1994), Walden (1995), and Janesick (1999). The teaching strategies used in the workshop sought to reflect teaching strategies that have been identified as being important in fostering creativity in students (Jeffrey, 2006). The workshop also sought to address concepts around creativity related to imagination, possibility thinking, problem solving, critical analysis and ingenuity.

Methods

Content analysis. Upon submission for assessment, the journal of consenting students were photocopied. All journals were numerically coded, and all identifying information was removed from the copy to ensure confidentiality and anonymity. Our method of content analysis was consistent with other researchers who have also performed content analyses of journals (Burt, 1994; Wallace & Oliver, 2003). A content analysis of each of the 42 journals was conducted by the two lecturers who presented the creative techniques in the workshop outlined above. Using the four-point scale described below, they first discussed each item to come to a consensus on their understanding of how it would be operationalized in their review. Subsequently, each lecturer conducted an individual analysis of five of the same journals. This was followed by a discussion to compare similarities and differences in the ratings that resulted. Inter-rater reliability was satisfactory (α = .85). Bother reviewers then assessed all the journals' levels of creativity using the four point scale. Assessment was done for each journal, not individual entries in each journal (see Dyment & O'Connell, 2011). The scale included the following points:

a. No creativity (e.g., simple word processing)
b. Basic creativity (e.g., photographs or images are included, but these do not add any depth to the reflective writing)
c. Moderate creativity (e.g., use of creative means to add depth to reflective content)
d. High (e.g., use of creativity that is crucial to content – without the creative aspect, the content would be lost)

Where any differences in ranking were noted between the reviewers, they would review the journal again together, discuss the reasons behind their ratings, and work until consensus was reached on where it fell on the scale. Demographic information such as gender and program of study was also collected.

Interviews. Following the analysis of the journals, eight students were purposefully invited to participate in follow up interviews. They were purposefully selected with a view to interviewing students who had submitted journals with a range of creativity (none, basic, moderate and high). The eight semi-structured interviews were taped and lasted between 30 and 60 minutes, depending on how much information the student had to offer (O'Leary, 2004; Patton, 2002; Travers, 2010). The interviews consisted of a series of open and closed questions related to issues of creativity, creative teaching and learning, assessing for creativity, relevance, ownership, control and innovation.

The semi-structured interviews were transcribed fully. Following transcription, a thematic coding of the interview data was conducted. Through synthesizing, evaluating, interpreting, categorizing, hypothesizing, comparing and finding patterns in the data (Hatch, 2002), we sought to provide a "plausible account" (Silverman, 2000, p. 823) of experiences of the teacher educators in this study. We coded the qualitative data with codes to develop conceptual themes that allowed us to fully understand the experiences and perceptions of the teacher educators (Cresswell, 2008). Codes used to analyze the interview data included a priori codes sourced from existing literature (Mason, 2002; Travers, 2010). A priori codes used in this study included relevance, control, ownership, innovation and deep and surface approaches to learning**.** The interview transcriptions were then categorized into the appropriate codes and examined to highlight commonalities and inconsistencies within the participants' responses and were considered alongside the analysis of the literature.

Results

Demographics and Content Analysis Results

Forty-two students participated in this study. In terms of gender, 24 (57%) were women, and 18 (43%) were men. Eight students were interviewed (3 male; 5 females). In relation to the coding framework for levels of creativity, the students represented varying levels of creativity: none (2 students), basic (3), moderate (1) and high (2).

The content analysis of the student journals revealed that 14% of journals included no creativity, half (50%) were coded as using basic creativity, and the remaining were coded as having moderate (31%) and high (5%) levels of creativity.

Woods' (2002) Characteristics of Conditions for Creativity

The interviews were analyzed using Woods' (2002) four conditions for creativity: relevance, ownership, control and innovation. Each of these is now discussed.

Relevance. Woods (2002) asserts that creativity can be enhanced if the context for learning is meaningful to the immediate needs and interests of the students and the class as a whole. This emerged as being an important variable in the present study: analysis of the interviews revealed a strong relationship between students' perceptions of the relevance of the university generally and the course of study specifically with their interest in being and willingness to be creative in their reflective journal.

The two students (Amy and Jill) who were interviewed because they had developed highly creative and deeply reflective journals were mature aged students who had made a conscious decision to return to their higher education after some time away. This decision influenced the attention and care they placed on their studies at the university in general. Jill notes, "I'm clear on my reason for being at university. I know what I want to get out of it. I have more direction than most of my peers." Amy agreed, "I'm almost 28…I know exactly why I'm here…and what I want to achieve and get out of my degree…but lots of other students are just here to have fun."

In addition to being clear on why they were at the university, these two mature aged students found the course in outdoor education to be highly relevant. They had purposefully selected it (from other electives) because of the content area of study, and as such it held great relevance for them. Jill notes, "I had a lot of electives to choose from, but I knew I wanted to do this course – I thought it would balance out my program of study and allow me to really investigate a topic of interest."

The enthusiasm of Jill and Amy was not reflected in the other six interviewees who were less enthusiastic, dedicated and engaged with their university studies generally and this course specifically. These interviewees were quick to note that their time at the university was only one part of their lives, and they sought to juggle this alongside work, family and sporting commitments. As such, their interest in, and ability to put lots of time and energy into, their studies generally and the creative reflective journal specifically was very limited. Leo explains,

> Students are so busy, some people are working and they just want to make it through things, and get enough done to know they've done a good enough job to succeed, but just enough to get across the line, I guess.

Four of the interviewees who did not engage creatively in their journals did note that the course in outdoor education lacked relevance for them. They had elected to take the course (instead of it being a required course) and explained that they had put the least amount of effort in to pass the course because they needed to focus more on their non-elective units. Many of the students who had taken this course as an elective were upper year students training to be health and physical education teachers. The course described in this study was actually the only one that fit their timetable, and so level of interest and investment in it was perhaps lower than might be expected in a truly elective course. One such student (a third year HPE student), who submitted a journal with a low level of creativity, thought that his peers were "lazy" in the course and would do anything to just "get them a pass, because they really didn't want to be there."

Ownership of knowledge. A second characteristic that Woods (2002) notes as being important for creativity is that students are intrinsically motivated to learn for themselves and are not influenced by external sources, such as teachers, peers or society. Woods suggests that "creative learning is internalized and makes a difference to the pupil's self" (p. 75).

In the interviews with the two students who submitted highly creative journals, the theme of ownership of knowledge emerged strongly. Amy and Jill's personal commitment to both higher education general—and the outdoor education course specifically—translated directly into passion and diligence for the assessment task. Amy notes, "I worked so hard, but I did that purely for me – I wanted to do it, to extend myself." Both mature age students were grateful for the opportunity to be reflective and creative in their journal. Jill notes, "I thought the freedom was very generous, and I welcomed it…I got heaps out of the creative side of the journal…it encouraged my brain to think in different ways." Both interviewees felt the flexibility and freedom ultimately allowed them to personally engage more fully in the content of the task. They could spend more time engaging critically with the issues at hand instead of being concerned about the conventions of page margins, formatting, reference systems and text font. Interestingly, both respondents remarked how as the task became more personal and more creative, the motivation to perform to get high grades shifted, and the task became increasingly internalized.

The interviewees who submitted less creative journals did not describe feeling ownership over this assessment task. Instead, they were interested in just "getting the job done, in the easiest way possible…I really didn't care very much about it" (Melanie). Amy and Jill offered some astute observations as to why their peers chose to submit more conventional assessment tasks that contained low levels of creativity. They pointed to issues of low commitment, motivation and aspiration from their peers. Jill notes that perhaps her peers felt "it involves less commitment, you don't have to think hard…so if they were interested in ticking something off rather than investing into it, it's probably

a quicker and more efficient way to go." Amy thought that her peers did not care enough to warrant being creative.

Control of learning processes. Woods (2002) notes that creativity can be enhanced if students are not governed by extrinsic factors and if the task is not purely a task-oriented exercise. This theme resonated in the analysis of the interviews. The two students who submitted highly creative journals (Jill and Amy) welcomed the opportunity to have control over their learning process. Unlike other assignments, like the typical essays that embraced a "cookie cutter approach," they welcomed the point of difference represented by the creative journal task. They also realized that taking control of their learning process required them to devote more time and commitment to the project. Jill explains, "It would have been less work for me to just type it up and hand it in…but I just loved being able to do this task and have so much control and input." Amy agrees about the amount of time involved: "It took me three or four weeks of pretty solid work to put this together," But they both reported being more than willing to put the time in because the benefits were reciprocated as the learning from the course became more clearly articulated and emergent for them.

While both Amy and Jill welcomed the opportunity to have control with the learning process, they also noted a "giving up of control" as it relates to assessment. They acknowledged feeling somewhat vulnerable submitting their creative journals and how their trust with their educators allowed some of the vulnerability to be settled. Jill explains,

> It's a bit exposing, isn't it? To take control…to do something creative and critical and put it out there. I felt a certain amount of trust with the assessors that allowed me to be more creative and put myself out there more than I might have.

Both students were very proud of their journals and indicated they hoped to use them well into the future as a resource for their teaching portfolio.

The other interviewees did not associate the invitation to be creative with having a sense of control in their learning. Despite the invitation to embrace a different form of creative representation through the journal, most of the students were frank in their commentary that they were motivated mostly by their grade and would try to do the least amount of work to pass. Elizabeth notes, "It just becomes about the grade…as University students, we are all about the mark…getting the mark to pass…to do just what you need to do to get across the line." Amy (who submitted a highly creative journal) was quick to explain what really motivated her peers:

> I don't mean to knock them, but most of them are just lazy: they just want to get through…they are only motivated by grades…it's sad that they don't care…most did it the night before and didn't care at all…if people [peers] get passes or credits they are happy.

Closely related, some of the students who did submit moderately creative journals were honest that they only did so "for the teacher." John (who submitted a moderately creative journal) admits, "Given that creativity was so encouraged through the workshop, I tried to include these ideas because I thought the assessors would be pleased and would in turn give me higher grades."

Innovation. Woods (2002) suggests that the final characteristic of creative teaching and learning is the invitation to create something new. He notes,

> Something new is created. A major change has taken place – a new skill mastered, new insight gained, new understanding realized, new meaningful knowledge acquired. A radical shift is indicated, as opposed to more gradual, cumulative learning, with which it is complementary (p. 76).

Amy and Jill's interviews shed insight into the level of innovation they experienced through the opportunity to submit a creative reflective journal. They made reference to learning new skills, acquiring new insights, gaining new understandings and deepening knowledge through the journal. Amy explains how she can "count on one hand the number of times I've been able to be creative and not be bound by traditional word processing of assignments". Through the creativity, she was able to demonstrate in a deep and meaningful way her understandings of the relationships between the theory and practice by being innovative, experimental and inventive. Through her use of artwork, symbols, poetry and painting in her creative journal, Jill was able to generate and then demonstrate her deep understandings of the power and potential of outdoor and sustainability education.

It appears that Amy and Jill's peers were unable and/or unwilling to embrace the opportunity to innovate through a reflective journal. These students reported being "dummed down by the academic conventions" (Melanie) and having lost confidence and ability to be creative. Amir explains that at the University, he just "liked being told what to do…and I kind of freaked out at the choice you gave us." In general, these students who submitted non-creative journals indicated a preference to (and familiarity with) generating and submitting a traditional essay that they could type up on their computer and add their references. Amir explains, "Everyone is so used to just going straight to the

computer to do their assignments…it is just so much easier that way." John expands as he explains the strategy of writing assessment tasks for all his units:

> There are usually 2 assessment tasks for each subject each term, and you are basically getting asked to punch out a 1,500 to 2,000 word essay in the same format for everything we do, so I guess we get used to it. That becomes the way we sort of promote our understanding of the subject. I just didn't know how to do the journal in a creative way because it was so different than anything else other professors ask us to do.

Discussion

This research sought to explore if and how students would appropriate and embed creativity into their reflective journals. The content analysis revealed that approximately 65% of student journals had no or low levels of creativity and that the remainder had moderate (31%) and high (5%) levels of creativity. In the interviews, Woods' (2002) characteristics of creative teaching and learning (relevance, ownership, control and innovation) were used to explore why students did or did not choose to use creativity to enhance their reflective journals.

Strong patterns emerged in the interviews around levels of creativity appropriated by students in their journals and Woods' characteristics. Students who embraced the invitation to be creative described finding relevance in and ownership over their university studies, the outdoor education course and the assessment task. They welcomed the opportunity to take control of their learning and innovate through the completion of a creative journal. They reported that they relished in the challenge of using creativity to enhance their assignment.

Important points of difference emerged for students who did not submit creative journals: they were clear that the relevance and ownership of their studies (at university generally and in this course specifically) were lacking. These were just one part of their busy lives, and for many, the course simply fit into their timetable. They described little if any interest in owning, taking control of, or being innovative in their journals. For many, they were just happy to do just enough to pass the assignment by putting in the least amount of effort. Word processed essays that lacked any creativity were the dominant (and preferred) format of assessment for these students.

Biggs and Tang's (2011) model of deep and surface approaches to learning resonates closely with the findings above. The interviewees who submitted highly creative journals demonstrated qualities of the *deep approach* to learning. They engaged meaningfully with their university studies and believed that the content matter was important enough to take seriously. They were innately curious and intrinsically motivated. Biggs and Tang (2011) suggest that when deep learners feel a "need-to-know, they automatically try to focus on underlying meanings, on main ideas, themes, principles or successful application" (2007, p. 24). These qualities certainly emerged for both Jill and Amy, who submitted deeply reflective journals.

Many of the interviewees in this study who submitted less creative journals embodied what Biggs and Tang (2011) would call *surface approaches* to learning. Biggs and Tang (2011) assert that surface learners learn only enough to just pass an assessment task and fulfill the minimum requirements of their higher education. They seek to "cut corners" to use the lowest level of cognitive application to "get by." This certainly resonates in this study with many students admitting that their disinterest in being creative stemmed from a "PP equals a degree" philosophy (for readers not familiar with this expression, it refers to the notion that a mere pass [PP, or 50%] will allow students to graduate with a degree). Biggs and Tang (2011) note that contextual factors of a student's life (e.g., non-academic priorities such as work and family commitments) are strongly linked to these qualities of surface learning, which certainly presented in this study with many interviewees students reporting little time or energy for their studies. Biggs and Tang (2011) describe the qualities often found in assignments of students who use a surface approach to learning: they often regurgitate facts instead of demonstrating deep understanding; they list points instead of craft arguments; they rely heavily on quotations with limited synthesis or analysis; and they fail to go to original sources. The results of this study point to another possible quality that aligns with surface learners: the inability or unwillingness to embed creativity into their learning tasks.

What is critical here is that Biggs and Tang (2011) don't put "blame" on surface learners. In fact, they are rather sympathetic to the numerous contextual factors that compete with their studies. They note that while it may be tempting (and true) to call the surface learners "unmotivated," it is really unhelpful. Rather, they propose that these surface learners are "not responding to the methods that worked [for students of past eras], the likes of whom were sufficiently visible in most classes in the good old days to satisfy us that our teaching did work" (p. 22). According to Biggs and Tang (2011), the challenge for educators in higher education is to teach so that surface learners learn more in the manner of Jill and Amy. They encourage educators to ask: "What else could I be doing that might make them learn more effectively?"

When considered within this research project, Biggs and Tang might ask, "What pedagogical and teaching strategies could have been employed to encourage more students to use creativity as a medium for enhancing their reflective journals?" and, "How might Woods' characteristics for creativity—relevance, ownership, control and innovation—be fostered more for the students?" This discussion now turns to an exploration of some answers to these questions.

As a starting point, the interview data points to some areas where students might benefit from more training to support their understanding of, and appropriation of, creativity. Students shouldn't be simply told to reflect in a journal and to use creativity. While students in this study did receive training on how to complete their reflective journal and how to be creative (see methodology section for details of workshop and training), it appears that more training on how to reflect, how to journal, and how to be creative might support students even more.

In regards to reflection, the literature points strongly to the fact that many students simply do not know how to reflect, and, as Coulson and Harvey (2012) note, simply "assigning reflective journals is not…sufficient to effective support learning through experience" (p. 411). By way of evidence, a recent review (Dyment & O'Connell, 2011) identified 11 studies in which student journal entries were categorized in terms of levels of reflection using established frameworks from the literature. They found in almost half of the studies (5 of 11) that students were predominantly reflecting at the lowest levels of the framework used. Further, they found that in 4 of 11 studies students critically thought and reflected at "moderate" levels of reflection. Only 2 studies in their research identified a majority of students as reflecting at high levels of thinking. Given these results, Dyment and O'Connell (2011) assert that students need training and scaffolding to help them become critically reflective. The need for training has been noted elsewhere in the literature (Coulson & Harvey, 2012; Ghaye, 2011; Ryan, 2013; Smith, 2011; Thompson & Pascal, 2012), and it does appear that "reflection can be taught through strategic interventions and careful scaffolding" (Coulson & Harvey, 2012, p. 401). Scaffolding and training can help students understand the various forms, domains, frameworks and models of reflection. Theories and techniques of critical reflection can also be shared with students with a view to helping them become more deeply reflective students.

In addition to being supported to be reflective, students also need support on how to actually use journals as a medium for being reflective (Moon, 2006; O'Connell & Dyment, 2013). The literature points to a number of challenges students have experienced in regards to journal writing (see Dyment & O'Connell, 2010; O'Connell & Dyment, 2011 for a review of challenges): students being handed a blank journal and told to simply "reflect"; students feeling journals are annoying busy work; students feeling "journalled to death"; the desire to simply "write for the grade or the teacher"; the ethical dilemmas of the personal/professional blurring; the challenges of assessment; and the role of technology in journals. These challenges need to be addressed by educators who are assigning reflective journals. Training, scaffolding and formative assessment of journals have been shown to support students' understanding of, and successful use of, journals as a medium for reflection.

Finally, students need to be supported to be creative in their reflective journals. It has been argued that creativity can be nurtured and developed in the right learning environment; it is not seen to be "simply innate nor are they so vaporous as to be unlearnable" (Burnard, 2006, p. 653). This gives considerable hope that educators in higher education can teach more creatively and invite more creativity from their students. Students need to be encouraged to experiment, investigate and problematize issues in their journals. They need to be encouraged to use alternative forms of representation. The following principles of teaching for creativity can guide educators who want to invite creativity from their students (National Advisory Committee on Creative and Cultural Education (NACCCE), 1999):

1. Encourage students to believe in their creative identity;
2. Identify students' creative abilities; and,
3. Foster creativity by developing some of the common capacities and sensitivities for creativity such as curiosity, recognizing and becoming more knowledgeable about the creativity processes that foster creativity development and providing opportunities to be creative.

It seems plausible that upskilling students in the realms of reflection, journaling and creativity might go a long way to allowing students to find more of a sense of relevance, control, ownership and innovation in their creative reflective journals. Through such training, students can see the value, importance and opportunities that creative reflective journals have in their higher education studies. They can also learn the skills to allow them to complete such a task.

The suggestions around training need to be considered in light of the realities of the higher education sector. Firstly, these trainings around the three dimensions of creative reflective journals—reflection, journal writing and creativity—will take time (Thompson & Pascal, 2012). Time must also be

considered as it relates to students' development of these skills (O'Connell & Dyment, 2013), as well as the time challenge of assessing such a rich and complex assignment (Elbow, 1997). How this time is "freed up" in an already crowded and compressed higher education sector deserves consideration. Secondly, while it is laudable to suggest that such training might encourage more students to embrace the rich learning opportunities that stand to present from creative reflective journals, it remains unclear if and how the surface learners (Biggs & Tang, 2011) will be open to these ideas. Will such training allow them to find relevance, to take control, to claim ownership, and to innovate through creative reflective journals? Or will the contextual realities of these students prevent them from moving beyond a "PP equals a degree" mentality? More research clearly remains to be done on the relationship between training and students' appropriation, rejection and perceptions of creative reflective journals.

Given the small sample size (42 journals and 8 interviews) and the homogeneity of the student group (one university, one faculty), the limits to generalizing from this study are acknowledged. We also recognize that this study only analyzed a single assignment from students and that perhaps more time, feedback and training would allow them to develop their creative interest and abilities. Despite these limitations, we do believe that this study offers a number of insights into students' perceptions and use of creativity in their reflective journals. We believe many of these insights may be germane to other populations, settings and contexts.

Conclusion

This paper has reported on a study that sought to understand students' willingness (or not) to appropriate, reject and experience creativity in their reflective journals. Content analysis revealed that only 35% of students used creativity in their journals to enhance their level of reflection. Interviews were analyzed using Woods' (2002) themes of relevance, ownership, control and innovation and provided insight into reasons why students did and did not use creativity to support their journal. In the discussion, Biggs and Tang's (2011) deep and surface approaches to learning provided some insightful explanation as to why students were creative in their reflective journal. Implementing creative approaches to reflective journaling (and other academic assignments) may assist students in overcoming some of the barriers to a deeper approach to learning. Creative assignments may assist in providing a more personal platform for expression or serve as a starting point to contradict stereotypical views students hold about their roles as knowledge consumers instead of knowledge producers. Training in being creative can also combat the commonly held perception that academic assignments are rigid in their format (i.e., creativity is not allowed) and that instructors don't appreciate creative, innovative approaches to teaching and learning. This is particularly noteworthy as more competitive organizations both within and outside academia have placed importance on hiring creative individuals (Delgado-Téllez & Pérez Raposo, 2011).

There appears to be tension between the "ideal" that has been portrayed in the literature and the "real" in most higher education settings. As a result of this study, several strategies around providing support to students to enhance their skills related to reflection, journal writing and creativity were offered that correspond with suggestions made by others. For example, Byrge and Hansen (2013) recommend enhancing students' creative efforts in two ways. First, they suggest instructors implement an embodied method through which students' capacity for creative thinking is developed and creative behaviors are fostered. Second, they note that a reflective method, involving an understanding of theory and the phenomenon of creativity, is offered to provide students with a platform from which to understand creativity. Importantly, Byrge and Hansen (2013) recognize that the appropriate mix of these approaches to creativity is fluid and has not been adequately researched.

We encourage educators and researchers to do more than accept these inputs and outputs and to critically analyze the "processes" of creativity and reflective practice, particularly because their successful integration can enhance students' learning experiences to a great extent. This is especially important because creativity has been placed at the forefront of the goals and objectives of many higher education institutions and students' success in gaining meaningful employment after university has been increasingly linked to their capacity to be creative, innovative and inventive.

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Innovations in Social Work Training: A Pilot Study of Interprofessional Collaboration Using Standardized Clients

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A pilot study depicting a collaborative learning experience involving students in the helping professions (i.e., social work and paramedic) is presented, whereby students put discipline-specific practice behaviors into action in a training exercise using standardized clients (SCs). Real world scenarios commonly encountered in emergency response situations were replicated, providing students with opportunities to utilize assessment, intervention and referral skills in a carefully controlled, technologically enhanced learning environment. Simulations were observed and reviewed by faculty and classmates in debriefing sessions following student-SC interactions. Emergent themes, lessons learned and recommendations for further study are presented.

Introduction

A review of the literature on the training of helping professionals reveals a lack of reliable assessment methods to evaluate practice competency (Bogo, Regehr, Hughes, Power, & Globerman, 2002). Conversely, the use of standardized clients (SCs) in simulation training has been employed as a summative evaluation method within medical education for over forty years. Portraying client issues and scenarios in a "standardized and consistent fashion" (Gorter et al., 2000, p. 1131), the SC provides an unvarying presentation of client issues that cue students to demonstrate distinct clinical skills, complex attending and communication techniques and assessment of signs and symptoms of client distress (Parkes, Sinclair, & McCarty, 2009). Miller (2002) identified the use of SCs as a "valid and reliable" means of evaluating clinical competency (p. 663). However, despite its history within medical education, this method of evaluation appears to have received only limited attention among other helping disciplines (Badger & MacNeil, 2002; Miller, 2002).

This article presents an exploratory pilot study in assessing the use of SCs as a method of competency-based training and assessment of students' clinical practice skills. The faculty of an Emergency Services (ES) program of a state community college and a university-based Social Work program collaborated to bring together students from different disciplines (i.e., paramedic and social work) in controlled training exercises in a medical simulation laboratory. The use of simulated clinical scenarios provides an opportunity for increasing students' sense of mastery to intervene in critical situations. Working with state of the art technology in the simulation lab, students encountered scenarios depicting four different behavioral emergencies. Paramedic students were dispatched to a scene, and their tasks entailed assessing for safety (e.g., identifying any potential risks to client, medical professionals, and others on the scene), evaluation to determine SC status, assessment of medical needs and transport decision to the most appropriate medical facility. The SC was transported to a simulated Emergency Department (ED) where social work students carried out psychosocial assessment, intervention and referral. Within this collaborative model, students function as both learners and teachers while experiencing how the two professions interface.

While this study was conducted with students and educators in the helping professions, the findings have relevance for the training of students in other disciplines. Exposure to real-world scenarios in the simulation lab enables students to carry out practice skills in a controlled learning environment with the availability of faculty and peer support. Serving as a transitional step between class instruction and actual practice, simulation training presents an alternative to the traditional "apprenticeship model" of training (Society for Simulation in Healthcare, 2013, para. 7). Moreover, it affords an opportunity to customize student and "client" interactions to target learning and assessment of specific practice skills. Thus, educators can develop and implement training opportunities that may not be readily available, such as working with particular client issues or practice with diverse populations.

Statement of the Problem

Research on training clinical practitioners outside of the medical disciplines indicates a gap regarding valid and reliable measures to assess students' practice skills (Bogo, Regehr, Hughes, Power, & Globerman, 2002). Some have argued that disciplines, such as social work, fall short of more rigorous disciplines in evaluating clinical expertise (Karger & Stoesz, 2003). The most recent educational policy and accreditation

standards (EPAS) defined by the Council on Social Work Education (CSWE) emphasize an "outcome approach" to social work education, stipulating "measurable practice behaviors" that demonstrate student proficiency (CSWE, 2012, p. 3). This reflects the profession's increased focus on accountability and evidence-based practice, consistent with other disciplines such as medicine and business.

This pilot study represents an exploratory effort to investigate innovative education methods, blending technology, interdisciplinary collaboration and simulation training in clinical education. Growing recognition of the need for interdisciplinary collaboration among healthcare professionals has led to an increased emphasis on interdisciplinary training of future practitioners (Hall, 2005). In addition, the use of simulation training with SCs provides a unique opportunity to evaluate core practice competencies such as client engagement, assessment, intervention, and evaluation (CSWE, p. 6-7). To best achieve the core competencies and corresponding practice behaviors, educators must expand traditional classroom learning to include student exposure to learning scenarios which adequately translate and incorporate theoretical knowledge within the core competencies into clinical practice behaviors.

Review of the Literature

The term "helping profession" has been applied to various fields, including medicine, social work, psychology, counseling and human services (Hager, & Bellamy, 2012; Rockinson-Szapkiw, Baker, Neukrug, & Hanes, 2010; Westergaard, 2013; Sven, 2013;). However, the common characteristic uniting these diverse disciplines is a focus on caring and attending to the physical, social and/or emotional welfare of others, with an emphasis on meeting "basic human needs" (Library of Congress, 1998, p. 2558).

Professional competence in clinical practice is demonstrated through the integration of relevant theories, core professional values, intervention strategies and effective interpersonal communication skills. Students traditionally gain a basic understanding of professional values in relation to foundational practice skills by processing knowledge in the classroom environment and applying these newly acquired skills in field placement settings prior to entering the professional world.

Students often encounter difficulties as they aspire to blend classroom knowledge with practical approaches and helping behaviors. Noting this dilemma, Linsk and Tunney (1997) presented the use of SC actors as a valuable strategy to assist students in the successful integration of skills and concepts into actual practice techniques. While simulation training in medical education may utilize mannequins in place of actual patients, commonly employed social work skills, such as interviewing a client, necessitate the use of SC actors to simulate an actual clinical encounter. Advocating for expanding the use of simulation training in social work education, the authors argued that the SC model "gives students the most experiential learning tasks possible outside of an actual clinical situation" (Linsk & Tunney, 1997, p. 474).

Similarly, Miller (2004) identified the established use of SCs as valid and reliable measurement tools in various medical fields and recommended their use at the undergraduate and graduate levels of training in the social work curriculum. The SC may be a lay person, community member, or even an actor who is trained to accurately portray a client scenario in a realistic manner. Most importantly, the SC is trained to reproduce the scenario multiple times so that the client presentation remains consistent across student-SC interactions. This uniformity provides reliability that enhances its utility as a measure of skill development and outcome.

According to Linsk and Tunney (1997), the simulation process involves a classroom session wherein a trained actor portrays an identified client in a specific situation, and the student interviews the actor to obtain relevant information based on course content and learning objectives. Differential perspectives of the encounter and verbal feedback concerning student skills exhibited are then provided by the instructor, student peer observers and the SC actor. This experience enables students to apply skills in an authentic scenario, address real-world issues from the relative safety of the classroom environment, and absorb vital feedback for inclusion into their emerging assessment and intervention strategy repertoire.

Badger and MacNeil (2002) tested the effectiveness of using SCs in clinical training and student acceptance of this teaching strategy to practice interviewing and assessment skills in the classroom prior to engaging with actual clients. Their study was conducted over a 3-year period utilizing 2nd-year masters level social work students. Each year, the study progressed until the SC teaching strategy was fully implemented. The first year, in which no SCs were utilized, served as the baseline measurement or control group. In the 2nd year of the study, students were introduced to the teaching method with SC interviews utilized. In the 3rd and final year of the study, students received the same SC teaching method as the previous year with instruction enhanced by a video library containing expert interviews demonstrating the same SC cases. Their results "revealed that SCs contributed to the acquisition of students' assessment skills over and above that provided by traditional role-play" (Badger & MacNeil, p. 372). The researchers reported that not only did interviewing skills markedly improve

as a result of using SCs, but also the students voiced enthusiasm, appreciating both the experience and perceived preparation for actual client work.

In a similar study, Miller (2004) evaluated the use of SCs in undergraduate and graduate educational program whereby two SC cases were implemented. The development and implementation of separate SC encounters was directed toward learning objectives at the undergraduate and graduate levels of the educational program. Study results indicated potential for SC use as a teaching strategy at both educational levels in social work educational programs. Relatively low costs per student and "extremely positive" responses from faculty and students were reported (Miller, 2004, p. 97). He also recommended use of this teaching strategy to promote cultural competence by including SCs who represent diverse populations and populations at risk in specific geographical areas. Finally, Miller proposed the use of SCs as an effective formative evaluation tool for assessing skill development within the practice curriculum.

As Linsk and Tunney (1997) recognized in the late 1990's, the SC teaching method can ultimately enhance the clinical training curriculum by providing experiential learning, immediate feedback and student reflection opportunities in simulated practice encounters. Moreover, the use of SC actors supports the development of critical assessment skills in areas such as suicide risk, child maltreatment or other situations where students may not yet possess the skill or confidence to employ effective interview strategies (Miller, 2004). The use of SC actors could support, but not replace, role-play scenarios where students assume the client role as they learn valuable empathy skills through enacting the client's experience (Linsk & Tunney, 1997). In addition to immediate feedback, Bogo, Regehr, Katz, Logie, and Mylopoulos (2011) related that the SC encounter allows for student reflection, review and revision of critical assessment skills prior to entering the professional world.

A growing body of literature reflects increased recognition of the importance of interprofessional collaboration (IPC) in healthcare. IPC offers an alternative to the traditionally fragmented health care system, presenting a team-based approach that emphasizes "collaborative and non-hierarchical relationships" (Frenk et al., 2010, p. 1,951). Lack of communication and collaboration between health care professionals has been cited as a significant factor underlying poor health outcomes and medical errors (Institute of Medicine, 2000; Zwarenstein, Goldman, & Reeves, 2009). Educational methodologies which promote collaborative educational training among disciplines may serve to advance inter-professional teamwork, thereby reducing systemic barriers between professions (Hall, 2005).

An emerging area of research suggests that interprofessional training simulations can enhance students' understanding and appreciation for other disciplines (Alinier, et al., 2008; King, Conrad, & Ahmed, 2013), in addition to providing more effective preparation for actual practice (Alinier, et al., 2008). Not only does interprofessional training improve students' awareness of practice competencies, but it is perceived to be a valuable learning method by students themselves (Kyrkjebø, Brattebø, Smith-Strøm, 2006). While formal interprofessional training programs remain relatively new (University of Washington Medicine Institute for Simulation and Interprofessional Studies, 2014), a review of the literature reveals growing appreciation for the utility of combining traditional training methods, such as simulation, with interprofessional collaboration to improve healthcare education (Efstathiou & Walker, 2014; Kenaszchuk, MacMillan, van Soeren, & Reeves, 2011).

The conceptual framework for simulation training is rooted in traditional medical education with effective use of this teaching method spanning decades as students develop and apply vital clinical skills (Vu & Barrows, 1994; Wallace, Rao, & Haslam, 2002). Teaching opportunities for monitoring and evaluating student performance, student reflection and immediate feedback are greatly enhanced as students master practice techniques (Maran & Glavin, 2003). This method is also an integral part of training within other healthcare professional education programs (Galloway, 2009), and professions outside of healthcare employ simulation exercises as well. Historically, military training (Faria & Dickinson, 1994) and the aviation field have extensively utilized simulation training (Oritz, 1993). More recently, this teaching method is gaining 21st century pedagogical recognition in divergent professional education programs such as business and management, information technologies and engineering through the utilization of various technologies to link academic content to real work situations (Arora, 2012; Latorre & Macías, 2012; Léger, et al., 2011; Rafaeli, Raban, Ravid, & Noy, 2003).

Research Purpose

This pilot study examined the effects of using SCs in simulation training on comprehension and mastery of assessment, interviewing, intervention and referral skills. Additionally, the researchers looked at the effects of training paramedic and social work students together, as well as the potential for increasing knowledge and understanding of other disciplines. The first purpose of the study was to describe students' responses to simulation training using SCs. In contrast to standard in-class role-plays with peers, which students may perceive to lack credibility and value, the researchers

wanted to assess whether the use of SCs would enhance student cooperation and interest in practice simulations. Additionally, we wanted to determine if student-SC simulations provided a level of authenticity that would lead to an increased sense of mastery with regard to clinical skills. The second purpose was to explore the use of SCs as an evaluative measure for educators to assess student competency in practice behaviors. The widespread use of SCs in medical training suggests that this technique may offer an effective means of formative and summative evaluation of practice skills that could be replicated across clinical training programs. This is particularly relevant given the prevailing emphasis on competency-based education (CSWE, 2008). Finally, the third purpose was to investigate the feasibility of ongoing collaboration between social work and medical training programs for the mutual benefit of both disciplines. This pilot study builds on and augments existing social work research by partnering with medical educators to enhance the learning experience. As noted, the increasing emphasis on interprofessional collaboration in real world practice settings warrants greater attention from educators in preparing the next generation of helping practitioners. Students must learn to function effectively within multidisciplinary systems and work in partnership with a variety of professionals.

Method

Collaboration and planning activities between the community college Emergency Services training program and the university Social Work Department were conducted over a six month period prior to initiation of the pilot study. Faculty from each institution submitted applications to their respective IRB committees detailing the proposed research methods to carry out the project. Authorization to conduct the research was provided by the IRB committees of both institutions. A purposive sampling technique was used to recruit six social work students and 22 paramedic students via email and in-class announcements outlining the project. Students were informed verbally and in writing of the nature and purpose of the study. They were also advised that their participation was strictly voluntary and that lack of participation would not affect course grades or result in any negative consequences. Students indicated their agreement to participate by signing a consent form provided by the researchers and approved by each institution's IRB.

Simulation training consisted of four scenarios: an older adult male presenting symptoms of Major Depressive Disorder and suicidal ideations; a Vietnam veteran exhibiting symptoms of Post-Traumatic Stress Disorder; a young adult demonstrating aggressive behavior and alcohol intoxication; and a young adult exhibiting symptoms of mania. Scenarios were enacted in "real time," with students dispatched to the scene with little knowledge of what they were about to see. The simulations were implemented over four training sessions, allowing four separate student cohorts to participate. Each scenario was digitally filmed and lasted approximately 15-20 minutes. At the end of each simulation, a debriefing session was held with instructors facilitating discussion between paramedic, social work students and the SC. Students reflected on how the encounter was handled, appropriateness of assessment/referral, what might have been done differently and overall what they learned.

Data Collection

Using an exploratory design, researchers utilized criteria from the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text revision, American Psychiatric Association, 2000) to evaluate student assessment skills observed in each SC interview scenario. The researchers were able to unobtrusively observe the scenarios from a control room where student-SC interactions were recorded via digital technology in the simulation lab. Throughout observations, the researchers took notes independently, recording students' statements, behaviors and general presentation during interactions with the SC. Particular attention was paid to students' attempts to establish rapport and engage the SC during the interview process (e.g., maintain culturally appropriate eye-contact, demonstrate active listening, and convey empathy by paraphrasing and reflecting SC's statements and feelings), to perform an assessment of the SC's presenting problem, and to make appropriate disposition and referral based on the information obtained.

Information regarding students' responses to simulation training was obtained through semi-structured, focus group interviews carried out during debriefing sessions following each simulation. The debriefings were structured as group discussions that were intended to promote student reflection. Each debriefing was led by paramedic faculty who guided the sessions to facilitate evaluation of the students' performance, identification of strengths and areas for improvement and discussion of the SC's presenting problem. The researchers also participated in debriefing sessions, gathering information related to students' overall impressions of simulation training and the experience of collaborating with another discipline. Debriefing sessions lasted approximately one hour. Digitally recorded debriefing sessions were transcribed and reviewed by the researchers. Independent observations and transcript reviews were later

compared to explore initial findings, and data generated from observations and transcriptions were coded into emergent themes.

Findings and Emergent Themes

Based on observation of simulations and review of focus group discussions and transcripts, the following themes regarding the use of SCs in simulation training were identified: increased experiential learning opportunity afforded by the use of SCs, provision of explicit and timely feedback regarding observed student practice skills, and the influence of interprofessional collaboration on competency training.

Opportunities for Experiential Learning

Positive feedback from participants regarding the use of SCs in simulation training highlighted the greater realism and enhanced student engagement, in contrast to classroom role-plays or the use of medical simulation "dummies." The value of a more genuine client interaction, according to some students, was a major advantage of the SC model:

> P Student 1: "[Students had not previously performed simulations] with real people. With dummies; but it's still not as good as [working with SC actors]."

> P Student 2: "We were saying that it's nice to have a patient that's more realistic, and more communicative than actually just having to just look at a dummy and visually think what's going on."

At the same time, the greater realism of the simulation could also be perceived as a hindrance for students, as reflected in this exchange in which a paramedic student related his "aggravation" in trying to assess the SC with a family member present (i.e., another actor portraying the SC's adult son):

> P Student 3: "I wanted to try to grab the son and get him away from his father so [the students] could try to assess [the SC] mentally and physically, and get a little bit more of a history without [father and son] talking over each other or aggravating each other."

Some students expressed uncertainty regarding when to seek instructor feedback during the simulation (e.g., SW Student 1: "I wasn't quite sure what I was supposed to do when they brought the client into the ER"); however, students seemed to recognize the value of making the scenario as realistic as possible, and providing an opportunity for them to carry out skills independently.

> P Student 1: "It's kind of confusing though because I don't know if we should be asking the patients questions or be on the radio [communicating with the instructor]...So it's still confusing, but I guess that's part of the game because you can't have a real patient."

The greater authenticity provided to practice simulations has been a well-documented advantage in the SC literature since its origins in medical education (Barrows, 1968). Student feedback from this pilot study revealed that simulation of social worker-client interactions using SCs provided a degree of reality while maintaining the safety of the classroom in the practice scenario.

Opportunities for Explicit Feedback Regarding Practice Competency

Two of the SC simulation scenarios were enacted by an Emeritus social work professor whose feedback, presented from a client perspective, was invaluable for students. Commenting on a student's decision to set down a clipboard and stop taking notes when the SC began to express strong emotion during the simulation, the SC stated, "…that was helpful. The board, it did bother me, and I felt a distance [between us] until you put [the clipboard] down. And when you put it down and were kind of attentive, I felt a little more relaxed." During debriefing sessions the professor shared his observations on how students interacted with him during the simulation:

> SC: "[The students] seem to play off each other very well...there was like one [student] that was doing medical stuff, and [another student] kind of doing more empathic stuff [inaudible], and it kind of made me feel good...you can kind of play off of each other. And say one is taking one role, and one can jump in and take another one, type of thing. I think that helped me a lot as a patient."

Maier (2002) has noted the importance of providing students with this kind of explicit feedback when evaluating practice skills competency. General comments (e.g., "You did well") do not address specific practice skills and behaviors that need to be demonstrated to show competency. Consequently, practice skills should be explicitly and operationally defined.

To assess participants' ability to identify and operationalize practice techniques, we asked students to

describe the skills they employed while interacting with the SC.

> P Instructor: "Anybody know what strategies [the students] used?"
>
> P Student 1: "The first thing I did was make a personal contact with him, more of a personal touch. I'm not here to be your doctor or tell you what to do. I'm here to say, 'Hey, what's going on?' Sit there and talk…Sometimes the patient can be one of the best advocates in their own treatment."

SC trainings appeared to offer a higher order application opportunity for students to apply critical thinking skills, considering alternative skills or procedures that might have been applicable to the client scenario:

> P Instructor: "Did we do a good full neurological on him?"
>
> P Student 1: "With the part that I [observed], I don't think that we did a full neurological."
>
> P Instructor: "Why would a full neurological exam be good for this patient, if at all, [why] would it?"
>
> P Student 2: "He'd been drinking so his reflexes were going to be altered anyway. So how could you get a real true reading?"
>
> P Student 1: "There are [alternative assessment techniques] that could have been done as far as coordination."

This exchange underscores how group discussion facilitated the learning experience, as well as the potential utility for SC simulations to enhance critical thinking and practice competency.

An interesting difference observed between the disciplines during focus group discussions was that paramedic students identified the specific skills they employed more often than social work students did. This may be due to the fact that medical training more often involves precise techniques, for example, surgical knot-tying or catheterization (Naylor et al., 2009). In contrast, social work techniques may be more abstract and difficult to operationally define (Rishel & Majewski, 2009).

Analysis of Interprofessional Collaboration

Students were asked to identify the roles of the other discipline based on observations during the simulation. Responses indicated that students had clear ideas regarding the functions of the other discipline and how these differed from their own. The paramedic role was identified as focusing on the SC's immediate safety needs, while the social work role was identified as focusing on in-depth assessment and planning for clients' long-term needs

> P Student 3: "For social work, long term care planning. [The role of the paramedic] is getting [the patient] to the hospital alive for a higher level of care. It seems like [social workers] can differentiate if [the problem is] substance abuse or something else."

During focus group discussions students voiced an increased understanding and appreciation for the work of the other discipline. In the words of one social work student, "Training was great! I didn't realize what [paramedics] did exactly. In a short period of time, you guys get a lot of information."

One of the most salient themes to emerge was the difference between the more objective approach of paramedic students, who seemed to focus on identifying specific signs and symptoms, and the more relational approach of social work students, who seemed to focus on establishing rapport with the SC. Social work students were more likely to make physical contact with the SC, such as touching the arm or shoulder when speaking to him. They were also more likely to use softer tones of voice when talking to the SC, and they used terms of endearment (e.g., "hon") when speaking to the "client." For the social work students the focus appeared to be on comforting and nurturing the client. Paramedic students appeared to focus more on obtaining factual information, asking the SC for specific information related to signs and symptoms of physical and mental distress.

The contrast in styles highlighted the difference between the disciplines regarding traditional roles and responsibilities. Paramedics are trained to perform rapid assessment and consider safety above all. The time spent at the scene and/or the time to transport is kept to a minimum so that they are available as quickly as possible to respond to other emergencies. In addition, paramedic students are often taught that touching a patient who is confrontational or confused may lead to violence. In contrast, core social work values emphasize themes of social connectedness and "the importance of human relationships" (National Association of Social Worker [NASW] Code of Ethics, 2008, para. 3). Assessment may be characterized by techniques intended to demonstrate caring and encouragement of client verbalization and elaboration. While students from both disciplines demonstrated active listening skills, such as appropriate eye-contact

and attentive body language, their style of interacting with the SC showed distinct differences.

Interdisciplinary training provided opportunities for constructive feedback that may not occur when students are working solely with classmates from their own discipline. For example, during the debriefing session a paramedic student questioned the tendency of some social work students to touch the SC during the assessment:

> P Student 2: "[The SC's] body language was really aggravated and agitated. He was sitting with his arms crossed, and he had a frown on his face. Being a patient, having [the Social Work students] hovering over me would have made me feel uncomfortable. You guys are in my face, asking me questions left and right…It can feel intimidating when you have cops and everybody else around you and asking a lot of questions. [The SC] needed more space so he could feel more comfortable and at ease. More one-on-one time would have been better."

In another simulation a social work student initiated discussion to place the SC in a skilled nursing facility within minutes of first meeting the client. During the debriefing, paramedic students and the SC questioned the students' decision to move so quickly toward a resolution of the client's situation without further assessment and input from the SC.

> SW Student 1: How did you feel when we went down the road of…the possibility a doctor filling an order for a skilled nursing facility?
>
> SC: "Oh, I had hard time thinking about that as a patient. It was like, 'Oh man, this guy has got me in a [facility] after 15 minutes!'…If I was a patient, I'd just be like, 'Whoa'!"
>
> P Student 1: "…aren't you supposed to do a full medical workup on them before you start going down that road?"
>
> P Student 2: "You have to rule out the medical aspect first."

This led to a discussion regarding client self-determination and professional boundaries, reflecting how simulation training can generate substantive feedback and dialogue beyond what might take place in the classroom.

Conclusions and Lessons Learned

The researchers concluded that simulation training offers innovative teaching opportunities for higher education and thus warrants further exploration and development. Indeed, simulation has been increasingly employed across a diverse range of disciplines, including business administration (Gurley & Wilson, 2010), human resources (Trim, 2004) and military training (Faria & Dickinson, 1994). Recent advances in technology have expanded options for simulation training through the use of computer generated virtual persons (i.e., clients, customers, or staff) and situations (Gurley & Wilson; Kenny, Parsons, Gratch, Leuski, & Rizzo, 2007).

During focus group discussions, participants noted the value of students being able to practice skills and explore alternative solutions in a safe environment with the availability of assistance from faculty and peers. Faculty noted the importance of being able "to see" student/client interaction and evaluate students' assessment intervention and referral skills prior to student contact with an actual client. Interprofessional collaboration and education were evident as paramedic and social work students shared information with each other regarding the role(s) and functions of each discipline. Students engaged in discussion regarding their respective disciplines stated they had a better idea as to how the two professions interface.

This project suggested directions for improving future simulation exercises in clinical training. The behavioral scenarios were sufficient in providing information needed for paramedic students to assess patients' health status and make appropriate medical decisions. However, the general information concerning psychological, behavioral and social components need to be specified further and standardized through the use of an actual script for the SC. This recommendation stems from observation of inconsistent verbal reports and presentation from the "client" across SC-student simulations.

Providing a script for the SC ensures the same information is given in each scenario; however, anticipating student questions in designing multiple script answers can be challenging. The University of Texas Medical Branch provides a Standardized Patient script template that outlines the details to be incorporated into a simulation scenario for medical trainees (University of Texas Medical Branch, 2009). Similar to a physician's History and Physical report, the template provides an example for educators developing SC scripts for social work students. Using the format of a Psychosocial Assessment, simulation scripts can be developed to include detailed information regarding the SC's presenting problem, history, mental status and diagnostic impressions.

Specific objectives and checklists to measure student outcomes should be identified and implemented by faculty. Although the present study broadly identified student outcome objectives (i.e., assessment

and identification of the SC's presenting problem; demonstration of active listening; and appropriate referral), the lack of a specific measure of practice competency presented a limitation. The use of skill rubrics or checklists would have provided greater precision in defining practice competence. In a review of simulation training in medical education, Gorter et al., (2000) distinguished between standardized instruments such as the Arizona Rating Scale, which assess generic skills, and "case-specific checklists" which assess particular techniques such as the ability to perform a history and physical exam (p. 1131). These authors caution that case-specific checklists must be valid and reliable in order to provide an adequate measure of student competency. Toward this objective researchers have developed outcome measures for simulation training in social work education, such as the Assessment Interview Measurement Schedule (Badger & MacNeil, 2002), or taken instruments used in medical education, such as the Objective Structured Clinical Examination (OSCE), and adapted them for social work (Bogo et al., 2011). Conversely, Miller (2002) provides a checklist of commonly employed social work interview techniques (e.g., "The student reflected my feelings"; "The student restated my concerns in his or her own words"; p. 670) as an outcome measure that clearly identifies skills and can be easily employed. However, evaluation of advanced practice techniques would require more sophisticated measures.

This study involved the use of sophisticated audio-visual technology, which supported and enhanced opportunities for feedback in this simulation exercise and may be advantageous in replication scenarios. However, one of the most useful lessons to come out of the study was the recognition that effective simulation training need not employ sophisticated technology. Indeed, established simulation programs at some of the country's most prominent medical schools report starting with very limited resources and no audio-visual equipment (Stanford School of Medicine, n.d**.).** Instead, successful simulation training is rooted in identifying explicit student learning objectives, as well as detailed scripting of the simulation scenario and the SC's presentation (Bosek et al., 2007). In addition, recruitment and training of SCs is a thorough and systematic process.

Bosek et al. (2007) outlined a meticulous process for scripting the simulation and training of SCs. Simulation scripts are developed based on the student learning objectives to be evaluated, thus integrating language and medical terminology related to client's problem into the script. The SCs undergo a two hour orientation explaining, among other things, the purpose of the simulation and a description of students' level of skill. Additionally, SCs receive background information on the client they will portray, learn the medical condition, and rehearse the scenario with faculty members.

Using SCs who are known to students (e.g., class peers, program faculty or staff) generally inhibits the students' ability to experience the exercise as credible and to "fully enter into" the simulation experience (Bosek et al., 2007, p. 3). Consequently, the use of class peers or program faculty and staff as SCs can affect the authenticity and efficacy of training. Options for obtaining SCs include referrals to professional SCs through medical training programs (Bosek et al., 2007), local theater groups (Ker et al., 2005), or experienced clinicians from the community. Collaborating with university theater departments, recruiting volunteers through advisory boards and field supervisors, or enlisting retired clinical professors may also be viable alternatives.

For this pilot study, the researchers were able to recruit local volunteers, including a retired social work professor and a community member who had served as an SC during previous simulation exercises for paramedic and nursing students. One challenge to integrating the use of SCs as an ongoing component of clinical training would be funding for the development of simulation scenarios and SC reimbursement. Given the time, funding, and faculty necessary to develop simulation training as an integral part of educational curriculum, programs would have to commit to allocating the necessary resources on an ongoing basis.

Unfortunately, the present study did not lead to ongoing interdisciplinary training between the two institutions. The researchers found that coordinating interdisciplinary collaboration, particularly between two educational systems, was often challenging. Difficulties occurred, not only in terms of managing the varying schedules of participants in separate institutions, but also in terms of negotiating differing goals and teaching objectives between disciplines. One of the most important lessons learned was that buy-in from all departmental faculty is critical to successful simulation training. Without this, divergent aims between disciplines may lead to ambiguity and confusion regarding the ultimate goal of training.

As noted, alternatives for employing simulation training without sophisticated technology are available. One of the authors currently uses simulation training in an undergraduate course in which students interview an SC actor and develop a comprehensive assessment and treatment plan based on the interview. The interview is carried out in the classroom, with students conducting the assessment as a group. While this method lacks the benefit of digital recording that would allow detailed review of student performance, it offers students a more realistic alternative to simulating a client interview.

Recommendations for Further Study

Consistent with mandates for competency-based education, simulation training with SCs offers an

effective method to evaluate practice competency. However, further study is needed to build on the work of previous researchers (Bogo et al., 2011) to develop valid and reliable outcome measures, as well as to support the broader integration of simulation training in social work curriculum. This study informed us that students and SCs benefit from precise definitions of practice skills and behaviors that serve as specific indicators of proficiency. Outcome measures that are stated too broadly make it difficult to identify whether skills have actually been carried out. Although explicitly defining social work techniques may initially present a challenge, operational definitions may be gleaned through reviews of empirical literature (Rishel & Majewski, 2009). Additionally, educators and practitioners can assist in developing simulation checklists for common practice scenarios.

Despite a growing body of literature on ICP, this case study is one of the few to address the involvement of social workers as members of interprofessional teams. It is particularly important for researchers to examine the role of social workers within interdisciplinary teams given the growing emphasis on ICP and the reality that social workers, like many helping disciplines, function within a variety of settings and interact with multiple disciplines.

Standardized client simulation is an educational tool that helps bridge the gap of classroom knowledge and professional practice (Barrows, 1968). As in a theatrical dress rehearsal, the social work student becomes the practitioner in a "real-life" scenario, providing the opportunity for rehearsal, reflection and growth in skills and strategies from the relative safety of the educational environment which supports the profession's ethical standard of protecting clients from possible harm (NASW Code of Ethics, 2008, 1.04). In addition, collaborative exercises designed to apply practice behaviors in real world scenarios prepare students to think on their feet by performing assessments and interventions as essential members of multidisciplinary teams. The use of standardized clients as part of a comprehensive clinical education program may be a teaching methodology whose time has finally come.

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Feeding Two Birds with One Scone? The Relationship between Teaching and Research for Graduate Students across the Disciplines

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We surveyed over 300 graduate students at a Southeastern research university to increase our understanding of their perceptions of (a) the connection between teaching and research, (b) the means by which integration occurs, and (c) the extent to which teaching and research contribute to a shared skill set that is of value in both contexts. We also examined differences across disciplines in the perception of this teaching-research nexus. Overall, findings indicate that graduate students perceive important relationships between teaching and research, and they point toward opportunities for administrators to promote teaching and research integration.

Introduction

Faculty at research universities often define their professional role by the two core faculty activities of teaching and research (Colbeck, 2002). However, some scholars (e.g., Barnett, 1992; Feldman, 1987) have proposed that these two activities have inherently divergent purposes and that success in these distinct domains requires different skill sets and personal attributes. Correlational studies examining the relationship between faculty publication rates and teaching quality, assessed generally through course evaluations, have been consistent with this view (Feldman, 1987; Hattie & Marsh, 1996; Marsh & Hattie, 2002). These findings, however, conflict with the stance that teaching and research are complementary and support one another, a view espoused by many faculty and their respective universities (e.g., Colbeck, 1998; Neumann, 1992; Schapper & Mayson, 2010). To increase our understanding of the relationship between teaching and research and importantly, to illuminate this relationship as perceived by the next generation of university faculty, the current study investigated graduate students' views of this relationship across a variety of disciplines.

Literature Review

Two primary roles of research universities are to facilitate student learning through teaching and to contribute to existing knowledge through research. Although the definitions of teaching and research are complex, nuanced and discipline-specific (Brew, 1999), teaching generally reflects the transmission of knowledge or facilitation of knowledge construction (Barr & Tagg, 1995). Academics have become interested in the value of this dual purpose of the research university, searching for commonalities and highlighting differences that exist between teaching and research. As Neumann (1994) noted, the question of whether teaching and research have a mutually beneficial or antagonistic relationship is at "the heart of academic work" (p. 323).

Generally, research is understood to be theoretical or empirical investigations into the *content* of the faculty member's discipline. However, research is the pursuit of an answer to a question (Neumann, 1992), and the research question can also concern the best ways to *teach* in one's specific discipline. This is known as the "Scholarship of Teaching and Learning" (SoTL), and often involves conducting research on the impact of one's pedagogy on student learning outcomes (Boyer, 1990). Given the importance of both content- and pedagogy-focused research, the current work examines the nexus between teaching and both of these types of research.

Quantitative Studies Examining the Teaching-Research Relationship

Early studies investigating the relationship between teaching and research primarily used correlational methods (e.g., Aleamoni & Yimer, 1973; Harry & Goldman, 1972; Hoyt & Sprangler, 1976). These studies typically measured research productivity by the number of funded grants, publications and citations. Teaching productivity was assessed through student evaluations, peer evaluations and self-evaluations of teaching quality. These studies served as the building block for Feldman's (1987) and Hattie and Marsh's (1996) meta-analyses of the teaching-research relationship. Both of these meta-analyses found insubstantial relationships between teaching and research; Feldman's meta-analysis yielded a correlation of .12, and in spite of this small effect size, it was

nonetheless twice as large as that found by Hattie and Marsh. Hattie and Marsh (1996) offered several explanations for why there may be no relationship—or even an inverse relationship—between teaching and research. These included that (a) teaching and research are inherently different activities: research is knowledge discovery, and teaching is knowledge transmission, (b) investment of time, energy and commitment to one of these areas (e.g., teaching) detracts from resources committed to the other area (e.g., research), (c) teaching and research require differing personality types, i.e, the researcher requires independence and the teacher requires interaction, and (d) the university system provides distinct rewards for teaching and research, with research being rewarded through direct salary increases and teaching being rewarded through university recognition and awards.

Qualitative Studies Examining the Teaching-Research Relationship

In addition to correlational studies, researchers have also employed qualitative methods to categorize perceptions of the teaching-research relationship. Grant and Wakelin (2009) indicate that this work explores the "actual interactions, connectivity and networks" between teaching and research and thus should be a primary focus of investigation (p. 141). Neumann's (1992) framework for describing the nature of the relationship between teaching and research is one of those most widely cited. To develop this framework, Neumann interviewed higher education administrators and then categorized their responses according to four distinct views that they espoused regarding the nature of the teaching-research relationship. The first category, a *tangible connection*, reflects the view that research contributes to teaching by providing a venue for dissemination of knowledge gained through one's research. The second category, an *intangible connection*, reflects the perspective that doing research enables teachers to foster among their students positive attitudes and critical approaches toward knowledge construction. The third category, a *global connection,* captures the idea that teaching and research are perceived to be related at the departmental level – for example, when ongoing departmental research influences course curricula. The fourth category is *opportunity for teacher-student interaction*, which captures the idea that student awareness of faculty members' research helps students get to know professors on a more personal level and helps builds teacher-student rapport.

Roughly a decade later, Robertson and Bond (2001) conducted a similar study, but directly queried faculty members instead of administrators. Like Neumann (1992), the framework they derived captured perceptions of tangible and intangible teaching-research connections. However, Robertson and Bond also identified categories reflecting two extremes: the perception that there is *not* a relationship between teaching and research and the view that research and teaching are inseparable and interdependent.

Although researchers (e.g., Neumann, 1992; Robertson & Bond, 2001) have begun to explicate the various connections between teaching and research, more work in this area is needed. Neumann (1992) and Robertson and Bond (2001) offer seminal findings about the distinct potential relationships between teaching and learning, but as Griffiths (2004) writes, extant research does "little to reveal the different types of mechanisms through which teaching might draw on staff research, and (reciprocally) research might benefit from teaching" (p. 721). Existing frameworks acknowledge that research can impact teaching and that this relationship may be bi-directional. However, these frameworks have not dedicated substantial attention to capturing how teaching impacts research, a gap in the literature that other researchers have previously noted (Brew & Boud; 1995; Grant & Wakelin, 2009; Hattie & Marsh; 1996). We thus sought to increase our understanding of the connections between teaching and research, including to identify if and how graduate students, who represent future academics, believe teaching impacts research.

One way to explore the relationship between teaching and research is to examine how they contribute to abilities (e.g., knowledge, skills) that may mutually benefit both teaching effectiveness and research productivity. Examining these abilities may highlight connections between teaching and research that are mediated by these abilities and that which would not otherwise be considered in understanding the connection between teaching and research.

Early studies began heading in this direction when they explored how general intelligence impacted both teaching and research performance, but as Feldman (1987) noted, "a measure of more specific ability pertinent to research performance *and* to instructional effectiveness may be needed" (p. 257; italics in original). Several researchers have proposed connections between teaching and research abilities. For example, Hattie and Marsh (1996) indicate that knowledge, critical thinking and organization influence both teaching and research. However, these proposed, ability-mediated relationships have not been systematically investigated. To illuminate this unexplored area of research, the current study examined the ways in which graduate students perceive teaching and research impact academic skills, including those

that promote both teaching effectiveness and research productivity.

Disciplinary Differences

Previous studies suggest that differing departmental, university and disciplinary norms influence the complex teaching-research relationship (Brew, 1999; Colbeck, 1998; Feldman, 1987; Griffiths, 2004; Healey, 2005). Although there are numerous important distinctions between disciplines, these researchers agree that a discipline's degree of paradigm consensus— defined as "the theories, methodologies, techniques, and problems addressed within a discipline" (Colbeck, 1998, p. 651) - is strongly related to perceptions about teaching-research integration. Paradigm consensus is typically stronger in the "hard" disciplines (e.g., sciences) where there is more agreement around "curriculum content, research collaboration, competition for recognition and funding, clearly defined intellectual boundaries, and gatekeeping of those boundaries by a powerful elite" (Colbeck, 1998, p. 651). Perhaps unsurprisingly, then, there is less flexibility in expectations for faculty in the hard disciplines, where Colbeck (1998) found that faculty have fewer opportunities to integrate teaching and research than faculty in "soft" disciplines (e.g., humanities, social sciences, languages).

Although this work, and that of Colbeck (1998), Griffiths (2004) and Healey (2005), contribute to our understanding of disciplinary differences, there has been little empirical work on how perceptions about the teaching-research relationship differ across academic disciplines from the graduate student perspective. How early in the professorial preparation process do disciplines begin to exert their influence on teaching-research perceptions? Will disciplinary differences (albeit roughly categorized into "hard" and "soft" disciplines) emerge before students become faculty, and perhaps even before some have experience in teaching or research? Another key purpose of the current study, then, is to address this gap in the literature.

Research on Graduate Students' Views

Although administrators' and faculty members' perception of the teaching-research relationship have been explored, investigations into students' perceptions of the teaching-research relationship have been sparse. Most research on students' views of the teaching-research relationship has targeted undergraduates (e.g., Jenkins, Blackmon, Lindsay, & Paton-Saltzberg, 1998; Neumann, 1994; Zamorski, 2002). This lack of attention to graduate students' view is critical for several reasons. First, there have been many discussions about the length of time to degree completion for doctoral students (e.g., Golde, 2000; Carnegie Initiative on the Doctorate, 2001). If graduate students were provided with information about, or even better, trained on how to integrate their teaching and research, graduate programs could become both more effective and more efficient: graduate students ideally would learn to use their research to inform their teaching and to use their teaching to grow their research. Essentially, they could learn to "kill two birds with one stone," or even better, "feed two birds with one scone." Second, studying graduate students' perceptions can inform our understanding of academia broadly and how faculty develop specifically. As Shulman (2005) cites Erik Erikson:

> If you wish to understand a culture, study its nurseries. There is a similar principle for the understanding of professions: if you wish to understand why professions develop as they do, study *their* nurseries, in this case, their forms of professional preparation (p. 52).

Graduate students receive their preparation to assume professorial responsibilities – to *become* the next generation of university faculty – in graduate school. It is in graduate school that they develop the knowledge, skills and perspectives that will facilitate the integration of their teaching and research activities (Austin, Connolly, & Colbeck, 2008; Golde & Dore, 2001; Henkel, 2000). Given that graduate students *are* the next generation of university faculty, knowledge of their views on the teaching-research relationship is of utmost importance, both for understanding their current perspectives and for informing any programs designed to foster a more connected and mutually beneficial relationship between research and teaching.

To date, only a handful of studies have been conducted on graduate students' perceptions of the teaching-research relationship. Deem and Lucas (2006) and Robertson and Blackler (2006) explored how graduate students experience research. Deem and Lucas studied Education master's degree students' views of (a) what research is (they did not discuss the role of theory in doing research and they reported learning to do research more through a transmission teaching model), (b) the skills needed by researchers (primarily reading and critical thinking), and (c) how research methods should be taught (recommendations involved more student practice). Robertson and Blacker (2006) examined the views of 10 graduate students in physics, geography, and English. Consistent with faculty-based research, they noted important disciplinary distinctions, finding that students in disciplines with high paradigm consensus (e.g., hard disciplines) reported that faculty research informed the content they learned through coursework, whereas in the soft disciplines, students

were more likely to develop knowledge through conducting research themselves. These studies may provide some useful insights, but one major shortcoming has been their scant sample sizes: Deem and Lucas' (2006) work reflected the voices of only 19 master's degree students, and Robertson and Blacker (2006) involved only one master's degree student, and nine Ph.D. students, with 24 undergraduate degree students also included in the sample.

In addition to small sample sizes limiting generalizability, Deem and Lucas, as well as Robertson and Blackler, focused on one direction of the teaching-research relationship: how teaching impacted students' views about research. Neumann (1994), on the other hand, targeted perceptions about the teaching-research relationship by investigating whether graduate students perceived a teaching-research relationship as a result of their experiences as students. His study showed that graduate students perceived several connections between teaching and research and that four factors mediated their view: student ability and motivation (where more able and motivated students are more likely to perceive a connection), discipline (students were more likely to perceive that research impacts teaching in biology than in physical science and mathematics), course type (where a connection is more commonly perceived in elective courses), and their connection with the instructor (where stronger relationships are related to stronger perceived connections between teaching and research). However, small sample size again undermines the generalizability of Neumann's work: it reflected the voices of a mere five Ph.D. students.

Consequently, several gaps exist in the literature on graduate students' views of the teaching-research relationship. First, what little is known about graduate students' perceptions of the teaching-research relationship is based on limited student samples and limited sampling of disciplines. Second, only Neumann's (1994) study focused on bi-directionality in the teaching-research relationship, and he only explored this issue by asking graduate students to consider their experiences as students; he did not investigate how graduate students' own teaching and research experiences were interconnected. The current study thus will also address these gaps in the literature.

Study Purpose

The current study sought to increase our scope and depth of understanding of the teaching-research link among graduate students, to identify the nature of this relationship, and to explore cross-disciplinary differences in graduate students' perceptions of the teaching-research relationship.

The research questions that guided this study include:

1. Do graduate students report a relationship between teaching and research? If so, what is the nature of that relationship? If not, why not?
2. Do graduate students' perceptions of a teaching-research relationship vary as a function of teaching and research experience?
3. Do perceptions of this relationship differ across disciplines? If so, how?
4. What perceptions do graduate students hold about how teaching and research facilitate the attainment of academic skills?

Method

This study was part of a larger project examining the impact of science, technology, engineering and mathematics (STEM) graduate students' teaching experiences on the development of their research skills (Feldon et al., 2011). As a separate part of this project, STEM graduate students described the relationship between their teaching and research activities. These responses formed the bases for the development of the survey used in the current study, described below. A survey-based approach was employed to for three purposes: (a) to reach a larger sample, (b) to access a broader disciplinary range, and (c) to enable direct comparison of participant responses across subgroups (e.g., graduate students who have no teaching experience vs. those that do).

Participants and Survey Administration

Graduate students from a large, research university with very high research activity (Carnegie Classification RU/VH, formerly known as "R1") voluntarily participated in this study. Participants were recruited during their attendance at a university-required workshop for new graduate student assistants, including both teaching assistants and research assistants. Workshop topics included those common to graduate assistant teaching preparation, such as assigning and assessing student work. Relationships between teaching and research were not addressed. Of the approximately 600 students who attended the workshop, 308 (51.3%) completed the study survey. To protect participant anonymity and to increase their likelihood of responding candidly, students were instructed not to provide their names on the survey.

Of the 308 participants, 290 provided information about their degree programs. A little more than half (168, 58%) pursued a doctorate. Of these doctoral students, 127 (76%) reported prior research experience and 65 (39%) reported prior teaching experience. One

hundred twenty-two (42%) pursued a master's degree; of these, 92 (75%) reported prior research experience, while only 32 (26%) reported prior teaching experience. Graduate students from the social sciences, humanities and natural sciences constituted the majority of the sample (Table 1).

Survey Development and Description

To develop the survey, we first examined the graduate student descriptions of the relationship between teaching and research activities that were collected as part of the broader NSF project. Specifically, two researchers independently examined interview transcript data to identify common themes regarding the connection between teaching and research. These themes were used to develop survey items which were reviewed by the research team at weekly meetings. We also developed demographic questions of interest, including questions regarding current degree program, level of prior teaching and research experience, and expected involvement in teaching and research in the ensuing academic year.

The first item on the survey asked respondents to indicate whether they perceived a relationship between teaching and research. A text box was provided in which participants could explain their response to this question.

The second portion of the survey contained five items assessing perceptions of how teaching and research contribute to the development of skills pertinent to these two domains of academia. Each item presented a specific skill and asked participants whether that skill could be developed through teaching, through research, through neither teaching nor research, or through both teaching and research.

The final portion of the survey assessed the nature of the teaching and research relationship using ten Likert-scale items. For example, one item from this section asked participants to rate their level of agreement with the following statement: "Doing research helps/will help me teach students about how research is conducted in my field."

Data Analysis

Chi-square tests of independence were conducted to test for discipline-based differences in graduate students' views of the teaching-research relationship. The first and third author independently coded all responses to students' descriptions of the relationship between teaching and research. Inter-rater agreement was computed to be 84.6%. Coding discrepancies were resolved through discussion, a process regarded as a good strategy for improving accuracy and reliability (Johnson, Penny, & Gordon, 2000; Johnson, Penny, Gordon, Schumate, & Fisher, 2005).

Results

In Their Own Words: The Nature of the Teaching-Research Relationship

The vast majority of graduate students (280, 91.8%) perceived a relationship between teaching and research (Table 2). However, eighteen different themes emerged from the 223 participants who described this relationship. These eighteen themes fell into four broad categories: research influences teaching, teaching influences research, there is a reciprocal relationship, and there is a disconnected or antagonistic relationship. As Table 3 shows, graduate students commonly characterized the relationship as unidirectional.

The most commonly nominated relationship among participants was that research influences teaching (37.5% of responses; 67% of participants who responded on-topic). Informing the content of teaching (14.0% of responses; 25.1% of participants) was the most commonly cited means by which research impacts teaching. Participants' elaborations specified that this was often accomplished through using useful examples from one's research during instruction or through disseminating one's current research in the classroom. For example, one graduate student shared, "Your scholarship is what you know. People generally teach what they know. Regardless of the course description, they lean towards their scholarship."

The second most frequently nominated relationship between research and teaching was that teaching influences research. One quarter of responses and 44.8% of participants who provided an on-topic response expressed this view (Table 3). One graduate student described several ways in which his/her teaching influences his/her research:

> Teaching can render insight into variables related to human nature that might be useful in studies. Apparently it can improve time management as well. Most importantly through the process of answering student questions, it can encourage you to increase your own knowledge base.

The third most commonly nominated link between research and teaching was that of a reciprocal relationship (11.8% of responses; 21.1% of participants). As one graduate student described, "Each activity informs the other – it is a reciprocal relationship. Also these are two perspectives or avenues for exploring your subject matter area." Some participants explained that the two activities share common skill sets (e.g., communication skills, organization skills, creativity, and critical thinking), or that university structure often dictates that academics do both teaching and research.

Table 1
Distribution of Participants by Discipline

Discipline	N	%
Social Sciences (e.g., psychology, anthropology)	72	23.5
Humanities (e.g., English, foreign languages)	66	21.4
Natural Sciences (e.g., biology, physics)	62	20.2
Engineering	24	7.8
Formal Sciences (e.g., math, statistics)	20	6.5
Health Sciences (e.g., physical therapy, sports management)	20	6.5
Education	12	3.9
Business	2	0.6
Journalism	1	0.3
Unknown	29	9.5
Total	308	100.0

Table 2
Distribution of Participants' Reporting a Relationship between Teaching and Research

	N	%
Yes/Perceived Relationship	280	90.9
No Relationship Perceived	25	8.1
No Response	3	1.0
Total	308	100.0

Over 8% of respondents selected that they do not perceive a relationship between teaching and research (table 2), and a small portion (4.5% or responses, 8.1% of participants; table 3) described the relationship as disconnected or antagonistic. For example, one participant indicated that teaching and research do not influence each other: "Well, I've always just thought that the two were separate. Even as I see my professors, it seems like they even view them separately. Teaching=Job, Research=Passion." A participant who held the view that the relationship between teaching and research was antagonistic explained, "Both take a separate demand on a person's time (i.e., having to choose between the two)."

The Influence of Prior Teaching and Research Experience on Perceptions of the Teaching-Research Relationship

Given that our sample included graduate students who have taught, conducted research, taught and conducted research, or neither previously taught nor conducted research, we conducted an analysis to examine whether their perceptions of a teaching-research nexus were related to their prior experiences. Table 4 shows the percentage of graduate students who reported a relationship between teaching and research as a function of their prior research experience, teaching experience, both, or neither. Chi-square analyses revealed that graduate students' perception of the teaching-research relationship was independent of their prior experience ($\chi^2[3] = 1.575$, $p = .665$) We also analyzed participants' responses to the open-ended question asking them to describe the nature of the teaching-research relationship with respect to their prior teaching and research experience. Table 5 shows that participants with prior teaching experience slightly more often reported that research influences teaching, though this difference was non-significant ($\chi^2[1] = 2.349$, $p = .083$), whereas participants with prior research experience more frequently reported that teaching influences research, although this difference was also non-significant ($\chi^2[1] = 3.130$, $p = .052$). Participants who had both teaching and research experience more often reported a reciprocal relationship between teaching and research as compared with other groups, though again this difference was not statistically significant ($\chi^2[1] = 3.137$, $p = .057$).

Perception of a Teaching-Research Relationship across Disciplines

When data were disaggregated by discipline (Table 6), discipline-specific patterns in graduate students' perceptions of the teaching-research relationship emerged. For example, participants from engineering

Table 3
The Nature of the Teaching-Research Relationship: Number and Percentage of Participants

Relationship Type	N	%
Research Influences Teaching	150	37.5
Research informs the content of teaching (e.g., share examples from your research; disseminate findings)	56	14.0
Through research, you develop increased disciplinary knowledge	53	13.3
Research influences teaching (no articulation of mechanism)	16	4.0
Research makes you more enthusiastic and committed to your discipline, which can be expressed in your teaching	8	2.0
Research informs pedagogy	6	1.5
If you have done research, then you can teach your students how to do it	4	1.0
If you have done research, then you can inspire your students to do research	6	1.5
Research provides an opportunity to work with/help your most talented students	1	0.3
Teaching Influences Research	100	25.0
Teaching inspires research (e.g., get ideas from your students about potential research topics)	31	7.8
Teaching increases disciplinary knowledge which forms the foundation of one's research	30	7.5
Teaching influences research (no articulation of mechanism)	10	2.5
Teaching improves your research skills (e.g., ability to look at a problem in new ways)	29	7.3
Reciprocal relationship between teaching and research	47	11.8
Reciprocal relationship between teaching and research (no articulation of mechanism)	31	7.8
Teaching and research share a common skill set (e.g., communication skills)	10	2.5
Teaching and research are conducted by the same people/ University structure dictates that academics do both	6	1.5
Disconnected/Antagonistic Relationship	18	4.5
The relationship depends on other factors (e.g., level of students you teach, extent to which the classes you teach are related to your research foci)	9	2.3
Teaching and research are different and can't be compared	6	1.5
Antagonistic relationship between teaching and research	3	0.8
Other	-	-
Off-topic response	30	7.5
Blank	55	13.8
Total	400	100.0

Notes. The number of responses exceeds the number of respondents because many respondents identified multiple ways in which teaching and research influence each other.

Table 4
Relationship between Prior Teaching and Research Experience and Perceptions of a Relationship between Teaching and Research

Relationship Type	Yes Perceived Relationship	No Perceived Relationship	Total
No teaching or research experience	48	4	52
Has prior teaching experience, no prior research experience	13	0	13
Has prior research experience, no prior teaching experience	138	12	150
Has both teaching and research experience	81	9	90
Total	280	25	305

Note. Three participants did not respond to the closed-ended item. These 3 respondents are not included in this analysis.

were significantly less likely to report a relationship between teaching and research than participants from other disciplines ($\chi^2[1] = 18.597$, $p < 0.001$). Respondents in the formal sciences, health sciences, and natural sciences were also significantly more likely than other groups to report no relationship between teaching and research ($\chi^2[1] = 8.859$, $p = .004$). Combined across all four "hard" disciplines (engineering, formal sciences, health sciences, and natural sciences), 103 of 124 students (83%) perceived a teaching-research relationship, while 21 of 124 (17%) did not. Conversely, *every* participant affiliated with a "soft" discipline (business, education, humanities, journalism, law, and social sciences) reported a relationship between teaching and research.

Because graduate students who were pursuing degrees in the "hard" disciplines were less likely to perceive a relationship between teaching and research, we investigated their responses to the open-ended item that asked them to describe the relationship (or lack thereof) between teaching and research. We hoped this analysis would reveal how their perceptions differed from graduate students in the "soft" disciplines. As Table 7 shows, graduate students in the "hard" disciplines were significantly less likely than graduate students in the "soft" disciplines to discuss how research influences teaching (25.2% vs. 48.4% $\chi^2[1] = 22.762$, $p < .001$). Table 7 also shows that graduate students in the "hard" disciplines were significantly more likely than graduate students in the "soft" disciplines to report an antagonistic or disjointed relationship between teaching and research (8.6% vs. 0.5%, $\chi^2[1] = 14.608$, $p < .001$). The rate of expression of the other two themes (e.g., teaching influences research, reciprocal relationship) was more similar across the two groups.

Closed-Ended Items Assessing the Relationship between Teaching and Research

Participants were asked to rate their agreement with ten Likert-scale items that assessed their views of the nature of the teaching-research relationship. Table 8 presents participants' mean ratings. The items that were most strongly endorsed were, "Doing research helps/will help me teach students about how research is conducted in my field," "Being knowledgeable about current research and research methods in my field helps/will help me to better design courses," and "I share/will share aspects of my with my students."

Development of Academic Abilities

The last section of the survey examined participants' perceptions about how teaching and research activities impact knowledge and skill development in five areas. Table 9 presents the frequency of response to these items. The majority of participants indicated that both teaching and research could improve specified skills or increase their knowledge, with the exception of developing writing skills; fewer than half of graduate students (42.9%) indicated that writing skills are usually developed through research (but not teaching). Communication skills and disciplinary knowledge were identified by the largest number of students as being developed through both teaching and research.

Discussion

Most graduate students in this study perceived a significant, supportive relationship between teaching and research. Thus, study findings corroborate prior self-report research examining other samples' perception of the nature of the teaching-research relationship (Colbeck, 1998; Neumann, 1992; Neumann, 1994). Of note, most students perceived a significant, supportive relationship between teaching and research regardless of the extent of their prior experience with either activity. This suggests a window of mutability in perceptual development independent of previous teaching or research engagement. It also suggests that graduate students, like most faculty and the universities at which both graduate students and faculty work, have internalized the perception that teaching and research are complementary regardless of experiential evidence that supports or contradicts this viewpoint.

A deeper consideration of the nature of the teaching-research relationship revealed that many graduate students characterized the relationship as unidirectional, with research improving teaching by enabling instructors to use the content of their research to inform their teaching, such as by offering real-world examples. This type of relationship was consistent with Neumann's (1992) *tangible connection*, and Griffith's (2004) and Healey's (2005) *research-led* teaching, and it was a view that participants further endorsed via their strong agreement with the statement, "I share/will share aspects of my research with my students." This standpoint emphasized conveying a body of knowledge about research findings, as opposed to teaching students about the process of doing research.

Although respondents rarely described in their own words the importance of doing research in order to be able to teach others how it is done/how to do it, they nonetheless strongly agreed with the statement, "Doing research helps/will help me teach students about how research is conducted in my field." There are multiple possible interpretations of this ostensible contradiction. One possibility is that graduate students in this study may not have had the opportunity to teach students about how research is conducted. However, if given the opportunity to do so, they view conducting their own research as playing an important role in developing the ability to

Table 5
Reported Nature of the Teaching-Research Relationship by Prior Teaching and Research Experience

	Prior Teaching and Research Experience				
Teaching-Research Relationship Theme	No Teaching or Research Experience	Teaching Experience Only	Research Experience Only	Prior Teaching and Research Experience	Total
Research Influences Teaching	23 (37.7%)	10 (55.6%)	64 (32.8%)	53 (42.4%)	150
Teaching Influences Research	11 (18.0%)	3 (16.7%)	60 (30.8%)	26 (20.8%)	100
Reciprocal Relationship Between Teaching and Research	4 (6.6%)	2 (11.1%)	21 (10.8%)	20 (16.0%)	47
Disjointed/Antagonistic Relationship	4 (6.6%)	2 (11.1%)	7 (3.6%)	5 (4.0%)	18
Off-Topic	7 (11.5%)	1 (5.6%)	14 (7.2%)	8 (6.4%)	30
Blank	12 (19.7%)	0 (0.0%)	29 (14.9%)	13 (10.4%)	54
Total	61 (100.0%)	18 (100.0%)	195 (100.0%)	125 (100.0%)	399

Note. One person did not identify their prior teaching or research experience and thus is not included in this analysis.

teach others how to conduct research. Alternatively, graduate students in this study may not have commonly contemplated how their own experiences as a researcher could help them teach the research process, but when prompted, they recognized the importance of this experience.

Disciplinary affiliation was an influential component in graduate students' perceptions of the teaching-research relationship, consistent with the work of Colbeck (1998) and Feldman (1987), who found that faculty in the "hard" disciplines perceive more difficulty in integrating their teaching and research. In the current study, almost a third of engineering participants perceived no relationship between teaching and research. Further, approximately 10-15% of graduate students in the formal, health, and natural sciences (also known as "hard" disciplines) also reported no relationship between teaching and research. In comparison, participants from the "soft" disciplines each unanimously endorsed a relationship between teaching and research (although we note that one [of 190] reported a disjointed/antagonistic relationship when asked to describe the relationship in their own words).

Why were graduate student participants in the "hard" disciplines less likely to perceive a teaching-research relationship? Perhaps our findings are a reflection of our sample: we included many graduate students who have either never taught (74%) or never conducted research (25%). It is possible that these graduate students had not yet had the opportunity to figure out how to integrate their teaching and research. Although this is a theoretical possibility, direct examination of the relationship between these prior academic experiences and perceptions the teaching-research relationship revealed that the views of graduate students who had these prior academic experiences did not differ from the views of those who had not.

Alternatively, the lack of connection between teaching and research in the "hard" disciplines may reflect that academics in the "hard" disciplines have less freedom to create those connections (Colbeck, 1998). For example, it could be argued that the curriculum for teaching Sociology 101 is more flexible than Physics 101, in which undergraduates will need to learn more specific content to be successful in Physics 102. This may restrict the opportunities that academics in the STEM disciplines may have to discuss their research in the undergraduate courses they teach.

Another explanation for why graduate students in the "hard" disciplines less often perceived a connection between teaching and research may be because their disciplinary environment more strongly encourages targeted and limited focus, thereby decreasing opportunities to juggle resources/responsibilities. Research conducted by Theall, Mullinix and Arreola (2010) provides support for this hypothesis. Through surveying 415 faculty and administrators, these researchers found that STEM faculty reported significantly lower skill levels in terms of ensuring efficient use of resources as compared with Social Science and Education faculty.

This study also explored graduate students' perceptions of how teaching and research facilitate attainment of academic skills. About 70% of students perceived that both teaching and research facilitates

Table 6
Number and Percentage of Participants Reporting a Relationship between Teaching and Research by Discipline

	Yes/Perceived Relationship		No Relationship Perceived	
	N	%	N	%
"Hard" Sciences				
Natural Sciences	53	85.5	9	14.5
Formal Sciences	17	85.0	3	15.0
Health Sciences	17	89.5	2	10.5
Engineering	16	69.6	7	30.4
"Soft" Sciences				
Social Sciences	72	100.0	0	0.0
Humanities	65	100.0	0	0.0
Education	12	100.0	0	0.0
Business	2	100.0	0	0.0
Journalism	1	100.0	0	0.0
Unknown	25	86.2	4	13.8
Total	280	-	25	-

Note. Three participants did not respond to this item.

Table 7
Discipline-linked differences in the Nature of the Teaching-Research Relationship

Teaching-Research Relationship Theme	"Hard" Disciplines (Engineering, Formal Sciences, Health Sciences, and Natural Sciences)		"Soft" Disciplines (Business, Education, Humanities, Journalism, Law, and Social Sciences)	
Research Influences Teaching	35	25.2%	92	48.4%
Teaching Influences Research	27	19.4%	47	24.7%
Reciprocal Relationship Between Teaching and Research	19	13.7%	25	13.2%
Disjointed/Antagonistic Relationship	12	8.6%	1	0.5%
Off-Topic	16	11.5%	7	3.7%
Blank	30	21.6%	18	9.5%
Total	139	100.0%	190	100.0%

Note. Twenty-nine participants did not identify their discipline and thus their responses are not included in this analysis. Some respondents identified multiple ways in which teaching and research are connected thus the number of responses exceeds the number of participants.

their acquisition of disciplinary knowledge, improves their ability to communicate in their discipline, and increases problem-solving skills. Curiously, in terms of improving disciplinary writing skills and conducting systematic observations, students' perceptions were almost evenly split: about half thought both teaching and research facilitated improvement in these areas, while about 40% perceived that usually research and sometimes teaching did so. However, the overarching interpretation of this question was that most students perceived that both teaching and research facilitated the development of key disciplinary skills.

Implications for Policy and Practice

Graduate students represent the future of the academy, and more broadly, the future of the disciplines in and beyond the academy. As Colbeck (2008) noted, academics who are highly committed to both teaching and research are energized when they engage in work that informs both activities. This study thus highlights a valuable opportunity for administrators establishing policies and procedures that help graduate students find connections between their teaching and research in order to improve both teaching and research at their institutions. Results from the current study offer several insights to help faculty and administrators promote graduate student development and teaching-research integration.

First, graduate students across disciplines overwhelmingly perceive a relationship between teaching and research. Most do so regardless of prior teaching and/or research experience. Further, most perceive that participation in both teaching and research

Table 8
The Nature of the Teaching-Research Relationship: Likert-Scale Items.

Item	N	Mean	SD
Doing research helps/will help me teach students about how research is conducted in my field.	306	4.47	0.85
Being knowledgeable about current research and research methods in my field helps/will help me to better design courses.	306	4.37	0.86
I share/will share aspects of my research with my students.	304	4.25	0.85
Teachers who frequently consider new perspectives while teaching generate more research hypotheses or are better able to see their research in a new way.	307	4.17	0.90
The same person can be an effective teacher and an effective researcher.	306	4.12	1.19
Through teaching, I find/will find students who are interested in research.	305	4.06	0.88
The connection between teaching and research depends on how close your research is to the subject that you teach.	305	3.85	1.04
I incorporate/will incorporate my students' ideas and interests into my research.	302	3.63	1.01
There is a disconnect between the kinds of skills that a good researcher needs and the kind of skills that a good teacher needs.	306	2.79	1.18
There is a disconnect between the kind of research that I do and the topics that I teach.	293	2.53	1.18

Note. Measured on a scale of 1 to 6 (1 = Strongly Disagree, 6 = Strongly Agree).

contributes to the attainment of fundamental academic skills. These findings suggest that faculty and administrators have a firm foundation on which to build students' ability to create highly permeable boundaries between teaching and research. The timeframe for the creation of these permeable boundaries is likely earlier in the graduate students' training, when professional habits are not yet set.

Second, most graduate students failed to perceive a bi-directional relationship between teaching and research. Admittedly, perceptions of unidirectional relationships between teaching and research are much preferred over either perceptions of an antagonistic or non-relationship. However, shaping graduate student professional development in a manner to support the identification and use of a bi-directional relationship would appear to be the most opportunistic. The connection that graduate students were less likely to report concerns how teaching impacts research. In this study, respondents rarely described in their own words the importance of doing research in order to be able to teach others how it is done/how to do it. This represents an opportunity for administrators to help graduate student instructors recognize the value of integrating inquiry-based learning, which involves teaching both disciplinary content and the methods by which new scientific knowledge is developed. Though researchers have not specifically examined how best to train graduate student instructors to implement inquiry-teaching approaches, Anderson (2002) suggests that collaboration with other teachers and experts is essential for teachers to adopt inquiry-teaching methods.

As others have noted (Brew & Boud, 1995; Grant & Wakelin, 2009; Hattie & Marsh, 1996), researchers have also paid considerably less attention to how one's teaching can inform one's research. Not only do those who study the teaching-research nexus pay less attention to the impact of teaching on research, but this study, along with the work of Grant and Wakelin (2009), suggests that academics, too, are less likely to perceive this connection. The influence of teaching on research is pronounced in the field of education in which instructors develop new questions and insights about teaching and learning that they can study as part of research in their discipline (Duckworth, 1986). In other fields, however, this connection is less evident. We perceive this as another opportunity for higher education policy-makers and administrators. If publishing SoTL studies were more highly valued and rewarded in non-education disciplines (Boshier, 2009; McKinney; 2006, Shapiro, 2006), this would likely help academics both use their research to improve their teaching practices and to use their teaching experiences to conduct research. Administrators or higher education policy-makers who are interested in changing the culture or policies within departments, colleges, or institutions to place greater value on and reward SoTL may find it useful to (a) develop programs that include workshops and learning communities on SoTL; (b) identify faculty fellows who can mentor instructors new to doing SoTL; (c) offer grants or other internal funding mechanisms to support SoTL; (d) design opportunities for instructors to engage in SoTL-based collaboration with instructors from other departments, colleges, or universities; (e) create an institutional journal for

Table 9
Participants' Perceptions of How Teaching and Research Facilitate Attainment of Academic Skills

	N (%)				
Item	Neither Teaching Nor Research	Usually Teaching and Sometimes Research	Usually Research and Sometimes Teaching	Both Teaching and Research	Total
Provides/will provide me with an opportunity to develop knowledge about my field.	1 (0.3%)	11 (3.6%)	68 (22.2%)	226 (73.9%)	306
Improves/will improve my ability to communicate about my field.	2 (0.7%)	58 (19.0%)	20 (6.5%)	226 (73.9%)	306
Improves/will improve my writing skills.	9 (3.0%)	18 (5.9%)	130 (42.9%)	146 (48.2%)	303
Encourages/will encourage me to view problems from multiple or new perspectives.	2 (1.0%)	42 (13.8%)	54 (17.8%)	206 (67.8%)	304
Improves/will improve my ability to conduct systematic observations.	5 (1.7%)	27 (8.9 %)	119 (39.3%)	152 (50.2%)	303

publishing SoTL; and (f) adopt tenure and promotion guidelines that reward SoTL publications (Cruz, Ellern, Ford, Moss, & White, 2009; Huber & Morreale, 2002; Shapiro, 2006; Shulman, 1999).

Although the view that an antagonistic relationship exists between teaching and relationship was relatively rare among graduate students in this study, systematic causes of this view may be at work. For example, some graduate students who held this view explained that they perceived this relationship because the topics they taught differed from the topics they researched. As one graduate student in statistics noted, "I haven't related my research with my teaching experience. My research was also at a higher level than what I was teaching." Austin (2002) previously noted this concern among graduate students: teaching assistantships typically reflect departmental needs rather than the budding interests of graduate students and can result in a pronounced rift between the content of graduate students' teaching duties and their research. This highlights the opportunity for graduate coordinators and administrators to assist graduate students in aligning their teaching and research by enabling them to teach courses in their research areas. If it is not possible to enable graduate students to teach entire courses that focus on their areas of interest, an alternative is that administrators help them to combat "curriculum creep," or the increasing demands that are placed on teachers to cover an increasingly larger knowledge base (Webster, 2002, p. 16). This will allow instructors time to integrate brief lessons that draw on their research to enhance their teaching.

It is of note that the data for this study were collected at a workshop required for graduate student teaching and research assistants, the content of which did not include a discussion of teaching-research integration. This represented a lost opportunity to broach this important topic and create a space for dialogue to which students from across the disciplinary context can contribute. We further suggest that many other opportunities to open dialogue around this topic exist with the graduate education curriculum. For example, it is widely acknowledged that students are keen observers of faculty life (Austin & McDaniels, 2006). Thus, we suggest any format that encourages candid discussion about and observation of teaching-research integration in daily faculty life will be of interest to many graduate students. This may include, for example, events such as "brown bag" lunches at which graduate students and faculty can share their successes and challenges around teaching-research integration or receive professional development on resource management. These may be particularly salient in "hard" disciplines in which it may be more difficult to achieve this integration.

Research question four explored how teaching and research facilitate the attainment of academic skills. Of note, over 40% of graduate students reported that improving disciplinary writing skills and the ability to conduct observations is better developed through research. This finding may be useful to administrators when designing professional development activities; academics who desire to improve their writing and observation skills may be better able to develop these skills through research rather than teaching. The finding that research plays a more integral role in writing than does teaching may also explain why correlative studies that compare teaching effectiveness with publications (number and/or quality) do not show positive relationships.

Directions for Future Research

This study reinforces the value of an institutional structure that endorses and supports both teaching and

research. Study findings indicate that these activities directly improve one another by a variety of means, as well as indirectly improve one another by helping to develop skill sets necessary for being an effective researcher and teacher. This finding corroborates research indicating that engaging in both research and teaching during graduate school is related to stronger graduate students' research skills (Feldon, et al. 2011).

We hope that future research extends and deepens this analysis in multiple ways. First, rather than examine how doing both teaching and research (which could include simply balancing the two) impacts skill development, future work should examine how *integrating* teaching and research impacts critical graduate education outcomes, such as skill development, time-to-degree completion, and success in obtaining a faculty position. Second, this study suggests that teaching-research integration may contribute to higher quality work and increased efficiency, which is critical given the ever-growing scope of faculty responsibilities (Theall, Mullinix, & Arreola, 2010). However, while many doctoral students are trained at research-extensive institutions, many will not secure employment at such institutions after obtaining their PhDs. In addition, academia is moving towards the "unbundling" of academic responsibilities with an increasing number of non-tenure track appointments (Austin, 2002, p. 100). Thus, the number of graduate students who secure tenure-track positions that include both teaching and research responsibilities is declining (Curtis & Thorton, 2013; Gill, 2013; Wood & Townsend, 2013; Vick & Furlong, 2008). Instead, many graduate students are often employed outside academia (Golde & Dore, 2004) or at institutions dedicated to undergraduate education (Krebs, 2014). We thus encourage future research to examine the research expectations and teaching-research integration of faculty at these "teaching colleges." Toward this aim, longitudinal studies that follow graduates of research-extensive doctoral programs to their post-PhD institutions could be particularly insightful. Such research could examine in more detail how institutional culture affects perceptions of teaching-research integration. This could include a close investigation into how graduate students' initial perceptions of the teaching-research next is influenced by their faculty advisors, who may play an even more prominent role in shaping students' views than the general institutional emphasis. By then tracking students from their research-extensive graduate programs to their positions at teaching-focused institutions, this research could then identify whether students' views in their doctoral programs continue to characterize their perceptions as faculty members, or whether their views are predominantly shaped by their new institution's culture.

For graduate students who secure positions at "teaching-focused institutions" that place less emphasis on disciplinary research, SoTL may be the mechanism through which they may integrate teaching and research, in particular because such research may be conducted without a substantial budget or research equipment. But it does require the acquisition of skill sets which may be further from some disciplinary fields than others. For example, scholars in the humanities or social sciences may already have familiarity with qualitative research methodologies, text analysis techniques and other approaches that may be more disparate from existing skill sets for scholars in the hard sciences. Further, SoTL is likely to be valued at higher education institutions focused on undergraduate teaching. If faculty at these institutions are engaging in research or SoTL, it will also be informative to explore if and how these faculty use this research to inform their teaching, as well as the impact that integration has on faculty work efficiency, productivity, salary and, where appropriate, tenure and promotion.

In short, we suggest that future research explore the extent to which teaching-research integration is possible and helpful for all faculty, but perhaps most especially faculty at teaching-centered institutions, at which most new faculty members will secure their first and perhaps long-term faculty positions. Findings from this line of inquiry could be used to better train graduate students who have this career goal in mind.

This study also corroborated findings from prior research that instructors in the "hard" disciplines perceive more difficulty in integrating their teaching and research (Colbeck, 1998; Feldman, 1987). We offered three hypotheses to explain the differing perceptions of graduate students in the "hard" disciplines vs. the "soft" disciplines, including that (a) due to limited teaching and research experience, graduate students may not have yet had the opportunity to explore connections between their teaching and research, (b) graduate students in the "hard" disciplines may have fewer opportunities to modify their course curricula to allow for teaching-research integration, and (c) the nature of work in the "hard" disciplines encourages more focused work and less juggling of responsibilities and resources. Future research should investigate these distinct hypotheses as well as identify other explanations that may shed light on discipline-linked differences in teaching-research integration.

We suggest that in-depth qualitative studies that examine the nature of graduate students' teaching and research experiences and the contexts and cultures in which those experiences are embedded are needed to better understand these students' perceptions of the teaching-research relationship. While the categorizations of "hard" and "soft" are common in discussions of disciplinary differences, major distinctions in how

knowledge is structured exist between disciplines in the "hard" category, as well as between those in the "soft" category (Donald, 2002). These distinctions have implications for both teaching and learning in the specific discipline, and likely influence how the teaching-research relationship is conceptualized within the specific discipline by graduate students and faculty alike. It is beyond the scope of the current effort to disaggregate students' responses to questions about perceptions of the teaching-research relationship by discipline (by biology, chemistry, and physics, for example). However, we suggest that finer-grained studies that do so are the next step in discerning how disciplinary knowledge structures shape the perceptions of teaching-research relationships that necessarily emerge from them.

Conclusion

As Colbeck (2008) noted, instructors who are highly committed to both teaching and research are energized when they engage in work that informs both activities. This study thus highlights a valuable opportunity for administrators establishing policies and procedures – to help graduate students find connections between their teaching and research in order to improve both teaching and research at their institutions.

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An Examination of the Flipped Classroom Approach on College Student Academic Involvement

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Colleges and universities remain attentive to developing and supporting ways to foster student academic success. These efforts have taken on more importance as student success, commonly measured by student learning achievement, has failed to meet expectations. For colleges and universities, the flipped classroom represents a student-centered method of fostering academic involvement that is recognized as a positive contributor to student success. This exploratory study examined the flipped classroom's influence on student academic, student peer-to-peer and student-faculty involvement. The study involved 60 undergraduate students (28 male, 32 female) from three flipped classrooms consisting of courses in mathematics and business. Focus group interviews were conducted to gather student feedback regarding their behaviors and classroom engagement. Additionally, a brief survey was administered to collect demographic information as well as quantitative data regarding student perceptions. Findings indicated student academic involvement was present through note taking, viewing video lectures, active in-class learning and collaboration. Students cited peer-to-peer and student-faculty engagement as essential to relationship building, peer learning, and meaningful involvement with faculty.

Introduction

Colleges and universities remain attentive to developing and supporting ways to foster student academic success. These efforts have taken on more importance since the U.S. Department of Education's 2006 report outlining growing evidence of inadequate, and perhaps declining, quality of student learning in U.S. higher education. In response to this evidence, the Department of Education in 2006 issued a call to evaluate student learning through the development of "pedagogies, curricula, and technologies to improve learning" to address these issues (p. 25). Developing effective teaching and learning practices requires educators to design strategies that encourage students to commit time and energy to their educational endeavors (Kuh, Kinzie, Schuh, Whitt, & Associates, 2005) as student involvement is a primary predictor of student learning and development (Astin, 1984, 1999; Pascarella & Terenzini, 2005). Wiggins and McTighe (2006) highlight the importance of involvement in learning. They differentiate the "logic of the content itself" where basic concepts are built upon in a linear fashion to achieve a sense of concept complexity from the "logic of learning content" where content is worked with through sense-making and experimentation. High impact teaching and learning initiatives that emphasize student involvement include first-year experience programs, service learning, study abroad, learning communities and undergraduate research, which have been recognized as key tools for nurturing student learning, development and success (Kuh, Kinzie, Schuh, Whitt, & Associates, 2010; National Survey of Student Engagement, 2008).

Flipping the classroom represents an approach to teaching and learning that focuses on student involvement. Also known as the inverted classroom (Lage, Platt, & Treglia, 2000), the hallmark of a flipped classroom involves engaging students in knowledge acquisition of course material prior to a class session, typically through assigned readings or lecture videos, leaving class time for the integration of knowledge through application, analysis or synthesis-based activities (Brame, n.d.). By introducing students to course material in advance of a class session, class time is available to explore challenging concepts, address student questions, engage in active learning, and connect to "real life" situations (Stone, 2012). Class time also offers more opportunities for faculty to engage students and encourages students to build rapport with peers and the instructor. Although humanities-based disciplines have been using a basic form of the flipped classroom for many years by assigning text readings in advance of a class in order to conduct further text analysis in class, the flipped classroom of today is credited to two high school chemistry instructors, Jonathan Bergmann and Aaron Sams (Bergmann & Sams, 2012; Brame, n.d.).

Research

Recently, the adoption of the flipped classroom approach is starting to extend from primary and secondary education to the undergraduate level. Interest in the flipped classroom approach has been fueled by early studies that indicate improved student performance outcomes such as tests score gains (McLaughlin et al., 2014; Stone, 2012). These indications of improved student learning beg the question, "How did that happen?" This paper presents exploratory research into the nature of student involvement within a flipped classroom setting and

seeks to identify the ways student involvement maybe fostered within this classroom experience.

Student Involvement Theory

The theory of student involvement serves as a guide to designing more effective learning environments. Defined by Astin (1984, 1999), student involvement represents the amount of physical and psychological energy a student directs toward his or her college academic and social experience. Moreover, involvement operates on a continuum (Astin, 1984, 1999; Nelson, 2010). For example, a student dedicating significant time to preparing for class, studying, participating in extracurricular activities and organizations, and engaging with peers and instructors would represent high student involvement, while a student participating on a limited basis in such activities would reflect low student involvement. The significance of student involvement is its role in fostering student learning.

At the heart of student involvement theory is its focus on "how" students develop. To this end, attention is directed toward the behaviors and processes that support student development, specifically the college environment and a student's time and energy (Astin, 1984). Although there are many components that make up a traditional college environment (e.g., on-campus residency, membership in student organizations, working on campus), environmental components that foster student involvement have been found to contribute positively to student academic success and persistence, whereas components that impede involvement contribute to students dropping out (Astin, 1975; Bean & Metzner, 1985; Tinto, 1975). Further, student involvement theory recognizes that both student time and energy are limited. As a result, the more a student can direct his or her time and energy toward a developmental goal of learning course material by preparing for class, reading assigned materials, participating in class and engaging faculty and peers, the more the student will learn and in turn achieve his or her goal. In a longitudinal study of 200,000 students regarding 80 different student outcomes, Astin (1993) found higher student academic involvement to be strongly associated with student satisfaction across all aspects of his or her college experience; yet intense academic involvement was related to student isolation and in turn poor development of peer friendships. Astin (1993) also identified a relationship between frequent student-faculty interaction and higher student satisfaction with his or her college experience. Involvement with faculty was reported to be more strongly associated with student satisfaction over all aspects of college life than any other type of involvement (Astin, 1993).

Student academic involvement is particularly potent within the classroom (e.g., Hake, 1998; Laws, Sokoloff, & Thornton, 1999; Prince, 2004; Redish, Saul, & Steinberg, 1997). Two reasons for this are noted by Tinto (1997). First, the class period is a space in time that allows for interaction with others. For many students with busy lives filled with work, family and other commitments, class time represents a valuable opportunity to become involved with peers and faculty. Second, when in class, student involvement in learning, particularly learning with peers, is related to heightened quality of effort, learning, intellectual development and student success (Bowen, 2012; Endo & Harpel, 1982; Tinto, 1997). For these reasons, significant value lies in exploring classroom approaches that encourage academic, peer-to-peer and student-faculty involvement.

Flipping the Classroom

The flipped classroom approach involves engaging students in knowledge acquisition of course material prior to a class session, typically through assigned readings or lecture videos, leaving class time for the integration of knowledge through application, analysis or synthesis-based activities (Bergmann & Sams, 2012; Brame, n.d.). In essence, students are introduced to course concepts prior to class sessions, allowing in-class time to offer students opportunities to work with the concepts while utilizing the support of peers and the instructor. As such, in-class learning is shifted from traditional lecture delivery to class activities such as concept checks, discussions, debates and activities involving application, analysis, problem-solving, experiments and/or evaluation.

Commonly, technology has been integrated into the flipped approach through the use of lecture capture technology (such as enterprise systems like Tegrity, Echo 360, Panopto, or iPad apps like Educreations and Doceri) in concert with lecture slides for delivering course concepts. Technology also offers the ability for faculty to monitor student progress and involvement through a number of methods, such as reviewing student access and time spent with pre-class lectures, in-lecture polling that asks students to respond to questions using clickers or their cell phones (such as Poll Everywhere), and receiving student questions via email. The faculty member can then review the level of student involvement and learning prior to the class session and prepare in-class time to focus on concepts where students may be struggling.

Application of the flipped classroom technique at the college level has received little research attention. Considering the flipped classroom at the community college, Dove (2013) explored student perceptions of a flipped statistics class versus the traditional lecture

approach. Survey data was collected from the 21 students enrolled in the flipped statistics class which had students watching pre-taped lectures prior to class sessions and focused in-class time on discovery-based activities, problem solving and projects. Findings indicated student satisfaction with lecture videos that provided opportunities for concept understanding along with easy access and control over their pace of learning (response mean 3.5/4). In addition, the in-class experience was noted by students as positively influencing their grasp of course material (response mean 3.7/4). Overall, the majority of students were in favor of the flipped classroom and stated a preference for the flipped versus traditional lecture approach (response mean 3.6/4). Similar findings were reported by Toto and Nguyen (2009) in the study of a flipped approach in an industrial engineering course. The study involved 74 junior students who completed three survey items: 1) the Soloman and Felder's Index of Learning Styles Questionnaire, 2) a beginning of the class quiz, and 3) an end of the semester survey. Regarding student learning styles, Toto and Nguyen (2009) found that active learners regarded in-class activities as beneficial to concept understanding, while reflective and sensing-intuitive learners wanted more time at the beginning of class sessions to review video lecture concepts. Visual-verbal learners were more easily distracted when viewing lectures, and visual learners spent more time than others watching the video lectures. Finally, the sequential-global learners reported difficulty following video lectures. Overall, students liked and enjoyed the flipped classroom approach and in particular noted the value of both the in-class activities and the viewing of lectures prior to the class sessions in aiding their understanding of concepts.

Research by Stone (2012) focused on implementing a flipped classroom with video lectures and in-class activities in two biology courses: Genetic Diseases, involving 30 students, and General Biology, involving 400 students. Student exam and assignment scores were compared between the flipped class and its equivalent non-flipped class. In the Genetic Diseases class, exam scores differed significantly between non-flipped and flipped classes with Exam I and II scores increasing from 78.5% and 77.5% to 86.2% and 90.0% respectively. The General Biology course exams and assignments saw significantly different scores with the Exam II class average rising from 70.4% to 74.0% and class average of the assignment scores rising from 71.2% to 82.1%. Improvements in student performance were also reported by McLaughlin, Roth, Glatt, Gharkholonarehe, Davidson, Griffin, Esserman, and Mumper (2014). Using a quasi-experimental design over a three-year period, McLaughlin et al. (2014) investigated student learning outcomes on a standardized final exam for a foundational pharmaceutics class that was flipped versus traditionally taught via lecture. Student final exam performance improved by 2.5% in the first year of the flipped classroom application and a cumulative 5% over two years. Both studies by Stone (2012) and McLaughlin et al. (2014) found the majority of students agreeing that the flipped approach aided their learning more than the traditional lecture approach (67% and 91% respectively). These studies suggest a pattern of improved student learning and a positive student orientation toward the flipped classroom approach.

There are several benefits to the flipped classroom approach. First, flipping the classroom has been found to produce learning gains evidenced in higher test scores by students engaging in flipped class format versus traditional lecture format (Stone, 2012). Related research considering active learning (Hake, 1998) and peer instruction (Crouch & Mazur, 2001) approaches to in-class learning have also reported significant student learning gains as measured through concept checks and exams. Second, students are provided support and incentives to engage in course material prior to class. From low-tech reading assignments to high-tech lecture videos, students are asked to engage in preparing for class. Embedding feedback mechanisms with the assigned pre-class work, such as quiz question responses or a written summary of a lecture, and attributing course grading to these items provides an incentive for students to engage with the course material (Berrett, 2012; Brame, n.d.). Third, students are provided in-class activities that focus on knowledge integration within a supportive environment (Berrett, 2012; Brame, n.d.). With knowledge and comprehension of concepts taking place prior to a class session, in class time is available for more engaged learning through problem-solving, discussions, experiments and such. In addition, in-class activities provide more opportunities for interaction among peers as well as with the instructor as opposed to traditional lecture.

Challenges do exist for faculty as they take on a flipped classroom approach. Berrett (2012) notes three such hurdles. First, given the dynamic learning environment within the class session, the professor must be skilled at answering questions on the spot. This is particularly challenging when students are still in the process of comprehending the material. Second, flipping the classroom is labor intensive for faculty as they prepare materials and record lectures, review student questions prior to class, and execute the class session. Third, student evaluations of faculty within the flipped classroom tend to be lower than student ratings of professors in traditional lecture classes. Berrett (2012) suggests this may be a result of the increased demands placed on students to participate at a higher level demanded by the flipped classroom approach.

However, in spite of these challenges, initial research findings provide a supportive view of the flipped classroom and make it worthy of additional investigation.

Student Involvement

Existing research findings suggest improved student learning and positive perceptions within the flipped classroom, so considering underlying aspects such as involvement may provide rich insight. In considering how involvement occurs within a flipped classroom environment, we focused on three components of student involvement: academic involvement, involvement with faculty and involvement with peers. These three aspects of involvement are positively associated with learning, academic performance and retention (Astin, 1993), making it relevant to explore involvement in a flipped classroom experience. Academic involvement focuses on the quantity of time and effort a student puts forth toward her or his academic work. Activities such as attending class, completing homework, studying and handing in assignments on time represent behaviors indicative of academic involvement (Astin, 1975, 1993). Student peer-to-peer involvement is found in class-related activities such as discussing class material and working with others on class projects and assignments. Overall, peer interaction was found to be positively related to growth in leadership abilities, academic skills and other aspects of college satisfaction, with the exception of satisfaction with facilities (Astin, 1993). Student-faculty involvement has been primarily defined as the time students spend talking with faculty outside of the classroom. Astin (1984) found frequent interaction to be more strongly associated with student satisfaction with his or her college experience than any other form of involvement, institutional elements, or student characteristics. Given the potency of these three aspects of involvement and the potential for the flipped classroom approach to enhance each of the involvement components, we have focused our study on exploring if and how these elements may operate within the flipped classroom.

Method

With the approach to teaching and learning presented in a flipped classroom, we set out to explore how academic involvement was realized by participating students. As an exploratory study, our primary mode of discovery was focus group interviews. According to Stewart, Shamdasani and Rook (2007), focus group interviews allow for open response format and the opportunity to obtain a rich amount of data in the words of participants. It was important for the data to be formed by participants because little is known regarding the link between academic involvement and students engaged in a flipped classroom. Alternative methods were considered (e.g., survey, in-depth individual interview, observation), yet focus group interviews were considered most appropriate for this study. The inability to observe students' out of class behavior restricted the use of ethnography while student journaling ran the risk of incomplete or delayed reporting. Individual interviews were also considered; however, group participation was considered important to generate more in-depth discussion. Prior to the focus group interview, participants were asked to complete a brief survey capturing demographic data and overall satisfaction with the flipped classroom aspects.

Population

Study participants consisted of registered students who had completed 15-weeks of a 16-week Spring 2013 undergraduate course. The study consisted of three flipped courses: two mathematics courses and one business management course, M148 Calculus with Precalculus I, M149 Calculus with Precalculus II, and MG335 Organizational Behavior.

Sample and Sample Size

In total, 60 (84%) of the 71 registered students participated in the focus group interviews. Of the participants, 28 (47%) were male, and 32 (53%) were female. Participants represented a number of majors: 31 (52%) were biology majors, 18 (30%) were business majors, 2 (3%) were high school students participating in a post-secondary enrollment option (PSEO), and the remaining 9 respondents were majoring in engineering, music industry, secondary math education, nuclear medicine, environmental biology and undecided. All class levels were represented: 33 (55%) were freshmen, 7 (12%) sophomores, 9 (15%) juniors and 9 (15%) seniors; the remaining two were high school students. Regarding nationality, 46 (77%) were US citizens, and 14 (23%) were foreign nationals including participants from Saudi Arabia (6), South Korea (3), Liberia (1), Mexico (1), Vietnam (1), Bosnia (1), and Russia (1).

Individual classes approached the flipped classroom in a similar manner. The two mathematics courses, M148 Calculus with Precalculus I and M149 Calculus with Precalculus II, together form a two-semester course which covers the content of a standard Calculus I course and includes various precalculus topics as needed. In M148 Calculus with Precalculus I (class size = 25 students; 12 female, 13 male) students were asked to view a lecture recording (ranging from 10 to 20 minutes) which introduced content to prepare the students for the upcoming in-class session.

Occasionally, a question was embedded in the lecture recording that students were asked to respond using Poll Everywhere 15 minutes prior to the in-class session. Students could choose to e-mail their answer if they were not able to use their cell phones to text their answer via Poll Everywhere. The in-class session consisted mainly of students working in small groups on homework problems assigned from the textbook. Occasionally, students worked on teacher-prepared activities which extended the content from one or several days to illustrate connections between topics. In-class sessions involved teacher-student interaction as the teacher facilitated discussions on various homework problems the students found difficult.

In M149 Calculus with Precalculus II (class size = 26 students: 14 female, 12 male) students were asked to view a lecture recording (ranging from 10 to 20 minutes) which introduced content to prepare the students for the upcoming in-class session. The students were asked to respond via email to two comprehension questions regarding the video content before 7:00 am the day of the in-class session. When covering precalculus topics, the in-class session consisted mainly of small groups working on homework problems assigned from the textbook. During the calculus portions, the students rarely worked on textbook problems in class. Instead, the in-class session involved teacher-prepared activities which extended the daily content and illustrated connections between topics.

The Business course, MG335 Organizational Behavior, focused on preparing students for the workplace through understanding individual, team and organization-level constructs (class size = 20 students; 8 female, 12 male). Students were to view a lecture recording (ranging from 20 to 25 minutes in length) introducing chapter material assigned for the upcoming in-class session. Students were asked to prepare written responses to two application questions having to do with the chapter material. The in-class session involved student questions on chapter material, peer sharing of responses to assigned application questions, and chapter-related casework, role play scenarios and activities.

Data Collection

We conducted six focus group interviews and a brief survey. Participating students were asked to discuss their experience with the flipped classroom in which they were currently engaged. Specifically, students were asked to discuss the flipped classroom approach in terms of their perception of its usefulness, impact on their learning and engagement with peers and faculty. A copy of the interview guide is provided in Table 1.

Within each course, students were systematic assigned (by way of numbering students off) to a focus group composed of 10 to 12 students. This random selection allowed for composition mix of gender and ethnicity. Participants were instructed through an informed consent form and verbally that their participation was optional and that they were free to not participate, to refuse to answer any questions, or to withdraw from the study at any time without penalty or loss of course credit/points. In addition, all data collected and its subsequent use would not make reference to individual students in any way that would divulge identity. A third party conducted the focus groups interviews and transcribed the recorded comments. Faculty access to the collected data was not made available until after semester grades were due. All group interviews lasted approximately 30 minutes.

Data Analysis

A simple descriptive approach was used to review the focus group data. Student responses to each focus group question were presented in a document, noting each class/focus group section. Then four researchers independently identified themes they found emerging from the participant responses to each question. As the researchers analyzed the data, they kept in mind the concepts of academic involvement, peer-to-peer interaction and student-faculty involvement. Due to the broad nature of academic involvement, several questions were asked to explore how students were academically involved in the class (see questions 1, 2, and 3 on Table 1). Student (peer-to-peer) and student-faculty involvement were addressed with direct questions (see questions 5 and 6 on Table 1). Upon completion of independent coding, initial inter-rater reliability was 85%, measured through percent agreement on developed theme categories and sub-components. After discussion involving the review of student responses and rater interpretation of responses, researchers reached 100% agreement on theme coding.

Results & Discussion

Overall, the qualitative data analysis suggests that the flipped classroom approach is seen by students as supporting student academic success. This exploratory study focused on three themes, including academic involvement, student (peer-to-peer) involvement and student-faculty involvement. Table 2 presents each theme along with the subcategories developed from the data analysis.

Academic Involvement

Overall, student comments revealed their connections of academic involvement to the flipped classroom and noted their primary behaviors or

Table 1
Interview Guide for Flipped Classroom Participants

Academic Involvement:
1. How has the flipped classroom approach impacted (helped or not) your learning?
Probe: What tools, skills, or ideas do you have now that you attribute to the nature of this course?
2. How has this flipped classroom format changed the way you approach the class?
Probe: How do you prepare for this class differently than other non-flipped classes?
3. How has the in-class time impacted (helped or not) your learning?
Probe: What did you find most helpful to your learning during the in-class time?
Probe: What did you find least helpful to your learning during the in-class time?
Student (Peer-to-Peer) Involvement:
4. How has the flipped classroom approach differed from other classes as to how you interact with your classmates?
Student-Faculty Involvement:
5. How has the flipped classroom approach differed from other classes as to how you interact with your instructor?

Table 2
Student Feedback on the Flipped Classroom Approach

	Positive Themes	Negative Themes
Academic Involvement	Viewing recorded lectures	Self-discipline
	Access	Responsibility
	Preparation	Time and effort
	Control of pace	
	Note taking	
	Easy	
	Organized	
	Thorough	
	In-class experience	
	Easier	
	Engaging	
	Application-oriented learning	
	Help	
	Collaboration	
Student (Peer-to-Peer) Involvement	Peer learning	
	Relationship building	
Student-Faculty Involvement	Professor awareness of student	
	Knowledge level	
	Approachable	
	Accessibility	

processes of viewing recorded lectures, note taking, in-class experience and collaboration.

Student **viewing of recorded lectures** was utilized through Tegrity, a lecture capture technology. Providing lecture recordings prior to class sessions gave students 24/7 access that allowed preparation for class, quizzes and exams, as well as the ability to control the pace of their learning. Students noted:

> When it comes to exams... I could go back to the Tegrity session and just watch the good 20 minute session and be completely refreshed on what I'm about to study for.

> I tend to zone out in class sometimes so it's just nice to have it at home and you're just paying attention to your course and doing something.

> For me, especially in my dorm, a bunch of my buddies are in this class too and so we listen to the recording all together and then if we had questions we'd ask each other and kind of work in a group outside of the classroom as well.

> You kind of learn at your own pace....you don't just stop the class so you can learn what is going on but if you are just watching Tegrity sessions

> then you can always stop it and go back and re-learn it.

There was broad agreement regarding the impact of the flipped approach upon student **note taking**. Ease of note taking, thoroughness of notes, and organization of notes were highlighted. Feedback included:

> Since you have to watch the Tegrity (recorded lectures) because it goes for part of your grade, my notes were really organized... It's easy to go back and review and know how to do the steps based on the Tegrity notes.
>
> Normally in math courses it's really hard to keep your notes sometimes because there is the difference between like writing down the definitions you need to know, the basic equations, and then how to use them. But, with the Tegrity videos, it's easier to keep things organized because you have the examples in different sections.
>
> On Tegrity you can pause it and take a note. In the classroom sometimes when she's lecturing, you miss some things....this time you can stop it and go at your own pace.

Student academic involvement outside the classroom in the form of viewing recorded lectures and note taking was an asset to the in-class experience. In turn, students said they felt more prepared for class, which made the **in-class experience** seem easier:

> I think you are always coming in with questions. It's not like you're coming in like "Oh my gosh, what am I going to learn?" It's like you already know, and you're already okay and get the general concept, how are we going to expand on that kind of thing, and you all have that same background.
>
> I feel like it's just easier because of the plain concept being introduced to you in the video. I feel like it's just easier to understand what is being taught in class, instead of it all being done in class, and you come with background knowledge and stuff.

Further students commented that their level of engagement **in class** was heightened through their preparedness and the in-class activity-focused experience:

> Here you actually have to do something to fully participate. I feel like I'm not fully prepared to participate in class compared to another course where you can still participate fully without prepping, I guess. It kind of makes you prep if you are going to participate.
>
> I guess it gets students to think about the material before they just come to class. Because if it's a lecture class, I go and then I put my notes in my folder, and I don't look at them again until the next class and lecture and that same thing. This makes you continue to think about the material between classes and get ready for class.
>
> I think this learning in-class just engages you more; I don't sit there and space out. Being interactive and doing activities kind of makes you more active during the class time.
>
> It's definitely a wake-up call. Before we have a lecture and we don't do anything and then you get in there and its activities so you are walking around and getting more involved.

An engaging **in-class experience** was connected to the application orientation of the class sessions:

> I think it's helped because you get more examples in class and then it helps you. You are working on your homework in class then when you study for the test, you know that your examples are right. This way, you know that they are right, and you know you're doing it right.
>
> I feel like the activities help a lot more. ...we are doing activities every class period, so it does help reinforce the concepts that were learned in the chapter.
>
> I think what we've all touched on is it (in class activities) helps us embed examples in our brain and make it more relatable to everyday life or a situation that might arise in our working environment.
>
> You remember that activity so then on a test when that word pops up....you have to think about what the activity meant still, but it's kind of a trigger.
>
> I liked applying what we took from Tegrity actually into the classroom. I found that a little more useful than a normal classroom where you just sit there and the teacher lectures for an hour and five minutes or whatever it is. I mean, applying it, I felt a little more confident when the test came around because I was able to look at a question and say "Okay, well we did this example in class and it

> can relate to this question in that way," and then kind of just go off there.

Students also noted their appreciation for being able to receive help and feedback **in class**.

> We're constantly working with other people and getting feedback from peers and what problems they are having and then base it off of what problems you're having and know that it's not only you so it helps keep your resolve up. The guy I'm with, we're always confirming hand-set answers and if we get a different answer, then we go back over the method.

> Sometimes, the teacher or professor isn't always able to explain it the way you are thinking about it, and your partner may be able to explain it a different way.

> I think it's easier to ask questions when they arise because you have the opportunity to ask the people around you, you can ask the professor. At the beginning of class, that is how she always starts, is questions we had from the video the previous day or from homework problems from the last class period and there is a lot of opportunity to raise questions that you may have that could help with learning.

> Just being able to do problems while the professor is around you so you can ask questions right away instead of having to do the problem wrong because you don't know, you're just kind of guessing and going along with what you think is right, even if it's not right; the professor is there to answer your question right away.

> Yeah, one of the most discouraging things about doing math homework is that when you get stumped, you kind of want to be like, "I don't want to do this anymore," but when you're doing it in class with a teacher, you can ask her right there or you can ask classmates that you are with.

Many students made mention of the opportunity to interact and **collaborate** with their peers during the class session. Students noted the following:

> Yeah, it's also nice working with other people and if the majority of the class seems to come in with the same question, it's often like an alert to the teacher that the concept needs to be better explained.

> There's just a lot of situations where, outside of class, you kind of talk to people mostly on a project but in this you are put in different groups and whatever and given more of a chance to get to know people one-on-one more.

> If we didn't have so much activity, I wouldn't be able to know her (the instructor) so well. Otherwise, I would just be staring at the board and taking notes.

> There is more bonding. For example, we did a sugar cube game where we had to stack these sugar cubes. You don't get that when you have a bunch of lecture classes. I mean, we actually enjoyed it because you were trying to compete with other people and you're not thinking about it, but you are actually learning about some of the terms.

> It was nice when we got some of the time to work in groups, and then we could ask each other questions, and it would help us actually understand it.

This focus group data indicates that the flipped approach fosters academic involvement. Students identified having 24/7 access to lectures, being prepared for in-class sessions, and having control of the pace with which they learn as being positive characteristics of the flipped classroom pedagogy. Similarly, students mentioned note taking was easier, and their notes were more organized and thorough. These elements of student involvement speak to student time and energy being spent on the academic aspect of the class. In addition, students found the in-class experience to be of significant value, citing the class experience as more engaging and the learning more accessible. Further, the classroom activity-oriented learning, the ability to receive help from peers and faculty, and the opportunity to collaborate with others made the in-class experience enjoyable and increased their involvement. These indicators of academic involvement both before and during the flipped class sessions speak to the essence of involvement theory whereby students' physical and psychological energy is directed toward his or her academic work (Astin, 1993). Studies by Deslauriers, Schelew, and Wieman (2011) and Hake (1998) support the value of active-learning classroom environments resulting in enhanced student involvement. Specifically, Deslauriers et al. (2011) compared two large sections of undergraduate introductory-level physics classes and found that active learning in class increased attendance, led to higher engagement, and improved learning as evidenced through exam scores versus traditional lecture. In a study of over 6,000 undergraduate introductory-level physics students, Hake (1998) found that students who participated in an interactive-engagement class showed higher post-test learning and enhanced problem-solving abilities than students in traditional lecture classes.

However, student perspectives on academic involvement were not all positive. Some students

struggled with the self-discipline and responsibility required of students in a flipped classroom. Specifically, students recognized they needed to exercise self-discipline in order to view taped lectures prior to the class session. This tied into comments regarding student responsibility to put in the time and effort required to fully engage in the flipped classroom approach. Student comments included:

> I probably was more lackadaisical with this class and always put it off, as in, I'll get to it later. When I had the time, I did it. If that time never came around, or if there is something else I would rather do, I would put this class as a lesser priority compared to my other classes.
>
> I guess if you have to be a certain place and time, you are going to sit there and pay attention, more where if I'm watching the computer screen in my bedroom or back at my dorm, I'm going to be way more distracted.
>
> I feel it's a little time consuming because the way I study, I watch the Tegrity so it's like double the amount. For international business, I just have to watch a limited amount of Tegrity but for her class, there is twice as much. It takes a long time for me to finish all of the Tegrity. I had to pull a couple of all-nighters for this class.
>
> I think it also makes you more responsible because doing the homework it's completely your option; like she said, you don't need to turn it in so it's your choice as to whether you actually want to do the practice problems or whatnot to help you when it comes to tests and quizzes.

This focus group data reveals some challenges faced by students when they engaged in a flipped class. Self-discipline was at the center of student concerns. Students found the flipped classroom approach to be demanding in terms of requiring them to spend time and effort to prepare for class sessions by viewing lectures and completing assignments. Further investigation into the mindset of the students and expectations of their time and effort for a course may provide insight into how a faculty member, academic department or institution could utilize the flipped classroom approach to generate student interest as well as to set in-coming student expectations.

Student (Peer-to-Peer) Involvement

In regard to student involvement, peer-to-peer involvement within the classroom environment encompasses the discussion of course materials and working with others on class projects. Such peer learning, along with relationship building, were the two subcategories of peer-to-peer involvement shared by students. Comments on **peer learning** included:

> (Through peer interaction) you can kind of see other people's views on how they learn it in their own mind, so it's not just your ideas and your teacher's ideas. It's like multiple people "Okay, this is how I go about it." It's like reinforcement from other people.
>
> In my group at least, everyone always participates in any way. Some people may not know some part, but another person will and be able to pick it up from there. In other classrooms I don't pay attention to my peers as much and pay more attention to the teacher, where in this one it's more paying attention to the bright minds around us that makes a difference with my peers.
>
> I watch the Tegrity with one other person in our class. It actually is (beneficial) because we'll stop it, and I'll ask her questions, and then she can explain it to me. If people did it together, I actually think that would be really beneficial.
>
> We were able to do the problems in a group. It helps a lot more, it helps us with understanding the material more, and then if we need help or if none of us get it, we can also just ask her (instructor).

As for **relationship building**, students shared the following:

> In lectures, we're not really allowed to talk to the people next to us, but in the flipped classroom, we can ask them questions and stuff. It's helpful.
>
> I think my math class is one of the only classes where I actually know a majority of the names of the people in my class and at least know who is in my class. A lot of the time in lectures, I will just go in, listen, and leave again.
>
> You are just kind of thrown into the situation and forced to meet new people to get your work done, just like a lab. That's what I pictured it as.
>
> … [W]hen we are going to get out in the work force, we're most likely going to be working with people around our age, so it's kind of preparatory for what you're about to learn once we are done with school. Being able to interact with each other in groups and

> get each other to talk because if we all want to be managers one day, that's what we are going to try to have to learn is how to get people to talk and to get them going and get them involved and it relates to the class as well.
>
> It's extremely different from other classes because I've taken other courses and not known my fellow classmates names by the end of the course and this course, I know everyone's name, and I guess I've built somewhat of a relationship with everyone. It's nice to have those connections.
>
> I definitely feel more comfortable in class because I have a class I take and I know maybe three people and so I don't talk, but in this one I got to know everyone, so now we all say hi and I talk more.
>
> You definitely develop more rapport. I've had classes where I know one or two people so you don't really want to talk up because you think all these people that don't know me might judge me. Here, you don't know them that well, but you know them enough that you almost want them to agree with you, so then maybe you do talk.

Similar to the student feedback on academic involvement, student (peer-to-peer) involvement within a flipped class received strong positive comments from students. Interviews indicated a great appreciation for the in-class environment that allowed peer relationships to be built and for peer knowledge to be shared. Studies have found significant benefits to peer learning, including developing planning and organizing skills, improving conceptual reasoning and heightening quantitative problem solving (e.g., Boud, Cohen, & Sampson, 2001; Crouch & Mazur, 2001; Hwang & Hu, 2012; Menzies & Nelson, 2012).

Student-Faculty Involvement

Although time spent interacting with a faculty member outside of the classroom has served as a primary measure of student-faculty involvement, students in focus group interviews were questioned on how the flipped classroom fosters student-faculty interaction. Student responses indicated a sense that the professor had a better indication of a student's knowledge level. In addition, students reported viewing the faculty member as more approachable and more accessible for help. Student responses regarding the **faculty's insight into their knowledge level** included:

> It seems like our professor in our flipped class gets to know us better personally because she goes around, and she actually helps us. But in lecture, they are just talking at us and we take notes, so they don't really get to know us as students and how we work.
>
> I think other courses, they kind of know where you are at when it comes to test time or some do quizzes, and that's how they keep up with you. Here it's more like she can just kind of tell if you're engaged in discussion or not.
>
> I feel like when I come to class and I don't talk, she (instructor) knows I'm falling behind on the material...she can just kind of tell based on how the class is.
>
> I think she has a better chance at looking at our level like with our other problems we have and where should she focus on and re-explain things so she had an idea so when she writes out the test it will be reasonable for our skills.
>
> I would say more just because we are physically interacting with her compared to hiding our face in our notebook and taking notes and seeming like we understand and just nodding because you can't really just nod in her class because she be like, "Okay but why?" You need to have a reason as to why you do understand or why you don't understand.

Students viewed faculty as more **approachable** in the flipped classroom environment. Comments included:

> I feel more like a friendly level to her than my other professors; it seems like my lab professors, with more interaction based classrooms, I feel like I'm on a more friendly level basis. Then I don't feel so much less superior, it's easier to talk to them as a person and not just as your professor. And that way it's easier to approach them in class or outside of class too.
>
> I think, especially for this class, it's made me more comfortable going up to her office and asking a questions or if I didn't understand something in class or my question wasn't really answered in class or I didn't understand something if I watched the Tegrity assignment and I wanted to figure out before class, it made me a little more comfortable going up to her office and saying "Hey, I have a question about this, can you explain it a little bit more?"
>
> I know in one of my other courses, it's not the flipped, during the lecture, he'll ask us questions and nobody answers but in here, with it flipped and

> we're doing group work and we actually need help, we'll actually say something, not just sit there and smile or not do anything. So she is more approachable that way.

Students also highlighted **accessibility** as they considered their involvement with the flipped classroom faculty. They mentioned:

> I think the instructor has more time to help you since she's not focusing and giving a lecture to the whole class, she is walking around and you can ask questions and she will actually sit down and help you. Whereas, the traditional classroom, you don't have time for that.

> I think it is much easier to call for her individual attention in this flipped classroom because otherwise she would be up doing lecture, I suppose. I don't think she would have the time or opportunity to speak with people individually the way she is able to in this classroom.

The flipped classroom approach was also connected with positive aspects of student-faculty involvement. Interview feedback indicated student agreement that the flipped approach allowed the faculty to get to know the student and her or his knowledge level better than in a traditional lecture course. Several reasons for this enhanced connection between student and faculty centered on the in-class structure, which allowed for more one-on-one time with faculty and their availability to answer questions. In addition, students felt more comfortable in contacting the faculty member outside of class time largely due to the connections made within class time. Both student involvement and student-faculty involvement are recognized as two of the Seven Principles for Good Practice in Undergraduate Education (Chickering & Gamson, 1989). Further, cooperation among students, active learning and time on task represent three additional Good Practices that were present in our findings related to academic involvement.

Overall Satisfaction

In addition to the qualitative data, quantitative data was collected to gain a sense of overall satisfaction with components of the flipped classroom experience. Of the 60 students surveyed (those who participated in the focus group interviews), 51 (85%) agreed (30% somewhat agreed, 30% agreed, 25% strongly agreed) that the flipped classroom approach helped their learning. Further, 36 students (60%) said given the choice between a traditional classroom or a flipped classroom, they would choose the flipped classroom setting.

Conclusion

Approaches to teaching and learning such as the flipped classroom offer opportunities for addressing student academic success. Research studies indicate that student time and energy focused on educational learning activities predict learning and personal development, so investigating ways to foster student involvement is of significant value (Kuh et al., 2010). Moreover, as colleges and universities continue to work on improving student academic success levels, raising student involvement levels can serve as an important tool in this work (Astin, 1975, 1993; Tinto, 1975, 1993).

Previous research on the flipped classroom approach has been limited to only a few studies (Crouch & Mazur, 2001; Deslauriers, Schelew, & Wieman, 2011; Dove, 2013; Hake, 1998; McLaughlin et al., 2014; Stone, 2012; Toto & Nguyen, 2009). The findings of these studies offer support for the flipped classroom approach as a means to improve student learning and participation. Yet these studies are limited in number and focus on student outcomes and perceptions. Adding to this body of research, our study offers the unique contribution of exploring how students become involved across three dimensions: academic, peer-to-peer and student to faculty. By considering potential underlying factors in student learning and perceptions, a deeper understanding of the mechanisms driving performance outcomes may be gained. In turn these insights may assist in addressing specific techniques and enhancing the effectiveness of the flipped classroom approach.

Implications

For colleges and universities struggling with retention and graduation rates, understanding the value of teaching and learning approaches such as a flipped classroom may offer opportunities to positively address such challenges. The findings suggest that the flipped classroom approach offers a means to address student involvement and, in turn, student learning. Several interesting possibilities arise from this finding.

First, colleges and universities may be well served by educating and encouraging faculty regarding the value of raising student involvement through various techniques, such as the flipped classroom approach. The work by Astin (Astin, 1975, 1993, 1999) on student involvement speaks to the link between the time and effort students put toward their academic activities and student learning.

Our findings suggest the flipped classroom approach encourages student academic involvement (dedication of time and effort) through class preparation (note taking, viewing recorded lectures online) and in-class active learning.

Second, the findings suggest that students are concerned about the increased self-discipline required for participating in a flipped classroom. To address this concern, colleges and universities may consider ways to promote flipped courses to students. Specifically, promoting the value of active learning in the classroom that ties to application experience and preparation for the workplace would appeal to the job-minded student of today. Further, promotion of the flexibility afforded students with recorded lectures and the frequent assessment that often accompanies flipped class sessions would also appeal to today's students. Getting students interested in the flipped classroom approach would allow for easier integration of flipped courses and more immediate student involvement returns by institutions. Such promotion may offset the negative student perception of flipped courses requiring more of their time and effort.

Third, in a recent article on teaching Generation Y college students, Eisner (2011) notes the unique characteristics of persons born between the early 1980s and 2000, known as Gen Y or the Millennial generation. This technology savvy, independent minded, and risk averse population enjoys team work and being connected via "fun" versus details. Training through video simulations and coaching versus lecture methods have been found effective. As faculty struggle with the seemingly restless and disinterested Gen Y college student, the interactive orientation to learning present in the flipped classroom approach offers a way to connect on a more meaningful platform with the current college student. Encouraging a more motivated and engaged student body may also have returns for faculty, who may find the interaction with such a student group more inspiring and intellectually stimulating.

Limitations and Future Research

Two primary limitations existed within our study. First, this study was exploratory in nature, focusing on how academic, peer-to-peer and student-faculty involvement may be present in a flipped classroom. Based on student perceptions, the findings suggest all three aspects of student involvement to be present. These preliminary findings offer many opportunities for further research, including the addition of more extensive interviews as well as survey questions regarding time spent and effort level. Tracking class performance behaviors and learning outcomes through observation and comparison studies between flipped and non-flipped courses would allow for a fuller view of student involvement. In addition, a large body of research examining motivational aspects of self-regulation, self-directed behavior and attribution theory may also be integrated to determine the negative theme of self-discipline and taking responsibility for one's learning (e.g., Deci, Koestner, & Ryan, 1999; Deci & Ryan, 2012; Dweck & Leggett, 1988). Further, this line of inquiry could give insight into underlying student motivations and ways in which the flipped classroom approach could be augmented to tap into student motivation and heighten student learning.

Second, the generalizability of our findings is limited. Although generalizability is often seen as disconnected from qualitative research (Denzin, 1983; Guba & Lincoln, 1981), understanding the relevance and applicability of study findings is of value (Miles & Huberman, 1994). The reasons for our lack of generalizability include the data collection process, which was limited to three undergraduate courses at the same institution. Moreover, although participating students were in different flipped classrooms, the class sizes were relatively small and involved only one semester of students. Ideally, the integration of data from multiple comparison groups would serve to identify specific conditions that support the findings as well as serve to broaden themes and sub-categories (Glaser & Strauss, 1967). Direction from this exploratory study offers guidance to develop survey items to be used in further data collection. Extending the findings from this exploratory study to develop a survey tool would allow for external validity concerns to be addressed.

In summary, today's challenging higher education environment asks colleges and universities to prove the value of their education; as a result, high impact initiatives in teaching and learning have become imperative. Kuh, Kinzie, Schuh, Whitt and Associates (2010) highlight academic practices that have shown potency with raising student academic success. These initiatives include active and collaborative learning, student-faculty interaction, enriching educational experiences and challenging academic programs. The flipped classroom is an approach that embraces these well studied academic components. With little research conducted on the flipped classroom approach, there seems to be significant value in examining this approach further.

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Effectiveness of Guided Peer Review of Student Essays in a Large Undergraduate Biology Course

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Instructors and researchers often consider peer review an integral part of the writing process, providing myriad benefits for both writers and reviewers. Few empirical studies, however, directly address the relationship between specific methodological changes and peer review effectiveness, especially outside the composition classroom. To supplement these studies, this paper compares types of student commentary received between a control and guided rubric in an introductory biology course in order to determine if guided questions augment the amount of "feedforward" responses, questions and suggestions that consider the next draft and are reported to be more beneficial than feedback. Results indicate that guided rubrics significantly increase "feedfoward" observations and reduce less useful categories of feedback, such as problem detection and meanness. Differences between rubrics, however, had limited influence on student attitudes post-peer review. Consequently, potential strategies for further improving student ratings and keeping mean commentary at a minimum are discussed.

Peer review, a widespread procedure in both educational and professional environments, is often lauded as beneficial by both researchers and instructors. Reflecting on the numerous times and contexts in which peer review is performed both formally and informally, Topping (2009) asserts that involvement in the peer review processes allows students to "develop transferable skills for life" (p. 21). Such skills include fostering a sense of student ownership and responsibility for the paper and assessment process, handling mistakes as opportunities to learn rather than failures, and allowing students to practice evaluative skills that can be applied in their careers (Vickerman, 2009). Furthermore, studies also demonstrate that peer review helps the reviewer as well as the student being reviewed. Reviewers may increase the time they spend on task, obtain a greater understanding of the assignment and their own errors, and reflect more on future assignments (Cho & MacArthur, 2011; Topping, 2009). Studies that ask students to evaluate the peer review process also indicate that such work can increase student thoughtfulness and knowledge about what is required in the assignment (Pain & Mowl, 1996).

More research is required, however, to support this optimistic viewpoint, especially because empirical evidence indicates that peer review is not always an effective process, in part due to student perceptions. Nelson and Carson (1998) found that peer review did not successfully support the instructors' goal of developing student papers, attributing the majority of the failure to students viewing the process as an exercise in identifying mistakes and correcting sentence-level error. Though they worked specifically in an ESL classroom, other research corroborates that a focus on evaluation and correction may be the default mode for all students (Crossman & Kite, 2012). In addition, students' attitudes about peer review can also be mixed or negative (Van Zundert, Sluijsmans, & Van, 2010). In a study by Levine, Kelly, Karakoc, and Haidet (2007), students provided negative comments about the peer assessment process instead of explanations for why they gave their peers the marks they did. Pain and Mowl (1996) assessed the effectiveness of peer review in a first-year geography course and found that, even after training, approximately half of the students did not perceive the benefits of peer (or self) assessment.

Taken together, these conflicting results suggest that further studies are necessary for a more comprehensive understanding of peer review methodology and its effect on student opinions, which influence implementation and future peer review interactions. The particular form of peer review, of course, varies based on course type, assignment and objectives. Some studies define peer review, also known as peer assessment, as an evaluation of a final product by peers (Gennip, Segers, & Tillema, 2010). Others refer to peer review as a scaffolded process where formative feedback is available prior to the development of the final product (Odom, Glenn, Sanner, & Cannella, 2009). Given that other work has examined assessment in the non-composition classroom (Harris, 2011; Walvoord, Hoefnagels, Gaffin, Chumchal, & Long, 2008), this study focuses on ratings and commentary on two different rubrics for rough drafts of student essays in an introductory biology course. Such an analysis is critical due to an increase in writing across the curriculum (WAC) initiatives (Beason, 1993) and other writing intensive (WI) departmental requirements, which encourage peer review activities due to pragmatic concerns, such as large class sizes (Covill, 2012; Kelly, 1995). Consequently, peer review may be used frequently across disciplines, perhaps

before experimental studies can assess what factors constitute effective peer review in context. Therefore, in order to benefit WAC and WI programming and their goals, this study contributes to preliminary research analyzing peer review in the science classroom.

By examining student commentary, this study complements work by Cho and MacArthur (2011), whose research categorized peer feedback in an introductory physics lab, Artemeva and Logie (2003) and Dominguez, Cruz, Maia, Pedrosa, and Grams (2012), whose experiments examined categories of peer review commentary for engineering students, and Beason (1993), whose study quantified peer responses in a variety of writing-enriched courses, including dental hygiene. Comparing this study's results to experiments performed outside the humanities will allow for a better understanding of how peer review functions in the context of writing across the curriculum. In analyzing such commentary, this study also considers an understudied category of student response described as inflammatory language (Nelson & Schunn, 2009) or failure/meanness (Rysdam & Johnson-Shull, 2011). This category includes comments that are so harsh that they are no longer constructive (Nelson & Schunn, 2009) or responses that announce failure or emphasize the negative (Rysdam & Johnson-Shull, 2011). Such an examination will facilitate a deeper knowledge about the variables that influence unnecessarily harsh commentary, including anonymity and the use of support materials, such as rubrics.

Rubrics and Guided Peer Review

Rubrics, the framework that guides this research, are defined as guidelines that provide information about what features of student performance matter most. Written by instructors, they often provide criteria and rating scales for final evaluation (Petkov & Petkov, 2006). Covill (2012) indicates that, though rubrics used by instructors and administrators have been extensively considered, few empirical studies have examined an instructional rubric aimed for scaffolded student use and how it influences their "beliefs, practices, and performance" (p. 1). For example, while rubrics are often provided in the appendices of research on peer review, information about their construction and the type of written commentary they procure is often absent. Nelson and Schunn (2009) acknowledge that different instructional prompts result in different forms of commentary, but they go no further in their analysis of rubric construction and its effects. In "Eliciting formative assessment in peer review," Goldin and Ashley (2012) assert, "Rubrics may be used within peer review to support assessment, but few studies examine rubrics *per se*…[though] the choice of rubric influences the experience of both reviewers and authors" (p. 211). Ideally, well-constructed rubrics augment students' self-efficacy, motivation and performance (Covill, 2012).

In response to Goldin and Ashley (2012), this study assists in granting rubrics the critical attention they deserve by examining the effects of a definitive addition, the inclusion of guided questions (see Appendix A), on the types of student commentary present on a problem-specific rubric. This assessment is critical considering the dearth of experiments directly linking outcomes and methodologies in peer review (Van Zundert et al., 2010). Specifically, I hypothesize that guided questions will increase student commentary in the "feedfoward" category, one that has been previously considered in the context of the writing center (e.g., Murtagh and Baker, 2009). In contrast to observations about what occurred in the writer's work (i.e. feedback), feedforward comments include questions and suggestions that focus on what the writer could do in the future. Feedforward is posited as more effective because it results in less defensiveness and an emphasis on revision instead of failure (Goldsmith, 2003). Pragmatically, focusing on specific changes in rubric methodology is also a way for instructors to improve student responses and the success of peer review without spending significantly more time on the process. Previous work suggests that, at least in the short term, peer review may actually require more resources in terms of training, organization and monitoring (Rubin, 2006). Thus, this study aims to examine how even slight changes could advance the process without requiring a significant increase in instructor effort.

Methods

Background

Participants in this study were enrolled in an introductory biology course for non-major students at a large, public, land-grant institution that is one of two research-oriented universities in the state. The approximately 550 participating students were evenly divided between males (48%) and females (52%), and the majority of them were freshman and sophomores who spoke English as their first language. During the semester, students were assigned a writing prompt requiring them to evaluate news articles on a controversial scientific topic. The aim was to provide students with a greater understanding of how science is portrayed in popular media, and assessment was largely focused on the student's ability to effectively complete four tasks: summarize the news articles, identify the articles' key assumptions, assess the articles' validity, and present their own opinion on the topic. Peer review was implemented in lab sections (groups of ~35) run by

teaching assistants (TAs) who were charged with introducing the assignment and helping students revise their rough drafts. Thus, though written instructions and rubrics were standardized, verbal directions and time spent discussing the assignment may have varied between lab sections, and no set tutorials on writing quality or peer review were provided. All peer reviews were done during lab in the same week, and each lab section was randomly assigned the control or guided rubric. The rubrics were identical except for the exclusion (control rubric) or inclusion (guided rubric) of guiding questions (Appendix A). Peer review was worth 5% of the final grade for the assignment. The week following peer review, rough drafts and rubrics with written comments were returned to students, and they were given a questionnaire aimed at examining their attitudes concerning the process. Time dedicated specifically to verbal peer review discussions in lab was not provided.

Rubric Design and Implementation

The rubrics were developed with a consideration of relevant research as well as previous experience with instructional rubrics in the course. I developed a problem-specific rubric, which focuses on content related to the assignment, because research indicates it is more effective than a domain-relevant rubric, which focuses on general comments within domains (e.g. issue, argument), in terms of validity and lower inter-dimension correlation (Goldin & Ashley, 2012). In addition, a problem-specific rubric is particularly useful in a WAC/WI course, where writing assignments are less frequent, because rubrics do not need to be continuously modified to fit the larger context of other projects. Because lengthy and highly-detailed rubrics may be impractical or not positively affect results, the control and guided rubrics both emphasized the four main parts of the assignment (Colvill, 2102; Popham, 1997). Directly relating the rubrics to the assignment prompt aimed to facilitate cognitive gains, such as a reexamination of the assessment criteria and reflection (Colvill, 2012). Portions of the rubrics were also included or modified based on results from a version of the control rubric that was previously used during peer review of a similar assignment. Control and guided rubrics were revised and approved by the TAs and the professor prior to implementation.

Both rubrics asked students to evaluate the author's response to the four main parts of the assignment on a 3-point scale (1 = weak or missing, 2 = good, and 3 = strong). However, the more general follow-up statement on the control rubric ("Explain") was replaced with specific, guiding questions on the guided rubric ("What questions do you have for the author? What steps might the author take to improve…"; see Appendix A). Every student randomly received another student's work to review within the lab group, and both authors and reviewers were identified on the rubric. Following peer review, rubrics were collected with permission from a total of 366 students, with 198 students assigned to the control rubric and 168 students assigned to the guided rubric.

Questionnaire Design and Implementation

After students received their peer review feedback, they were given a questionnaire aimed at examining their attitude about the peer review process. The questionnaire rated students' familiarity with peer review at the university on a 5-point Likert-type scale, and, on a 10 point Likert-type scale, both their attitudes toward peer review in general and peer review in the course. Students were subsequently asked to explain why they provided their rating of the peer review in the course, what reviewer comments were most and least helpful for improving their final draft, and if assessing another student's paper helped them improve their own. Student responses were paired with their corresponding peer reviews whenever possible, so that peer responses and their relationship to perceived utility could be directly assessed. Because some students did not allow their rubrics or responses to be used in the study, this pairing was only possible for 70% of the peer review rubrics (148 control rubrics and 121 guided rubrics).

Coding

Student comments from both rubrics were sorted into one of eight functional categories: problem detection, explanation, praise, guidance, questions, summation, doubt, or reader response. Categories were constructed based on existing research (see, for example, Beason, 1993; Nelson & Shunn, 2003; Rysdam & Johnson-Shull, 2011; Zhu, 2001) and preliminary observations of the types of comments received. Names and definitions of these categories are provided in Table 1, as well as aforementioned WAC/WI studies' corresponding categories for assessing peer review commentary. Comments representing "inflammatory language" or "failure/meanness" were noted and also coded as one of the other 8 categories (predominantly problem detection). Students' explanations of their ratings for the course's peer review were separated into units addressing a single topic, otherwise referred to as idea units (Nelson & Schunn, 2009), and sorted into one of ten categories: useful, lack of time/effort, peer inadequate, depends on peer, vague/confusing, instructor better, already knew, bad rubric, harsh grader, and personal inadequacy (see Table 2 for examples). Thus, a response that indicated that peer review was useful, but that instructor commentary

Table 1
Categories of Commentary, Definitions, and Examples

Categories of Commentary				Definition	Examples
Goldsmith 2003	Dominguez et al. 2012	Cho & MacArthur 2011	Current study	Current Study	Current Study
Feedback	Problems	Problem detection	Problem detection	Points out flaw	"Writing is not clear." "Could flow better."
Feedback	Problems	Problem detection	Explanation	Elaborates on flaw through localization or examples	"You touch on the findings but don't get into arguments, numbers, mistakes or ethics behind the studies." "Thesis statement is not in the first paragraph."
Feedback	Praise	Praise	Praise	Describes strength	"You explain the evidence well."
Feedforward	Solutions	Solution Suggestion	Guidance	Suggestion(s) for improvement	"Develop your point on skepticism if you have [one]." "Maybe use cases as examples in your paper to give evidence of the misuse of BPA and other chemicals."
Feedforward	NA	NA	Question	Asks question	"What is your opinion?"
Feedback	Summarization	NA	Summation	Describes essay without evaluation	"The key assumption in the article is that false la[b] reports are not an accident." "Both sides were indeed brought up in the conclusion."
Feedforward	NA	NA	Reader response	Describes reviewer's opinion	"…this makes me wonder if what we put in our body should really be solely up to us as consumers."
NA	NA	NA	Doubt	Unsure of advice	"Not sure if [you] need more."

would be preferred would be coded as "useful" and "instructor better." Responses were categorized as useful even with qualifiers (e.g. good, but could have been better). Students who stated that peer review helped them with their own work were also reported (Table 2).

Statistical Analysis

To control for the effect of TAs, who might have influenced confounding aspects of the peer review process (e.g., amount of explanation, timing of peer review activity in relation to other lab tasks, etc.), an analysis of covariance (ANCOVA) was used to analyze differences between the control and guided rubric in the type of commentary procured. Correlations between the effectiveness ratings for the course and the number of responses in each category (e.g. problem detection, guidance etc.) were evaluated using Spearman's rank correlation coefficients.

Results and Discussion

Commentary and WAC/WI Courses

Students in the course provided a total of 3,021 comments across 366 rubrics, resulting in an average of approximately 8 comments per rubric. Two students provided 21 comments, the highest number of comments left on a single peer review rubric, and nine students left less than 4 comments, meaning that they did not provide responses for all the scores they gave. Summation was the most common category of review response across treatments, followed by problem detection, guidance and praise. On average, students contributed one positive comment per peer review and only explained one problem that they pointed out through localization or example. Doubt and reader response were rarely noted (Table 3). Overall approximately 48% of students found peer review useful as an author, while approximately 63% of students found it useful as a reviewer. Though the questionnaire did not directly assess why reviewing was useful, several students provided reasons for why being a reviewer was effective in their comments about peer review in general. For example, one student commented, "It helped me with my own paper, [because] the [paper] I peer reviewed was very well written," and another student stated, "I think it's effective to see other people's papers and learn from their accomplishments and mistakes." A third student recognized the importance of reexamining the assignment guidelines: "It's [effective] because it made everybody go back to the grading rubric and confirm if the paper met the grading rubric's expectations." Even a student who was dissatisfied with her reviewer admitted, "The [rubric] helped a little." Thus, as shown in Table 2, students may perceive the benefits of reviewing even if they are frustrated with the comments they receive.

When the results of this study were limited to the four categories of commentary examined by Cho and MacArthur (2011), one of the few studies to assess peer review responses in a science classroom, the number of comments per rubric as well as percentages of problem detection, explanation, praise and guidance were strikingly similar (Table 4). In addition, their study also demonstrated the importance of cognitive gains for the reviewer, showing that reviewers who identified problems and offered solutions significantly improved their own writing quality post-review; their students often commented that peer review helped them consider audience and what they should and should not do in their own work. Along with course context, Cho and MacArthur's (2011) participants and methods aligned with this study in several other respects. Their 61 participants, enrolled in an entry-level physics course, were also predominately 1st or 2nd year students at a Research 1 university, and they were evenly divided between males and females. Their evaluative rubric consisted of instructional guidelines which also contained four main questions as well as several supplemental tasks and examples. This comparison preliminarily suggests that WAC/WI courses with comparable goals, tools and student demographics may procure similar categories of peer response across assignments, and that strategies for improvement may be effective across such classrooms. However, other research indicates that further experimentation is necessary to better understand what components are most important for generalizability. For example, some results of this study were consistent with Dominguez et al. (2012), who examined peer reviewer commentary from 39 participants in a mid-level engineering course, while others were markedly different (Table 4).

Additional research can define what factors have the greatest influence on differences between categories of commentary and if some responses remain consistent across classrooms outside the humanities. In order to do so, clarifying the peer review process and the supporting materials used is critical. For example, few results are consistent between this study and the writing-enriched courses analyzed by Beason (1993); however, no information about the type of peer review or rubrics given to students is provided, making it difficult to fully assess cause and effect. Topping (2010) offers an extensive list of procedural questions to address including, "Does the interaction involve guiding prompts, sentence openers, cue cards or other scaffolding devices? What extrinsic or intrinsic rewards are made available for participants?" (p. 343). These questions are especially important in order to realistically compare the few studies examining peer review in the context of WAC/WI courses.

Rubrics and Commentary

This study hypothesized that a rubric with guided questions would influence the categories of student commentary received, and changing the rubric's form did significantly affect the amount of comments in 4 of the 8 categories. Overall, the guided rubric had more questions and guidance and less problem detection and summation than the control rubric (Table 3). In addition, comments on the guided rubric were more equally spread across categories. Though guidance, summation and problem detection were the most common, praise and questions also had approximately one comment per rubric on average. Explanation, reader response and doubt were infrequent. On the control rubric, summation, problem

Table 2
The Percent of Student Responses in each of the Response Categories

Category	Examples	Student responses control rubric (%)	Student responses guided rubric (%)
Useful (reviewer)	Circled 'yes' (response sheet)	65.9	60.1
Useful (author)	"The peer review I received gave me insight as to how others perceived my paper"	48.2	46.7
Lack of time/effort	"My peer reviewer (I felt) did not give me a very detailed review" "…People rushed through their peer reviews"	20.8	23.7
Peer Inadequate	"The person who peer reviewed my paper did not seem to understand the assignment"	15.7	19.1
Depends on peer	"If the reviewer is basing their reviews off of false knowledge, then the review hurts you rather than helps you"	9.1	13.2
Vague/confusing	"Didn't really give me specific things I could change" "the person that reviewed it was not clear or made no sense"	9.6	9.9
Instructor better	"I would much rather have a teacher review it"	3.6	3.9
Already knew	"I already knew what I needed to fix and add"	3.0	2.6
Bad rubric	"Too detailed questions" "Rubric inadequate"	2.0	2.6
Harsh Grader	"I feel like my peer reviewer was too brutal"	1.5	2.0
Personal Inadequacy	"I didn't have the [right] paper or topic, and it was too short so I didn't get very much feedback"	1.5	2.0

detection and praise were the three common categories of commentary, with all other categories remaining infrequent (less than one comment per rubric on average). The rubrics did not differ in the categories of explanation, praise, reader response, doubt or the total number of comments received (Table 3). Thus, the guided rubric did succeed in facilitating feedforward responses and, when compared to the control rubric, had fewer instances of problem detection, a less useful category due to its lack of specificity (Nelson & Shunn, 2009). These results are consistent with Artemeva and Logie (2003), who state that guidelines in the form of questions and checklists help students provide commentary that addresses a wider variety of issues and problematic sections of the text.

However, only limited data suggest that students found the guided rubric to be more effective. When students were asked to compare their experiences with peer review in general to peer review in the course, 37% of students who used the guided rubric rated peer review as more effective in the course compared to 25% of students with the control rubric. In contrast, students' perceived rating of peer review effectiveness both in general (6.2 out of 10) and in the course (5.9 out of 10) did not differ based on rubric. Overall, approximately half (48%) of students commented that they thought peer review was useful. Reported reasons why peer review was ineffective remained consistent between rubrics, with the most cited reasons being lack of time/effort from reviewer, inadequate peer reviewer and vague/confusing review (Table 2). All of the other reasons for peer review being ineffective were utilized by less than 5% of the students (Table 2). No significant correlations were found between the ratings of effectiveness of the peer review in the course and the number and type of responses made by the reviewer.

Several of the study's outcomes may explain why students did not consistently find the guided rubric to be more effective. One reason is that the control rubric had the highest average number of comments in the summation category, a category of non-evaluative feedback that can allow students to detect mistakes without a negative value judgment. Ferris (1997)

Table 3
Difference Between Guided and Control Rubrics using ANCOVA

Response Categories	Mean Squared (Control)	SE	Mean Squared (Guided)	SE	F ratio	P
Problem Detection	2.31	0.16	1.58	0.19	6.40	**0.012**
Explanation	0.71	0.08	0.81	0.10	0.53	0.467
Praise	1.10	0.10	1.03	0.12	0.16	0.685
Guidance	0.57	0.11	1.71	0.13	31.71	**<0.001**
Question	0.15	0.10	1.22	0.12	36.08	**<0.001**
Summation	3.40	0.15	1.61	0.17	46.93	**<0.001**
Reader Response	0.04	0.02	0.08	0.02	1.18	0.279
Doubt	0.06	0.02	0.02	0.02	1.53	0.216
Total	8.35	0.24	8.06	0.28	0.45	0.501

Note: Degrees of Freedom equal 1 for all response categories. Significant p-values are highlighted in bold at $\alpha = 0.05$.

Table 4
Comparison of Student Responses during Peer Review in Different Science Classrooms

Current study Category	Percent (%)	Dominguez et al. 2012 Category	Percent (%)	Cho & MacArthur 2011 Category	Percent (%)
Problem detection & explanation	55.2	Problems	31.1	Problem detection	48.8
Praise	21.5	Praise	21.7	Praise	22.4
Guidance	23.3	Solutions	22.7	Solution suggestion	19.2
Summation	30.4	Summarization	5.5	NA	NA

indicates that providing summary promoted more substantial student revision, and Nelson and Schunn (2009) demonstrate that summarization positively affected students' understanding of the problems in the text. Another potential reason is the low level of explanation present in both rubrics. Leijen and Leontjeva (2012) found that directive comments, or statements commenting on specific changes exclusive to the paper, were a better predictor of implementation than mentioning solutions. Thus, the lack of specificity resulting from the low level of explanation across rubrics may have been frustrating to all students. The fact that many students cited a lack of reviewer time/effort and vague/confusing commentary as reasons for ineffective peer review supports this explanation. This study also focused on student attitudes rather than performance or learning, and it is possible that the guided rubric did positively affect student revision regardless of perceived effectiveness. Further studies are necessary in order to relate feedfoward to performance and determine what role student attitude plays in the process.

Research that quantifies student response to peer review provides additional measures for making peer review more effective. Artemeva and Logie (2003) cited similar frustrations to students in this study during peer review (e.g., dismissive attitudes of peers, peer incompetence and confusion), and suggest two improvements: having papers reviewed by more than one student and providing time for face-to-face interactions as well as written response. Several students also recommended that post-review discussions would be useful. One student remarked, "I believe this peer review was somewhat effective. [It] would have been more beneficial personally if we could discuss our papers with the reviewer after the peer review took place," and another stated, "I didn't actually talk to the person who graded me. I didn't have a chance to hear exactly what they meant." Two additional students provided similar statements. In addition, one student commented on the benefits of more than one reviewer: "I think it would have been more effective if multiple people peer reviewed your paper. That way more opinions would have been stated." All of these comments were received even though the questionnaire did not specifically ask how peer review might be improved, a fact that highlights their perceived importance to students. These suggestions are beneficial because they could also be

implemented without a significant increase in planning time for the instructor, an ongoing pragmatic concern.

Anonymity and Harsh Commentary

Only 16 of the 366 rubrics examined contained unnecessarily harsh commentary (12 of the control rubrics and 4 of the guided rubrics) in comparison to the 39% coded by Rysdam and Johnson-Shull (2011) and the < 0.5% coded by Nelson and Schunn (2009). Nelson and Schunn defined unnecessarily harsh commentary as criticism that is insulting instead of constructive, and Rysdam and Johnson-Shull (2011) defined it as "any comment that identified incorrectness without correcting, announced what the writing was not doing, and/or emphasized the negative with exclamation or other dramatics" (p. 4). Though Rysdam and Johnson-Shull (2011) did not separately categorize problem detection, the overwhelming majority of comments announcing failure were also mean, and characteristic examples included: "Unbelievably boring," "Follow instructions!", and "Overall the quality is poor. I can't even tell where to start correcting" (p. 7). Examples from this study included, "Looks like it was written this morning," "Needs smoother sentences!," and "It was hard to read and stay interested with it." Far from being what the student needs to hear, harsh commentary is unconstructive and negatively influences the effectiveness of peer review. For example, the author of a paper subject to one of the harsh reviewers gave peer review in the course an effectiveness rating of 3 out of 10, lower than his effectiveness score of peer review in general. The author's response also indicates he was affected by the comment: "I feel like my peer reviewer was too brutal. They said it looked like it'd been written that morning, mostly because of a few typos and unfinished citations." Many researchers and instructors warn against harsh commentary during peer review, regardless of the age and position of the reviewer (Belcher, 2009; Cho & MacArthur, 2011 Rosenfield & Hoffman, 2009).

The lack of harsh commentary in this study may be due to the fact that both authors and reviewers were identified on the rubric. For example, research indicates that even anonymous professional peer review can lead to unnecessarily cruel or ignorant comments not useful for revision (Rosenfield & Hoffman, 2009) and others have considered a move to open professional peer review to solve this problem (Walsh, Rooney, Appleby, & Wilkinson, 2000). In the current study, some students were quick to criticize their peers cruelly on the post-peer review questionnaire, which they knew was not going to be viewed by anyone in the class. The following comments were given even though the authors had not received any unnecessarily harsh commentary:

> [Peer review was ineffective] because who reviewed my paper was rude and not constructive at all.
>
> She kept asking/saying pointless things.
>
> The peer review I received was sub-par.
>
> My reviewer gave nothing but bad feedback and judging by her comments, doesn't understand how to read a paper.
> The person who reviewed mine obviously failed English in high school and had no idea what they were doing.
>
> Reviewer didn't know what they were talking about.
>
> I thought the peer review process wasn't actually effective…my reviewer stunk.

Therefore, though previous studies indicate that students prefer providing feedback anonymously to allow for honest assessment (Bostock, 2009), instructors must carefully consider whether or not students should be identified. For example, few students in this study indicated that they felt peer reviewers were afraid to be honest, and, contrary to expectations, some students stated that anonymous commentary may not be desired. One student remarked, "I feel that sometimes a random peer review will not always have a good effect fixing your own paper. If someone you know looks at your paper, he/she will give you the best ways on how to improve your paper."

Supporting materials, such as rubrics or other tools, and grade incentives may also keep unnecessarily harsh commentary at a minimum. Students in Rysdam and Johnson-Shull's (2011) study were trained in a peer review technique called AFOSP (focusing on a hierarchy of values: assignment, focus, organization, support, and proofreading) but were asked to write directly on drafts of the author's paper and were not graded on their responses. Nelson and Schunn (2009), who also had very low number of inflammatory comments, used anonymous peer review; however, students used an online peer review system (SWoRD) that allowed authors to directly evaluate reviewer helpfulness. Thus, if anonymous peer review is used in the classroom, a technique should be implemented to motivate students to provide constructive categories of response. In this study, aspects of the essay to comment on were explicitly outlined in the rubrics, and 5% of the final grade was based on providing useful peer review commentary. Furthermore, results preliminarily indicate that providing guiding questions may also help students remain cordial, because only 4 of the 16 rubrics with

unnecessarily harsh commentary were guided rubrics. Additional research is necessary to gauge the degree to which anonymity, supporting materials and grade incentives contribute to a reduction in cruel commentary.

Conclusions and Future Directions

This study supplements the literature examining peer review in higher education by providing one of the first empirical studies specifically analyzing commentary and student instructional rubrics in the context of WAC/WI courses outside of the humanities. The results indicate the categories of responses provided by students in science courses with analogous goals and participant demographics may be strikingly similar, and cognitive gains by reviewers may be most apparent. A guided rubric did procure significantly more guidance and questions and significantly less summation and problem detection than a similar control rubric, increasing the amount of useful feedforward commentary provided by students. However, most measures of perceived peer review effectiveness suggest that participants in this study found both rubrics equally useful, perhaps due to an increased number of summary responses with the control rubric or the infrequent use of explanations across both rubrics. Unnecessarily harsh commentary was rarely noted, indicating that anonymous peer review, a lack of supporting materials, such as rubrics, and failing to provide grade incentives may contribute to harmful categories of response. For example, when students provided comments that their peers were not going read on the post-peer review questionnaires, they were more likely to be cruel, and a study that had similarly low levels of inflammatory language to this one also provided tools for assessing and evaluating peer responses.

Including multiple reviewers, offering face-to-face interaction along with written peer responses, and identifying reviewers may all contribute to more positive attitudes post-peer review, and additional studies are required to better examine these strategies as well as other important aspects of the process. For example, this study did not compare drafts and final essays to determine what peer review comments were actually used by students, nor did it examine differences in performance between students with the control and guided rubric. Recent work has assessed the relationship between peer review techniques and writing quality in different contexts, including courses focused on foreign language and grade-school learners (Rahimi, 2013; Yu & Wu, 2013), and other investigators have examined the relationship between understanding, agreement and implementation in the history classroom (Nelson & Schunn, 2009). Investigating these associations further in science courses (see, for example, work by Mulder, Baik, Naylor, & Pearce, 2014) will allow for a more comprehensive understanding of peer review under the framework of WAC and WI classrooms. Furthermore, researchers such as Gielen, Peeters, Dochy, Onghena, and Struyven (2010) suggest that the type of commentary that significantly improves performance may also be the most difficult to teach, while Rahimi (2013) found that training increased the number of peer review comments used by students and overall writing quality. Thus, providing additional TA training and tutorials or a calibration process for students may also assist in improving the peer review process.

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Appendix A
Guided rubric.

"What questions do you have for the author? What steps might the author take to improve…?" were replaced with "Explain" on the control rubric.

Your name: _____ Author's name: _____
Directions: Actively read through the paper you've been assigned to peer-review. Make comments on the paper (in the margins etc.) and then fill out this peer review form. Return this form + the peer-reviewed rough draft during next week's lab (the week of 2/25)

Part 1: Content
1. Write down the author's thesis statement.

2. Is it clear and easy to find? YES NO

3. Is it stated at the end of the introduction and again in the conclusion? YES NO

4. Does the paper summarize the articles well in 1-2 paragraphs (1=weak or missing, 2=good, 3=strong)?

_____

What questions do you have for the author? What steps might the author take to improve his/her summary?

5. What are the key assumptions in the articles? Does the author present both sides of the ethical issue(s) (1=weak or missing, 2=good, 3=strong)?

#
_____

What questions do you have for the author? What steps might the author take to improve his/her assessment of the assumptions and ethical issues provided in the articles?

6. Does the author assess the validity of the conclusions made in both articles based on supporting data/evidence (1=weak or missing, 2=good, 3=strong)?

Questions to consider from rubric: Is the evidence supported by scientific experimentation? Is it only a single experiment? Are there conflicting data? Does the article overstate the issue based on the evidence? Are the conclusions well supported? Is the sample size large enough? Are the graphs accurate? Are there potentially studies that yield conflicting results in the literature? Are there true causative links established or are there simply correlations?

#
_____

What questions do you have for the author? What steps might the author take to improve his/her assessment of the evidence's validity/supporting data?

7. After reading this section, can you tell if the author trusts the articles? YES NO

8. Does the author provide his/her own opinion on the issue (in up to one page)? YES NO

9. Does he/she provide enough evidence to back up her opinion (1=weak or missing, 2=good, 3=strong)?

Questions to consider from the rubric: Identifies, appropriately, one's own position on the issue, drawing support from experience and information not available from the chosen article. (What additional information is needed? Are you aware of any conflicting studies? If so, what are they and what are the conclusions?)

_____

What questions do you have for the author? What steps might the author take to improve his/her opinion on the issue?

Part 2: Citations

1. Is there a works cited (bibliography) page? YES NO

2. Are there in-text citations for quotes and paraphrasing (If missing, please mark on paper)?
YES NO SOME

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The Hybrid Advantage: Graduate Student Perspectives of Hybrid Education Courses

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Hybrid courses combine online and face-to-face learning environments. To organize and teach hybrid courses, instructors must understand the uses of multiple online learning tools and face-to-face classroom activities to promote and monitor the progress of students. The purpose of this phenomenological study was to explore the perspectives of graduate students about the instructional activities of hybrid courses that motivated them and enhanced their understanding of course content. The perspectives of the students were obtained through an online survey and a focus group. The findings of the study describe the experiences of the students in hybrid courses and their suggestions to enhance the online and face-to-face components. Four overarching themes emerged from the data: organization and flexibility, online activities, interactive classes, and balance. The findings may be used to inform the planning and effective sequencing of online and face-to-face components of graduate level hybrid courses.

Hybrid courses combine instructional elements from traditional face-to-face and online course formats (El Mansour & Mupinga, 2007). They may also be referred to as web-enhanced, blended, or mixed mode learning. The provision of hybrid courses in higher education has increased rapidly because of changing student demographics and efforts to make courses more accessible to students (Blier, 2008). For example, hybrid courses decrease travel time for students who live in rural areas, thereby reducing student expense and increasing convenience (Yudko, Hirokawa, & Chi, 2008). This option also appeals to a range of students who manage busy schedules and have multiple home and work responsibilities. As universities seek to reach more diverse student populations, it is likely that hybrid courses will continue to grow and stem the rising costs of higher education (Woodworth & Applin, 2007).

Instructors have developed hybrid courses using multiple combinations of online and face-to-face instruction. In a molecular symmetry course, the instructor delivered lectures in person and dedicated part of each class session to introduce the online activities that students were required to complete between classes (Antonoglou, Charistos, & Sigalas, 2011). In an introductory Information Technology course, online and face-to-face activities were balanced differently: students engaged in team-based problem-solving activities in class and completed self-paced activities online (Woodworth & Applin, 2007). Instructors have also designed courses that merge face-to-face and online components. As an example, Bonakdarian, Whittaker, and Yang (2010) described their undergraduate hybrid computer courses as "the mixed mode of instruction that combines both face-to-face and online students *in the same class* by incorporating synchronous technologies to facilitate the learning process" (p. 99). Similarly, Dal Bello, Knowlton, and Chaffin (2007) described an introductory Special Education course where the instructor used interactive videoconferencing for off-campus students in order to participate in face-to-face classes. Though there are many ways to design a hybrid course, the inclusion of both online and face-to-face activities provides the common thread. In the present study, the university definition of hybrid course was utilized: "Up to 74% of the course meetings are conducted online. Online course meetings may be synchronous or asynchronous. Students access the course content and engage in instructional activities to facilitate learning through the University's Learning Management System" (Ashland University, 2014).

The effectiveness of hybrid courses, measured by student attitudes and performance, varies across the literature. O'Brien, Hartshorne, Beattie, and Jordan (2011) found little difference in the attitudes expressed by students who participated in a traditional face-to-face course compared with students in the parallel hybrid version of the introductory Special Education course. Riffell and Sibley (2010) found polarized student responses to questions that rated the quality of instructor and classmate interactions in a large undergraduate Biology course. In terms of content mastery, an experimental study found that students in both a traditional and a hybrid computer course attained comparable achievement and knowledge retention scores (Delialioglu & Yildirim, 2008). Additional studies have associated hybrid courses with improved student performance (Brunner, 2006), as well as increased student involvement, positive perceptions, and student achievement (Antonoglou, Charistos, & Sigalas, 2011). The mixed results reflect the diversity of delivery formats, students' experience and comfort level with technology, and the selection of instructional activities.

Student satisfaction with hybrid courses has been documented in multiple research studies. In one study, undergraduate students favored the convenience, engagement, ability to work at their own pace and comfort in expressing themselves in a hybrid course (Kenny & Newcombe, 2011). Paechter and Maier (2010) identified five factors that enhanced undergraduate student satisfaction with a hybrid course: clarity and structure, knowledge acquisition, the instructor's online expertise, support from the instructor, and support for cooperative learning. The hybrid courses that did not maintain motivation and required inordinate amounts of time to organize and manage activities received negative student satisfaction ratings. To improve hybrid courses, undergraduate students suggested more training in the use of technology as well as recording synchronous sessions for later review (Bonakdarian, Whittaker, & Bell, 2009; Wood, 2010).

There is a need to identify the best use of online instruction and how to implement the tools of online learning management systems (Sauers & Walker, 2004). Though a growing number of faculty are teaching courses with online components, there remain challenges and questions about using technology in a pedagogically effective manner (Lee & Dashew, 2011). Instructors should carefully consider the goals of each course to determine whether new technology would better prepare students to meet those outcomes (Zhou, Simpson, & Domizi, 2012). They should also know how to integrate the best features of online instruction to enhance traditional classroom instruction (Antonoglou, Charistos, & Sigalas, 2011).

Research points toward hybrid course designs in which the advantages of both online and face-to-face learning are combined. There is a need to determine the elements of hybrid learning that increase student satisfaction and performance, as well as how these elements combine to create a balanced course (Paechter & Maier, 2010). There is also a need to better understand the particular perspectives of graduate students, a population with a wide range of profiles and purposes for advanced study, to create courses to fit their unique needs. Therefore, the purpose of the present phenomenological study was to explore the perspectives of graduate students about the instructional activities of hybrid courses that motivated them and enhanced their understanding of course content.

Methods

Qualitative methods were selected as the best approach to understand the perspectives and experiences of graduate students in hybrid courses (Creswell, 2008; Richards & Morse, 2007). These methods support an advocacy/participatory paradigm that relies upon the voices of participants and leads to change in practice (Creswell, 2007). A phenomenological methodology was used to describe the lived experiences of the participants (Van Manen, 1990); it is an interpretive process that arrives at the essence of their experience through a detailed description of the phenomenon. This method provided opportunities to see the larger picture and to identify the complex interactions in a hybrid course.

Purposeful Sampling

Purposeful sampling was used to select information-rich cases to develop an in-depth understanding of the phenomenon (Patton, 2002). Criterion sampling was used to select participants who were graduate students enrolled in hybrid courses at a private mid-sized university in the Midwest. Thirty students completed the online survey, and six students participated in the focus group. The students who completed the online survey ranged from 22 to 56 years of age and had taken between one and eight hybrid courses. Hybrid courses were defined by university policy as courses in which up to 75% of the class meetings were conducted using synchronous and/or asynchronous tools found on the University Learning Management System. At the time of the study, the design of graduate courses at the university varied by instructor, with the majority of hybrid courses offered using asynchronous components.

Participants were recruited from graduate-level teacher education hybrid courses. The researchers introduced the study to the students in person and provided them with the informed consent forms for both the survey and focus group. Because the survey was completely anonymous, the researchers had no way to know who did or did not complete the survey. Students who were interested in participating in the focus group signed and returned the focus group consent form. Each potential participant who returned the consent form was contacted via email to schedule a convenient time for the group to meet.

Data Collection

Data were collected through an anonymous online survey and focus group. The online survey was used to gather the experiences and perspectives of graduate students. According to Van Manen (1990), "the most straightforward way to go about our research is to ask selected individuals to write their experiences down" (p. 63). Students accessed the survey from the researchers' course site on the university's online learning management system. The printable consent form was the first page on the survey, which consisted

of three demographic questions, a checklist, and six open-ended questions. The participants indicated on the checklist which online components they had used during their hybrid courses. The open-ended questions consisted of the following:

1. Which online components do you like the most? Why?
2. Which online components help you understand the content the most? Why?
3. Which face-to-face components do you like the most? Why?
4. Which face-to-face components help you understand the content the most? Why?
5. How do online and face-to-face classes compliment or impact each other?
6. What additional thoughts do you have about your interest or understanding of hybrid course content?

The focus group included six graduate students and was facilitated by both researchers. The purpose of the focus group was to explore the participants' experiences and the meanings of their experiences to form a deeper understanding (Creswell, 2007; Van Manen, 1990). The interview protocol of this study included general questions that aligned with the online survey and probing questions to follow up on participants' responses. The general questions were flexible to allow new inquiry to emerge during the data collection (Creswell, 2008), and the probing questions solicited more in-depth information to gain a deeper understanding of their experiences of hybrid courses (Merriam, 1998).

Data Analysis

Phenomenological data analysis is a process that establishes patterns or themes that emerge from the data. To analyze the data, we selected significant statements from the transcripts. We then reduced the statements into meaning units and further reduced the meaning units into themes (Creswell, 2007; Moustakas, 1994). Both researchers read through the survey and focus group transcripts independently. Open coding and notes about emerging patterns were used to identify initial codes. We compared codes and combined those that were the same for both researchers. We then arranged and rearranged the codes into groups of similar concepts. Through this recursive process, we examined and regrouped the codes until 14 meaning units emerged. The meaning units were then reduced into four themes (see Table 1). The themes and meaning units were checked for accuracy by comparing examples of the codes and contexts within the transcripts for each theme.

Validation Procedures

Validation in qualitative research is the attempt to increase the accuracy of the findings (Creswell, 2007). To increase the accuracy, or credibility, of the findings, we used triangulation, member checking, and peer review (Lincoln & Guba, 1985). We triangulated sources of data by collecting and analyzing online surveys, a focus group, and our field notes. The focus group provided an opportunity for member checking where we summarized the survey findings for the participants to solicit feedback on their accuracy and to check for needed additions or corrections (Creswell, 2007; Moustakas, 1994). A draft of the focus group discussion was sent to the participants to inquire whether and to what extent they correctly reflected their thoughts and experiences. Three participants responded and confirmed the accuracy of the findings. We also used a process of peer review with each other and our colleagues (Creswell, 2007).

Findings

The findings of the present study describe the experiences and perspectives of graduate students about hybrid courses. Their perspectives reflect the aspects that not only motivated them, but also helped them to understand the content of the course. Four themes emerged from the data: organization and flexibility, online activities, interactive classes, and balance. Organization and flexibility included views about scheduling, pacing, opportunities for practice, and access to materials. The online activities highlighted comprised of lectures, assignments for diverse learning styles, discussion forums, and assessments. Interactive classes included multiple ways of learning, discussions and collaboration on real life scenarios in the physical classroom. The balance between online and face-to-face classes was developed through the understanding of their strengths and weaknesses, student support options, purposeful placement of activities, and the connections between classes.

Organization and Flexibility

In the busy lives of students who managed full-time family and work responsibilities, the online components of hybrid courses provided independence with which to pace their learning process. As one mother explained, "I can do it when it works for my family life." One of the teachers also found that "they are definitely easier to fit into a working teacher's schedule." The focus group discussion converged upon the insistence that hybrid courses should be "flexible so that the work could be completed…as it best fits my schedule." For some students, the benefits of online

Table 1
Themes and Meaning Units

Themes	Meaning Units
Organization and Flexibility	Convenience and Flexibility
	Scheduling
	Organization and Access
	Technology
Online Activities	Presenting Materials
	Learning Styles
	Discussion Forums
	Tests and Quizzes
Interactive Classes	"Interactive Classes"
	"Real Life"
	Deeper Understanding
	Instructors
Balance	Balance
	Placement of Activities
	Connecting Classes

components in hybrid classes related to working in a preferred environment, such as their home. In addition, students wanted to be able to slow down or speed up the pace of class activities: "I had to take my time to read online articles...I could read an article two or three times and still not have the gist of it. I had to have my time to sit down, break it apart." Thus, flexibility in pacing was an important benefit of hybrid courses:

> In the classroom, you don't always have the replay. Yes, you could always ask questions, but [online] you could push pause, regain what you needed, you know, and go back—see it over and over again. I have to say that was probably the best part for me as a more visual learner.

The online quizzes that allowed several attempts provided extra practice and encouraged students to explore concepts. Some students suggested that repeating online assessments was a way to reduce anxiety: "I'm not always the best test-taker. I also like the online quizzes because you can take them at your own pace, there's no time limit, and you get several tries."

During the focus group discussion, students also valued being able to work ahead of schedule: "I liked being able to advance at my own pace…you could have finished the class in four weeks…not waiting for the next assignments." When scheduling course assignments, there were instructors who controlled the presentation (access) of online course elements to promote regular review of content and better course management. One student preferred such pacing: "I liked to know that this is what starts on Sunday and it has to be done by Saturday." On the other hand, one student disliked restricted access to online components, preferring that all assignments be available from the beginning of the course. Thus, while some students valued the flexibility of having access to online components, others questioned the pedagogical value from the instructor's perspective: "Do you let them cram it all at the end...or do you have to create those deadlines that this assignment has to be done?" The scheduling of face-to-face meetings served to keep students on track and to better manage their time spent on online assignments: "When there are too many weeks between face-to-face meetings, I tend to get behind on assignments." Developing organizational skills was necessary to function successfully in hybrid environments: "I'm a procrastinator, so I had to become a person that was on a schedule [in a hybrid class]."

Flexibility in scheduling did not necessarily translate positively to all aspects of a hybrid course. Some students did not like working online with peers to prepare group projects: "You had to meet online at a certain time with the group and put your presentation together. And I'm like, it's hard enough to meet face-to-face, let alone online!" Meeting online with new classmates was described as more difficult than meeting face-to-face. One participant noted, "You don't have to be agreeable [online]; it's different if you know people." This comment suggested that meeting online does not import the same social standards, expectations, and consequences as meeting face-to-face or having already established a relationship.

The idea of access was emphasized in respect to accessibility to course materials and assignments, outside references and resources, classmates and instructors, course updates, and reminders. Technology was viewed as beneficial to provide last-minute

information: "Posting changes to class material and assignments is very helpful." Students noted that the way the online learning environment was organized could improve their access to needed materials, assignments, and grades: "You've got it there without having to e-mail the teacher. You know that it's there in the folder." Another student appreciated that all of the PowerPoint presentations were posted and added, "I liked being able to see the grades, too." Several students expressed preferences for folders being organized according to weeks or sessions instead of by activities or topics: "It was mind-boggling to figure out where you had been [online]. So I had no other choice but to make a to-do list and mark it all off myself."

The benefits of using technology were sometimes overshadowed by frustration, annoyance, and confusion caused by technology problems. A student who was having difficulties using the online system noted, "Sometimes uploading assignments [when there are technological difficulties] can become frustrating." The enthusiasm for technology, and the online components in general, decreased whenever there were technology problems.

Online Activities

Course content was often presented in online environments through lectures using PowerPoint and Prezi presentations. Students perceived that the online presentations of instructors were of varied quality. They preferred shorter online presentations with attention-grabbing audio and visual components. When online presentations were not interesting, students admitted to simply turning off or away from the presentation: "I'd be there for five minutes and then I'd click on something else." Students also reacted favorably to the inclusion of professionally-developed series and interactive modules within the online course environment.

In describing the online activities that were most helpful, students tended to reference learning preferences: "I'm a visual/tactile learner...you have to show me." Videos were promoted because "that is how I learn best. Videos usually always help me understand because I am a visual learner." The special education teacher candidates' comments signaled individual differences among the participants. Statements such as, "There was a great variety to the presentation of material," were countered by, "I felt lost as to where I was and what I was doing." The students, who were pre-service intervention specialists, wanted to engage in clear, well-organized activities that corresponded to their learning preferences (e.g., auditory, visual, kinesthetic).

Students stated that they enjoyed sharing their ideas via discussion board activities and reading the responses of classmates. Online discussion boards involved a prompt, usually provided by the instructor, to generate responses from students. Strong discussion board activities built social presence in the class as students communicated with their peers and the instructor. They capitalized on student experiences, allowed storytelling, and included the application of concepts learned in class. Students indicated that good discussion boards had motivating outcomes: "We read the case scenario…and we had a discussion board as to how you were going to decide the case. You gotta come up with an answer. The cliffhanger forces you to come up with an answer." In this case, a good discussion board compelled students to explain, clarify and support a decision.

Within the focus group, it appeared that the very strengths of discussion boards, to promote extended thought and discussion, could lead to "burn out" among students: "I liked the discussion boards, but sometimes they are more of a nuisance than an authentic learning tool." While some discussion boards could take time and effort to complete, others could just as well be completed superficially, with little effort: "You would read something and someone would just write, 'Yeah, I thought what you said was right.'" Students noted that weak discussion boards did not provide clear instructions to encourage meaningful responses. More than one participant disliked discussion board contingencies that encouraged responses by awarding points for replies to their classmates' posts. Yet participants also disliked not receiving replies from classmates as this left them wondering whether their post had been read or understood. Another aspect of the online experience was completing weekly assessments, which generally included multiple choice quizzes and tests. The online assessments provided students with immediate feedback. Weekly online quizzes were used by some students to outline readings and to "draw out the main concepts of each chapter." In some courses, students were given the opportunity to retake quizzes until they reached a minimum score set by the instructor: "That's what I like the most about it [online quizzes]…knowing your grade." In addition to immediate feedback, students viewed the online quizzes as practice for similar formats used by required state assessments for teacher licensure.

Interactive Classes

The graduate students emphasized the importance of active participation and having opportunities to interact with the instructor and their classmates during face-to-face class sessions. The classroom created a unique and authentic environment where multiple perspectives were shared: "Everyone came with different backgrounds, and it was interesting to learn

about other people's experiences and how they related to the class." The students found that informal conversations and class discussions allowed a deeper understanding of the content. One student noted it was "easier to share experiences and knowledge when face-to-face," and she enjoyed opportunities to work in groups. Meeting face-to-face also allowed students to "interact with the content on a deeper level." One student commented that "a lot of concepts get broken down and restated as a result of class questions. It ends up being more flexible than a pre-videoed lecture." Another confirmed that the instructor "can explain things in a different way to help you understand." The freedom to elaborate and ask questions spontaneously during face-to-face discussions provided clarification not always available online.

The instant feedback from their instructor and classmates during face-to-face classes was important for students. Instead of waiting for an email or online discussion response, one student found that "the conversation is more active when spontaneous responses are possible." The students also valued spending time with peers to share ideas and make connections. As one student explained, "Having the opportunity to ask questions and speak openly to other professionals in the same field is beneficial." Social connections were also developed during the face-to-face classes. For example, one student reflected upon the multiple levels of communication that occur in face-to-face interactions, noting, "If you're a name on a discussion board they're not going to say, 'Hey, there's a job at my school!'"

Face-to-face classes were important for students who favor learning through personal interactions: "I need to see people. I need to hear what other people have to say and to be able to look at somebody." Discussions led by the instructor as a whole class or in small groups helped students connect the content to previous knowledge, real life experiences, and possible future scenarios. One student explained, "I've always learned best through discussions, especially in a small class setting." A challenge of class discussions was that students needed to demonstrate behaviors associated with waiting and turn-taking: "I liked having examples, but some people in class went on forever and lost the concept of what we were talking about, and there was no way of cutting them off." Though most of the participants in the focus group voiced that lectures may be more efficient online, one student admitted, "I learn the most in the face-to-face components from the lecture from the professor."

Survey responses indicated that students appreciated when instructors included more interactive components during lectures: "Having a dialog along with the presentation is the most helpful to me." As a "visual/tactile learner," one student emphasized including links to websites or videos in presentations to initiate discussion and increase involvement. The students expressed how ineffective the presentations were without interactive elements: "You would just come into class every other week, and she would go over the slide show for the chapter and that was it." Students also expressed frustration when an instructor read directly from a PowerPoint presentation: "I learned to read a long time ago. You're not benefitting me." The students in the focus group suggested that the presentation be created as a guide where the instructor could add ideas and involve the students in discussion.

Collaboration with classmates was important to enhance learning during face-to-face classes. As one student stated, other students "are a great source for helping me understand what's going on and vice-versa." There were examples and ideas students did not feel comfortable writing during the online activities, but they were able to discuss them in class. Students enjoyed participating in discussions and interactive activities with guidance from the instructor: "They are the most authentic times we experience as students." Another student in the focus group explained how her instructor divided students into small groups for activities and discussions. The professor "asked us questions the first week of class, and then he assigned us based on our experience and knowledge level." She added, "You felt comfortable because there were other people who knew the material really well, and you didn't let one person dominate your table when you're having a discussion." Being active was especially important for students who learned kinetically: "I prefer to get up and do something…you remember and retain better even it was a silly case study." Role playing exercises allowed students to practice their roles as future educators: "It puts you in the position…you are going to be the expert in these meetings." They were also able to practice their teaching and presentation skills with their classmates. Integration of technology, guest speakers and discussions in face-to-face classes assisted students, who had diverse learning preferences, to understand the content.

Face-to-face classes were seen by students as an opportunity to apply what they had learned. For example, one student in the focus group shared, "We had to be really creative and kind of teach our final." Students appreciated having time to practice strategies and test what they had created. Students provided examples such as role playing peer tutoring strategies, creating performance evaluations, participating in jigsaw groups, and playing a game they had developed. The group activities allowed students "to obtain a broader and more complete understanding of how people take one situation and have completely different approaches." The creativity of the activities helped students to "think outside the box."

Connecting to real life examples and scenarios was important for students to develop a better understanding of the content as well as increase their interest in class activities. One student who had little teaching experience appreciated the stories provided by the more experienced teachers:

> I love the examples and the experiences and often just the different teaching methods they have used and the different teaching experiences they may have encountered and how they overcame them, and that happens from the back and forth discussions.

For the students in the present study, writing individualized education programs for children receiving special education services will be an important part of their future career. Students found it beneficial to practice writing an individualized education program with the support of their instructor and classmates. Students also emphasized the importance of videos that illustrated real life situations: "The videos allowed for the material to be presented by a person who had actually experienced the content being taught in the course, which I think made the material more powerful and more relevant."

The passion and communication style of the instructor were important components of face-to-face classes. Classes could be inspiring to students when they saw the engagement of the instructor. During the focus group, the students commented about the body language and animation of the instructors. One student mentioned how "you always have instructors who are very passionate about what they believe in," and another student replied, "You can't get that on a computer." A different student shared an example from her literacy course:

> She starts her literacy class, and she's reading stories to you like you're eight years old, and she's sitting there and she's moving, moving, moving. And she's reading and she's talking and you're like, 'I want to be a literacy teacher too!'

Students made repeated statements regarding the value of face-to-face classes to receive immediate instructor feedback such as clarification of projects, expectations, and content. One student noted that "oftentimes someone else has a similar question." This was especially important for "the feedback that is hard to explain in an email." It was easier for students to ask questions to the instructor in person and have a chance to clarify their questions as well as include follow-up questions they might not ask online. Receiving feedback from the instructor allowed students to make progress on their projects: "I like being able to ask questions as soon as I have one and get immediate feedback. That way I do not have to wait to finish my projects." One instructor began each face-to-face class with a question and answer session. Students liked this approach because it "allows time for any confusion to be cleared up before assignments are to be completed." As one student shared, "Getting feedback from the professor and hearing other classmates' experiences are very helpful. It gives you ideas on how to proceed with assignments and field experiences." The explanation of projects and assignments was important to cover in person because "it can be hard to understand clearly the expectations in an online format."

Balance

Students found that a balance between online and face-to-face classes was essential to the design of a hybrid course. They emphasized the placement of specific activities and how online and face-to-face classes should connect. The students appreciated having the multiple elements of a hybrid course: "I feel both online or in person classes are helpful in different ways." As one student stated, "It's the best of both worlds." Students understood the strengths and weaknesses of exclusively online or face-to-face classes: "They both feature different benefits and drawbacks. Having both makes for a very balanced class." The combination of online and face-to-face classes provided students with information in multiple formats to address multiple learning preferences. As one student shared, "It is nice to have both face to face and online because you can get the information from two difference sources." The balance between classes was more time efficient as students "were able to go in and learn from the instructor and interact with each other and still completed most of the work on our own time."

Online and face-to-face classes provided different types of support and convenience for students. Students appreciated opportunities to obtain guidance and clarify questions in person, as well as the convenience of completing online assignments at their own pace: "They compliment each other because when we don't have face-to-face class, I have time to work on assignments at my own pace, but if questions arise I am able to ask them at our next gathering." Another student described how the online classes were "a definite convenience factor" as students only had to be in class a few times a semester, "yet even those few meetings give a real sense of support and camaraderie." The face-to-face classes provided time to "touch base" and clarify the "what if" questions. One student observed that the "interaction with our peers and possible future colleagues is only benefitting us."

The purposeful placement of activities in either the online classes or face-to-face classes emerged as an

important consideration. Simply stated, "The bookwork we can do on our own but the authentic experiences you can bring [to class]." Students perceived online asynchronous classes as useful to prepare for face-to-face classes, reinforce concepts, give assessments, and explore additional resources. For example, "The online components usually reinforce a concept that we have read about or discussed in class. It provides another mode of receiving the information." One instructor posted additional resources related to the content of the course using online weekly folders. Students in the focus group found such resources and links to websites beneficial to learning class content and completing projects: "It's helpful to have access to support materials online, work on projects independently and then present in class."

Students recommended that the activities of the face-to-face classes be carefully selected. One student explained that in the brick and mortar classroom, "You can spend your face-time focusing on those things that don't translate well online," and the student suggested assigning lengthier readings and assignments online "to keep your actual meetings from being too cumbersome." A few of the students in the focus group mentioned that they had instructors who wanted to "fill every minute" by adding activities that students could have just as easily completed at home. In the focus group, students suggested that instructors post presentations online for viewing outside of class and implement more interactive activities during the face-to-face classes. The students identified specific purposes for face-to-face classes such as developing relationships, giving presentations, sharing multiple perspectives, and receiving support from their instructor and classmates. The interactions help students develop relationships and build on discussions: "Sometimes a face-to-face conversation is more supportive of an understandable dialogue. The delays in response and lack of a tone of voice can hinder communication [online]." The face-to-face classes "often help clarify online content" and "put online components into perspective."

The ways in which instructors connected the face-to-face and online classes were as important as the types of learning activities they employed. Smooth transitions from one class to the next maintained the flow of the class: "There needs to be a well-structured 'bridge' to link the topics addressed in online 'sessions' and face-to-face meetings." The connection between classes was especially important when new content was introduced: "If there is actual new content introduced in a chapter or document, then the transition into the next class with that information needs to be smooth and functional." Participants described a range of experiences, from no connections to seamless transitions between classes. One student commented that online and face-to-face classes "can be useful but must complement each other to be truly effective." The major connections that emerged were using the online class as an introduction, clarifying information during the face-to-face class, and subsequently using online classes to reinforce or apply what was learned.

Students enjoyed using online classes and activities as an introduction to their face-to-face classes. They prepared themselves for class by reading, watching videos, and gathering background information: "I kind of use the online as an introduction…I'm able to have input in the discussions and ask for clarifications." Students became more active in preparing for class when they saw the connection from the material presented online and class activities: "I think I can bring more to a face-to-face class when I have the time and material provided online for background information/research." One student described how her instructor assigned chapter quizzes to make sure students had a good understanding of the content before they met in class: "everybody had something to discuss." When students were provided online videos to watch, they were able to discuss and apply what they learned in their next face-to-face class. As one student shared,

> I like watching the videos online at home and then discussing the videos during class to draw out the major points and encourage the class to think about things in a way that they may not have while watching the video at home.

The class sessions complimented each other by allowing students to build on ideas that were presented online.

The face-to-face classes were useful for students to clarify information about the content of the course by allowing them to prepare and bring questions to class. This was very helpful for one student in the focus group: "I got more out of the class that way 'cause I was able to prep myself on my own and then come into the class and discuss." One student emphasized that during a face-to-face class, "the instructor has a clearer opportunity to check for understanding and clarify or reteach the material, correct any misunderstandings, or add to any presentations." Instructors checked student progress through activities and informal discussions including answering questions about assessments completed throughout the semester.

After content was presented in a face-to-face class, students tended to view the next online class as an opportunity to reinforce their understanding and apply what they had learned. One student emphasized the benefit of reinforcement: "Online components are a great way to revisit what is discussed in class to keep the material fresh." Online discussions and modules

were also used to review face-to-face lessons and allowed students to extend classroom learning. Another student shared, "some things you can talk about in class with others and then implement them by yourself." Smooth transitions linking balanced online and face-to-face classes was perceived by students as best supporting their understanding of the course content.

Discussion and Implications

The findings of the present study reveal a distinctive approach to designing and teaching hybrid courses. The organization of online materials, instructional activities, and the schedule of face-to-face classes provide students with the convenience and flexibility to fully plan for and participate in the course. The students identified benefits and weaknesses of both online and face-to-face instruction, which led to the delineation of specific purposes for online and face-to-face classes. Creating a balance between classes enhanced the learning of students and provided multiple ways of receiving and expressing their understanding of content. Making deliberate connections between online and face-to-face classes created increased student engagement opportunities for relevant review. These connections emerged as an important aspect in the development of hybrid courses.

The hybrid course instructor's role is formed by a unique combination of responsibilities. In the classroom, the instructor must be able to lead as well as facilitate discussions and authentic interactions (Blier, 2008). Students in the present study valued specific and timely feedback from the instructor as well as individualized responses to online assignments (Paechter & Maier, 2010; Reupert, Maybery, Patrick, & Chittleborough, 2009). According to Lee and Dashew (2011), acknowledgement of student work and descriptive feedback is essential to engage students and to create an online presence. Students also benefit from a clearly arranged structure of online components, where activities, links, and resources are readily accessible. The instructors' role includes creating a clear, organized structure, and selecting user-friendly tools (Gray & Tobin, 2010). They may also support students by providing detailed demonstrations about how to use online tools during face-to-face classes (Zhou, Simpson, & Domizi, 2012). Instructors need to be available to meet with students or answer questions both online and in person.

The general purposes students assigned to online classes were to introduce and reinforce content as well as provide instructions and resources in a convenient location. Students preferred that instructors maintain information online (Paechter & Maier, 2010); the flexibility and convenience of accessing instructional activities at any time from any place was important to the students (Gray & Tobin, 2010). When information was provided online, they felt more prepared for the discussion and activities in the next face-to-face class (Kenney & Newcombe, 2011). Providing online recordings and notes of previous sessions was also deemed useful (Yudko, Hirokawa, & Chi, 2008). Students appreciated the potential of immediate feedback through online communication. In line with Xu, Meyer, and Morgan (2009), students valued online assessments that provide instant feedback. In the online environment, students have the opportunity to apply their knowledge to complete projects, engage in real-world scenarios, and deepen their understanding through discussion forums.

The purposes of face-to-face classes were to receive clarification and answers to questions as well as participate in discussions and group activities. Allocating time at the beginning of a face-to-face class to discuss and answer questions about the content covered online and providing time at the end to introduce the next online assignment were deemed helpful (Antonoglou, Charistos, & Sigalas, 2011). In line with Houts and Taylor's (2008) findings, students were able to obtain a more complete understanding of the content when they analyzed case studies, viewed and discussed videos, or interacted with knowledgeable guest speakers. The face-to-face classes allowed students to share personal experiences and work with peers to apply knowledge to relevant, real life situations.

Self-regulation was an important skill needed to complete the online components of a hybrid course. Students must have the ability to learn material on their own, structure their time, and meet deadlines (Blier, 2008). Though it was difficult for some students, the successful completion of a hybrid course may promote improvement in time management, organization, and self-management skills (Kenney & Newcombe, 2011). Instructors may support and promote students' self-regulation skills by providing reminders and use face-to-face classes to prompt students to monitor their progress. Motivation was another important factor regarding the extent to which students engaged in online activities (Gray & Tobin, 2010). Students reduced the amount of time they spent reading or reviewing material if they thought it was going to be repeated in the lecture presentation. On the other hand, students reported more active online participation when provided with real life videos, scenarios, and resources. The required use of online resources and assignments to participate meaningfully in face-to-face classes also increased student completion and engagement in the online activities of a hybrid course.

The graduate students in the present study had a wide range of technology skills and experience in college courses. Instructors may need to provide

additional guidance and support for students with novice technology skills to better participate in the course. According to Brotton (2005), students who had an initial introduction to the online components within the face-to-face classroom gained confidence and trust in the online management system used by the instructor. Blier (2008) also noted that online discussions and participation are learned skills that should be taught to students in hybrid courses. Students may benefit from consistent support throughout the semester via technology workshops, a tutoring center, and faculty office hours (Napier, Dekhane, & Smith, 2011). Instructors could also create student resource guides using short videos or documents with screen shots that show steps to use new technology. When instructors are able to organize and effectively teach needed technology skills to their students, they are better able to provide the structured environment that enables authentic learning experiences, flexibility, and convenience for students.

Limitations and Future Research

The limitations of the present study include the location, sampling criteria, and sample size. The participants lived in the Midwest and attended the same university. All were pre-service graduate students working towards an Intervention Specialist licensure and/or a Master's of Education degree. Thirty students completed the survey and six students participated in the focus group. Because of the small sample size and specific location of the research, the findings may not reflect the perspectives of students in other locations. Students in different academic areas may also express alternative perspectives of hybrid courses that are specific to their interactions with the content of their professional fields. Though limitations exist in generalizability, the specific focus of the present study allowed us to obtain an in-depth understanding of the students' perspectives. The age range of the students, from 22 to 56 years old, is a positive aspect of this study. From the online survey and focus group, we were able to include the individual and group-mediated perspectives of students who had various technology skill levels and represented multiple developmental life stages.

Conclusion

The present study identified instructional activities of hybrid courses that were engaging, motivating, and allowed students to develop a greater understanding of the content. When the strengths of online tools and face-to-face interactions were present, students perceived the support of instructors as well as the convenience of being able to work at their own pace on their own time. Varied opportunities for interacting with the content, and the recognition of diverse learning preferences, were very important for the graduate intervention specialist education students of this study. Students also described how the placement of instructional activities in an online or face-to-face class was significant and impacted largely students' engagement with course content. The purpose of an online class was to provide information, prepare students for face-to-face activities, and review or practice what was learned. The purpose of a face-to-face class was to ask questions, receive immediate feedback, share experiences and perspectives, collaborate with classmates, and network with classmates. The graduate students emphasized the need to have dynamic connections between face-to-face and online classes. This occurred when the students received information online through readings and lectures, asked questions and applied what they learned in the next face-to-face class, and reviewed the content through activities or assessments online. The emphasis on purposeful placement and flow of activities was a significant and unique finding of this study and may be employed to enhance the instruction of learners in hybrid courses.

An important collateral result of the present study was the increased sensitivity developed by the researchers as they organized and interacted within the qualitative process. The use of online and face-to-face assessment measures paralleled the use of the online and face-to-face instructional environments of a hybrid course. The online survey set the stage for rich face-to-face conversations in the focus group that allowed students to share comments that later served to guide the researcher-instructors' course improvement efforts. The inquiry, procedures, and findings show a durable approach to guide hybrid course improvement processes using online and face-to-face sources of data.

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Navigating the First-Year Program: Exploring New Waters in a Faculty Learning Community

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A new first-year seminar at a large research-intensive university provided the context for a topic-based faculty learning community (FLC) in which the first faculty to teach in the program worked together to identify the most effective ways of conducting the seminar. Membership in the FLC consisted of faculty from diverse disciplines and with varying degrees of experience with first-year students. Content analysis of an oral interview protocol reveals a heightened faculty focus regarding their goals and preparedness for teaching freshmen. Specifically, participants whose initial motivation for teaching the course was to interact with entering students became, through the course of the semester, more focused on defining pedagogical strategies that would lead to greater student engagement in the course. Results suggest that future faculty support for the new program could be structured around the principal emerging themes from this analysis.

First-year seminars can play a large part in the academic and personal success of college students. Considered a high-impact practice (Kuh, 2008), first-year seminars have been shown to correlate with higher first-to-second year retention and persistence toward graduation (Kuh, 2009; Pascarella & Terenzini 2005; Tinto, 1993). A recent source states that as many as ninety-four percent of U.S. colleges campuses offer first-year seminars (Keup, 2012). Perhaps the greatest strength of the first-year seminar is the opportunity it allows for students to interact with faculty, who, in many first-year programs, are tenure-track professors with years of experience in their field and a well-established knowledge of the campus culture (Keup, 2012).

With these benefits come challenges. The interaction that occurs between students and faculty in a first-year seminar is likely to be quite different from the interaction that takes place in other types of courses. Faculty accustomed to upper-level classes or lecture-style classes, or who are some years removed from teaching first-year students, may need to refresh themselves on the most effective teaching modalities. The needs of freshmen differ from those of upperclass students (McClure, Atkinson & Wills, 2008) and, further, will be different from what faculty remember from their own time as students (Ouellett, 2004). For this reason, many institutions with first-year programs offer, and sometimes require, varied forms of faculty development (Gordon & Foutz, 2013; Tobolowsky, 2008). This paper will report on the findings from a faculty learning community (FLC) designed to assist a cohort of faculty participating in a new first-year seminar program at a large research-intensive university. FLC participants spent the academic year identifying common teaching challenges and collaborating on ways to overcome them, meet the goals of the program, and enhance the teaching and learning experience.

First-Year Seminars

Research has shown that first-year seminars have a positive effect not only on students (Kuh, 2009; Pascarella & Terenzini 2005; Tinto, 1993) but also on the faculty that teach them (Fidler, Nuerurer-Rotholz, & Richardson, 1999). Faculty who teach first-year seminars often enjoy building interdisciplinary networks with others and enjoy reacquainting themselves with the world of freshmen (Wanca-Thibault, Shepherd, & Staley, 2002). They also report transferring the teaching and assessment skills used in a freshman seminar to other courses (Barefoot, 1993; Fidler, Nuerurer-Rotholz, & Richardson, 1999), and with that, a heightened sense of self-consciousness about one's own teaching skills (McClure, Atkinson, & Wills, 2008). Additionally, Soldner, Lee, and Duby (2004) found that faculty who are motivated by intrinsic factors such as helping students and collaborating with other faculty are likely to persist in their teaching of freshman seminars.

While potentially rewarding, teaching the freshmen seminar may also present significant challenges. Many first-year programs are designed to promote interaction between faculty and students, but as Walsh and Maffei (1995) point out, these are two groups that have differing visions about the nature of their interaction: faculty expect a strong commitment to learning on both sides of the relationship, while students may approach the relationship informally and expect their professors to be accommodating. The authors suggest that when expectations are understood by both parties, the relationship is positive and students become more motivated and academically succesful. Attaining that level of interaction, however, may not come naturally to some faculty, particularly those that are not trained in pedagogy or are unfamilar with the freshman mindset. Success with a classroom full of new college students may require a different type of effort and skill.

Evidence from one study revealed that eighty percent of first-year faculty reported having to use different pedagogy in freshmen seminars that what they would use in other courses (Fidler, Neururer-Rotholz, & Richardson, 1999). The gulf between student and faculty expectations extends beyond the nature of their relationship to areas such as technology usage, where faculty unwillingness or inability to use technology may harm their efforts to engage their students academically (Howe & Strauss, 2003). To address these challenges and others, faculty development initiatives of various forms have been a common feature of first-year programs for many years and aim to enhance faculty understanding of their students and how best to teach them (Hunter, 2006).

The First-Year Odyssey Seminar Program

The First-Year Odyssey Seminar (FYOS) program was launched in the fall of 2011 at the University of Georgia (UGA) to fulfill the requirement of a Quality Enhancement Plan of the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC). Faculty and students chose the plan from among many initial proposals, and further planning resulted in a final program that was a required, one credit hour class designed to meet the following three overarching goals:

1. Introduce first-year students to the importance of learning and academics to engage them in the academic culture of the University.
2. Give first-year students an opportunity for meaningful dialogue with a faculty member to encourage positive, sustained student-faculty interactions.
3. Introduce first-year students to the instruction, research, public service and international mission of the University and how they relate to teaching and learning in and outside the classroom to increase student understanding of and participation in the full mission of the University.

Of the various types of first-year seminars that exist (Swing, 2002), the seminar that forms the backdrop of this paper most closely aligns with an academic seminar with variable content in that all sections of the seminar focused on academic topics related to the scholarship of the instructors, as echoed in the first goal of the program above. Survey research suggests that this type is proportionately more common at research-intensive universities (Brent, 2006). The decision to address any elements typically found in a transitional seminar, such as developing students' study skills, introducing them to campus resources, etc., was left to the discretion of individual faculty. An additional program-wide requirement that students attend three campus events during the semester was intended to help faculty attain the third goal of the program: introducing students to the mission of the University. A "campus event" could be a lecture, exhibit, cultural festivity, etc. Faculty employed various methods for helping students identify events and also for helping them to make the connection between the events and the seminar.

Faculty Learning Communities

The concept of the faculty learning community (FLC) can be traced to John Dewey's work with student learning communities, organized structures where learning is "active, student-centered and involved shared inquiry" (Dewey, 1933). The essential characteristics of the student learning community are easily extended to faculty, who actively collaborate in a year-long learning environment in order to "investigate, attempt, assess, and adopt new methods, such as using appropriate technology, active learning, and learner-centered teaching" (Cox, 2001, 2002). FLC participants grow as individuals while collaborating to ensure the growth of all members (Orquist-Ahrens & Torosyan, 2008). In many FLCs members work to address a common interest, such as an institutional initiative, while advancing individual projects shaped by their own discipline. This interdisciplinarity, in turn, may lead faculty to adopt a broader view of teaching (Yakura & Bennett, 2003).

FLCs are a form of faculty development that can be particularly helpful for institutions embarking on new initiatives, where faculty buy-in is key to success (Furco, 2002; Zlotkowski & Williams, 2003). In the safe and supportive environment of the learning community faculty can share in the discussion of how a particular innovation or initiative impacts their teaching and their students' learning. FLC participation has been shown to have positive effects on both the faculty and student experience in cases where the institution is undertaking a particular educational innovation or seeking to enhance teaching and learning in a particular area. Accounts of topic-based FLCs for service-learning faculty report positive effects of participation, such as increased faculty expectations that service-learning could be useful to their professional development in teaching, research and service (Furco & Moely, 2012; Harwood et al., 2005). Smith et al. (2008), writing on the results of an FLC for faculty teaching STEM disciplines, also report that faculty found the community helped them engage the students better, which in turn helped their students become better critical thinkers. The structure and timeline of the FLC provides sufficient time and space for all members to experience the issue at hand, discuss it with colleagues, and seek answers through the interdisciplinary lens of

the group. This is in contrast to a workshop format which provides only a glance into the issue, leaving faculty to work through the specifics, successfully or not, on their own (Nugent et al., 2008).

The facilitators wanted to capture the experience of these faculty, the first to venture into the new waters of the program. What were their initial goals for the course? What challenges did they encounter? Did participation in the FLC contribute positively to their experience? The research questions guiding this study were:

1. How do faculty goals and expectations for teaching a new first-year seminar course change as a result of teaching the course?
2. How does participation in a faculty learning community on the topic of the first-year seminar affect faculty experience with the seminar?

To elicit this information the facilitators, hereafter referred to as the authors, decided to pursue qualitative interviews with a subset of the FLC participants.

Methods

Participants

Participants were faculty from diverse disciplines and with varied degrees of experience with first-year students, from no experience to almost daily contact. Table 1 lists the participants (pseudonyms used) by discipline and a gives a short description of their relationship with first-year students. All were participants in an FLC designed for first-time instructors in the new seminar program.

As often happens in FLCs, the initial roster of membership included eleven members, but other commitments forced the withdrawal of several members early in the first semester. Two more joined in the second half of the year and only attended a couple of meetings. The authors believed that the richest information would be gleaned from those who had the fullest experience with the FLC. Therefore, the final participant pool (N=6) consisted of the faculty who met consistently over the academic year, engaged in discussion, and contributed questions, ideas and strategies to the other members of the group. The researchers were not included in this pool.

Research Setting

The backdrop for this data collection was a topic-based faculty learning community titled, "Your First First-Year Odyssey." Topic-based FLCs address teaching needs or other matters of concern to an interdisciplinary group of faculty (Cox, 2004). Given the unique nature of the new seminar program and the likelihood that some faculty might have to adjust their standard pedagogy, and with evidence that FLCs can provide support for faculty exploring new teaching practices, the FLC was offered as a form of faculty support and development for instructors of the new seminar program. At UGA, FLCs are administered through the Center for Teaching and Learning and the "FYOS FLC" was opened for registration to interested faculty in the spring preceding the fall launch of the program. The FLC had two goals: first, to provide structured assistance to the FYOS instructors in the form of resources, strategies and partnership-building, and second, to elicit feedback that could inform concurrent and future institutional efforts to support FYOS faculty. Two faculty administrators, both heavily involved in the development of the new program, facilitated the FLC and were also FYOS instructors.

Input from campus-wide discussions during the previous year of program planning influenced the prelimary scheduling of topics for the FLC, a schedule presented to participants at the first meeting and adjusted slightly to accommodate specific concerns raised by some faculty (e.g. concerns of those without experience teaching freshmen). In this and all other FLCs, participation was voluntary, goal-oriented, structured, interdisciplinary, supportive and safe (Furco & Moely, 2012). Participants were expected to attend as many meetings as possible, to share their challenges and breakthroughs, and to complete the regular assignment that followed each meeting: to apply one thing learned from the discussion to his or her class and to report back at the next meeting. Minutes from each meeting were circulated after via email. The FLC met during seven, ninety-minute sessions over the academic year. Meetings were typically held at midday over lunch obtained with the $500 yearly stipend from the Center for Teaching and Learning. Table 2 outlines the topics and goals for each FLC meeting.

As early as the first meeting it was evident that the members of our group were approaching the task of teaching the new seminar from perspectives that differed not only by academic discipline, but also by their degree or type of experience with first-year students. The unique and ambitious goals of this first-year program created another layer to this rich mix of faculty collaboration. As previously described, faculty were expected to attain programmatic goals that included introducing students to the role of the faculty member in a research university, teaching the three-part mission of UGA, and creating lasting relationships with students in their classes. Also, they were to attain these goals in a rigorous academic course based on their area of scholarship. Most faculty were confident that they could interact with students in a way that encouraged class discussion and incited interest in the class topic. In

Table 1
FLC participants

Participant	Discipline	Experience with First-Year Students
Bob	Counseling	Frequently works with first- and second-year students on matters related to academic success and persistence.
Sara	Faculty and TA Development	Works with new graduate student teaching assistants.
Sam	Physics and Astronomy	Teaches all levels of students, often teaches undergraduates in large lecture classes.
Kate	Environmental Design	Teaches all levels with a very hands-on, field-based methodology.
Ann	Veterinary Medicine	Teaches graduate students. First experience teaching first-year students.
Grace	Linguistics	Teaches all levels of theoretical linguistics in small class sections.

Table 2
"Your First First-Year Odyssey" Discussion Schedule

Month	General topic	Session details
August	FYOS goals	Our goals, expectations and concerns about the new course
September	Engaging the student and encouraging intentional learning	Getting students to talk more: Tips from Director for Faculty and TA Development, Center for Teaching and Learning
October	First-year pedagogy	Individual reports: Successfully addressing challenging aspects of this course
November	Resources: Using the *eLearning Commons* (eLC) site.	Common FYOS challenges: Selecting eLC resources to help
January	Lesson from the first semester of FYOS	New instructors discuss their goals, expectations and concerns; Fall instructors respond.
February	Who is the FYO Student?	Lessons learned regarding students' 1) preparation and accountability, 2) level of engagement with UGA and 3) interaction with faculty
March	Engaging the First-Year Student: How can our experiences help future FYOS instructors?	Applying what we have learned: Tips on course design by Associate Director for Faculty and TA Development, Center for Teaching and Learning

the safety of the FLC, however, many faculty revealed themselves to be less confident on goals such as teaching the UGA mission in a way that connected to the class topic.

Data Collection

Data were collected from participants in a semi-structured interview designed by the authors. The authors then contacted the participants to invite their participation and to provide consent forms for signature. Four participants interviewed by phone and two interviewed in person. Interviews lasted approximately thirty minutes and were recorded on a handheld recorder. The authors asked each participant the following questions:

1. What were your goals and expectations for this new course?
2. Describe your experience with the course, including successes or challenges with respect to your initial goals and expectations.
3. How did your participation in the faculty learning community impact your experience?

The authors also drew from FLC meetings and agreed upon some possible follow-up questions if the participants' responses warranted them. Some consideration was given to recruiting an external interviewer to speak with the participants to prevent any sense of unease that might prohibit honest responses. However, the authors decided that our presence at all meetings and for all discussions, both positive and negative, validated our

participation in this type of extended conversation (Wanca-Thibault, Shepherd, & Staley, 2002).

Analysis

The authors analyzed the interview transcript using the grounded theory approach of constant comparison (Strauss & Corbin, 1990) to identify emerging themes, and found the following appeared frequently in the interview responses: FYOS goals, course content, professor preparation, pedagogical issues, student preparation and student/faculty interaction. After the initial analysis the authors also obtained the assistance of a third rater, a qualitative researcher experienced in content analysis to review the transcripts in the same manner. The authors and the third rater agreed that three themes were predominant in the interview transcripts: pedagogy, student/faculty interaction and student preparation. Additionally, it was apparent that there was some difference in interpretation between the two authors and the additional rater with respect to the manner in which some interview data should be coded. For example, if a participant referenced interaction in class, one author interpreted the comment as an instance of a pedagogical issue while the other classified it as an example of student/faculty interaction. Similar cases were encountered in reference to professor preparation and pedagogy. Therefore, transcripts were reviewed a third and final time according to a reduced set of themes, defined here:

> Pedagogy: related to instructional methods used during class or to the instructor's plan for the presentation of materials or assessments. Examples could include strategies to promote student interaction in class (student-to-student or student and professor), in-class activities and assessments, or the scheduling of assignments to promote comprehension and completion.
> Student performance: related to student preparation before class, student participation in class, attendance, quality of student work.
> Student/faculty interaction: related to one-on-one interaction between student and professor and distinct from regular student/faculty interaction normally occurring in class. Interaction could occur in or around the class period or outside of class, perhaps in the context of required event attendance or to discuss other academic matters.

Results

Table 3 shows the number of comments made in response to the three interview questions, averaged over the three raters. The table includes all of the themes first identified by the FLC facilitators. As the FLC members responded to the interview questions, the number of references they made to particular themes – student/faculty interaction, pedagogy and student performace – were seen to change. The changes in the frequency of the appearance of these themes in the faculty interviews will be the focus of the analysis presented here.

Research question 1: Changes to Faculty Expectations of the Course

Student/faculty interaction. Table 3 shows that the FYOS program goals and the desire for student/faculty interaction were the topics most on the minds of these participants when they decided to teach the course. Regarding the program goals, faculty noted several concerns, ranging from not receiving full information about them to uncertainty about how to meet them. Of particular concern for many faculty was the way they were supposed to introduce students to the mission of the university. Sara stated, "I was having trouble with the events. Trying to figure out how to make that part of the class as opposed to just an add-on." Faculty were collectively positive and optimistic, however, about their ability to interact with the students. Most of these faculty typically taught upper-level classes that were small enough to allow for regular interaction with students. Bob, who typically teaches first-year students, stated that his "expectation was that there was going to be another level of closeness" that he would experience with students, and he "expected that they would have a good time."

Reporting on their experiences with the new course, faculty comments regarding student/faculty interaction decreased slightly, but the nature of the comments reveal that the topic did not disappear from their minds, but rather surfaced in different ways, requiring the authors to give careful consideration to coding of responses. For instance, the confidence that faculty had noted at the beginning of the semester regarding the interaction they expected to have with students was later expressed as concern over how to structure class discussion in order to move freshmen beyond their reticence to give one word or yes/no responses. As Ann explained, "Sometimes [you have] to have very specific things for them to answer or you'll get the yes or no response." Her observation was coded in the analysis as a reference to pedagogy because she was referencing ways that she had to set up the context or question in order to get a quality student response, but indicated that if successful, said strategy might positively affect student/faculty interaction. Sam stated, "Getting eighteen year olds at their first impact with college to participate in a kind of spiritual, intellectual discussion…is asking a bit I think." As in the case of Ann's comment, Sam's comment was coded as

Table 3
Frequency of faculty comments by theme

Theme	Goals for teaching course	Experiences in the course	Impact of FLC
FYOS goals	7	7	3
Professor preparation	3	2	2
Pedagogy	3	11	4
Student performance	4	5	1
Student/faculty interaction	6	4	4

"FYOS goals" because his remark addressed the feasibility of the program's goals, especially with regard to the readiness of the typical first-year student to interact on a level targeted by the program. Overall, it appears that the FLC faculty entered this new FYOS program thinking the small classroom environment would automatically create student-faculty interaction and dialogue, but that interaction did not occur at the level most of these faculty members expected. It should be noted, however, that each faculty member did indicate some level of positive student-faculty interaction did occur during the progression of the semester.

Pedagogy. When discussing their goals for the new course, faculty raised, albeit to a lesser degree, the issue of faculty preparation, and more specifically, how much preparation was necessary for a course that needed to be academically rigorous during just one contact hour per week. Faculty were also uncertain of how much pre-class preparation they could realistically expect from first-year students in this new course. Some comments highlighted their concerns about pedagogical approaches: would students actively participate in discussion with faculty and with each other? How were faculty to teach content in a way that revealed the larger purpose and mission of the university?

Most references to pedagogy occurred when faculty responded to the second interview question regarding changes to their expectations for the course. For example, both Sam and Sara suggested that they needed to be more explicit in the direction they provided to students. Similarly, Ann noted that she was "…going to change some things [such as] when we discuss things, make some more detailed information about what is required, and changing some of the grading schemes to increase the value of some things and maybe decrease the value of others." The authors also note that these comments reflect the sentiments expressed at several of the FLC meetings. As Table 3 demonstrates, the number of observations related to pedagogy rose while the number of comments related to the FYO goals remained the same. Generally speaking, faculty found it challenging to identify the best pedagogical approach for a first-year course with such unique goals. They often sought input from one another regarding the best ways, for example, to introduce students to the mission of the university in a way that directly related to the particular content they were teaching.

Student performance. At the outset of the new course, faculty expectations regarding student performance were largely undefined. Institution wide, many faculty teaching in the FYO program had never taught freshmen before. Ann was one such faculty and stated that she "…wasn't too sure of what to expect from the students because I had not taught freshmen before. I typically teach graduate students." Sam recognized that the small-class environment would be something new for him, saying, "I teach the freshman, sophomore 1000-level courses, which…are in the big auditorium…so it's a lecture." Neither of these participants knew what to expect from first-year students in the small setting that the FYOS program guaranteed. Bob, who had extensive experience with first-year students in a small classroom setting stated that he "expected them to not understand what the seminar was, to have little if no information since they were college students just coming in…I expected them to be ready for me to make the sale." Across the entire FYOS program, it appears that faculty expectations of how well the first-year students would be prepared for a specific FYOS topic were mixed.

As with observations on student/faculty interaction and pedagogy, the authors observed a shift in the faculty comments regarding student preparation after they taught the course. Faculty noted a level of dissatisfaction with the student work product. Kate remarked that when she gave them their first assignment "I said 'you need to reference…make sure you reference where you got it from…if you're taking a picture off of something, make sure you're referencing that." Similarly, Bob indicated that he also provided detailed requirements for each assignment and made sure students were paying particular attention to questions that he was asking.

Faculty also differed in some of their experiences with students' level of preparation. Sam indicated that "student preparation was a problem," while Bob stated,

"Everything I gave them they were ready to engage in...They are very smart, and they are very capable." The contrast here may be attributable to the differing degree of experience that these instructors had with first-year students. Bob's discipline provides him with multiple opportunities to gauge the strengths and weaknesses of beginning college students, while Sam encounters them most frequently in large lecture classes where one-on-one interaction is much less frequent.

Research Question 2: Impact of the FLC

In response to the third interview question about the impact of participation in the faculty learning community, faculty found the experience to be most helpful for providing additional, and sometimes new, pedagogical strategies to use in the freshman seminar and additionally, for learning new ways to encourage student/faculty interaction. All those interviewed also commented on the confirmation they received through the FLC that they were not the only FYOS instructors to experience challenges. Sam indicated that at the first of the semester,

> He…was a little at a loss and then we started having these sessions, the learning community. And uh, it was very helpful to me in the sense that I got some tips…and what was more important than the tips was just the encouragement from people: they were facing similar problems.

Noting his struggles to achieve satisfactory interaction with students, Sam also stated,

> You know in your mind you fantasize about how you react to students…and… again the learning community was important for getting me to think about other ways to engage the students and also to remind me that this is a common problem.

Kate also found the FLC to be confirming and to increase her ability to draw out the students. She stated that the FLC gave her "ways to kind of encourage the class to be more...lively [and use] ice breakers and how do you get them talking with each other and talking with you, so I think I got a lot of great ideas." She also noted that she,

> Liked [the FLC] just because of the support that it offered. In a case like this, I hadn't taught a course like this, and it's good to be able to go in and, even if it's just to get it off your chest…and then to have someone reciprocate some of those ideas and say 'well I'm having that same problem' or 'I have it and this is how I'm trying to address it.'

On a more practical level, faculty responses to the third question underscored something that FLC meetings uncovered: that some of them did not have a complete understanding of the goals of the program. Sam indicated that if the FLC had not discussed the FYOS goals then he might not have known about them. The FLC provided a forum for providing clarity on this issue and further, for promoting exchange of specific ways to meet each goal. Kate, who indicated that she understood the goals but had trouble determining how to meet the requirements that all first-year students had to attend three academic events, stated that the FLC helped her learn "how to encourage [the students] to go to events, and what were the events like, and you know getting them involved in that."

Having addressed the patterns we found in the responses to the interviews, we would like to also devote some space in this paper to relating the individual "odysseys" of these faculty (identified by pseudonyms). Their observations about their experiences with the new seminar highlight the variety of ways that the common challenges of the new program were addressed and what they drew from the FLC to help them with those challenges.

Faculty Observations

Bob: On the right track. Bob is an assistant professor and counselor working in a division of the university that supports students who need additional support and guidance for academic success. Bob's work puts him in regular contact with first-year students and equips him with perspective regarding the mindset of the new university student. While the FYOS program was a required program for all of UGA's first-year students, not merely those who need additional support, Bob was confident that his familiarity with the population and, more importantly, his typical mode of interaction with them would enable him to meet the goals of the program that targeted student/faculty interaction and an introduction to the academic culture of the university. Bob described his initial goals for the course as being able to "...help the student integrate in the intellectual and academic community…and to build a relationship with a faculty that is engaged in research and teaching here at the university." He also noted that his expectations for his students were as high as they would be in any other class, that they would be ready for him to "make the sale…and if I made the sale right, they would buy it." He stressed that his goal of closeness with the students was so important that it drove his course preparation, saying, "I did not want the course load to get in the way of…me building a relationship with them."

Bob was perhaps the only FLC member that did not confront a reality that challenged his initial goals.

Bob indicated that while the sale was not easy with every student, he "gained more confidence that…my goals were in line with the Odyssey program" and that listening to the experiences of others in the group confirmed that he was on the right track. Furthermore, evidence of Bob's success engaging his students in the academic culture was "a whole pile of papers over there…a research project that I am working on with a student from [that class]…and I fully expect it will get published. I mean, this is an eighteen or nineteen year-old getting published."

For Bob, the greatest benefit of his participation in the FLC was the confirmation it gave him that he was doing the right thing by both the program and his students. While he did mention the usefulness of the pedagogical strategies that were shared in the group, he indicated that the greatest benefit was the "good support" that came from being a witness to the "big spectrum of experiences of what was going on at the time."

Sara: Delayed interaction. Sara works in the Center for Teaching and Learning and teaches graduate student instructors how to teach undergraduate students. With this background as she began her FYOS seminar focused on motivation for learning. Sara "…was expecting to do an awesome job...to connect with them right away, the way I do with my graduate students." While Sara admitted that her recollection of teaching undergraduates was that sometimes it took an entire semester before everything fell into place enough for them to interact, she did not expect the FYOS to be that difficult because she expected her typical, interactive style of teaching would translate well to the small-class environment of the new FYOS course.

Sara observed that as she began the semester, she struggled with how much activity to plan for, knowing that undergraduates would be unlikely to extend discussion beyond the class plan as graduate students do. For some of the first weekly class meetings she felt that she almost under-planned because the students were not "as comfortable or at the level of maturity to really take a conversation…as opposed to just answer a question." She described having trouble incorporating the program's required campus event attendance in a way that integrated them into the course rather than seeming like an add-on. Sara also confessed to having trouble drawing students into discussions about the role of professors in the academic community, another of the program's outcomes. She told of starting off one class by telling of her experience presenting at a conference and sharing what she learned from other presenters, and she described that she was met by the blank stares of students who seemed to wonder, in her words, "when class was going to start."

Sara described her experience in leading her students to reflect on their own learning and to create oral and written dialogues about it. Early in the semester she found that students were reliant on prompts or examples that she gave, and they could not progress beyond a few responses in order to form a continuing and expanding dialogue about their history of, and motivations for, learning. Sara found herself adjusting pedagogical techniques until she arrived at a form of student reflections that students could feel comfortable with and use to create continued dialogue.

Sara found the FLC to be a good forum for picking up ideas from others, "…taking pages and pages of notes of try this, try this and bouncing ideas..." Perhaps more helpful than tips, however, was hearing others describe their struggles and, like Bob, feeling reaffirmed that, for the most part, she was taking the right approach to her first-year seminar.

Sam: Unlucky stars? Sam is a professor of astronomy who normally teaches upper level undergraduate and graduate courses. His experience with freshmen has historically been limited to the large lecture courses of one hundred or more students, where interaction between faculty and students is often limited. Sam began his FYOS course with hopes for great dialogue with freshmen on topics such as Einstein's theories of relativity. His plan was to "ask them a few questions to get them started and really engage them in some thinking in class." What Sam encountered, however, were students who were "very reticent about talking…It was really hard to get them to say anything." Sam admits to being uncomfortable with silence, and he began to fill that silence by filling in with more information and, after a few class periods, found himself back in his lecture mode. This was a point of frustration because Sam knew that the course was not supposed to be a lecture, and he wasn't sure how to spur the student/faculty dialogue. His need for new ideas led him to the FLC.

Sam joined the FLC early in the first semester and found it to be helpful in two ways. First, he drew upon the suggestions of others in the group and made changes to his pedagogy, "…taking more of a practical approach…asking simpler questions rather than a broad question like 'what is the nature of space?'" Sam also realized that if he wanted students to be prepared for discussion, he needed to provide them with forms of assistance such as reminders about assignments and questions to guide reading. Sam indicated that the new approaches helped increase interaction in class, though it did not quite become "this great Socratic dialogue." A second benefit of Sam's FLC participation was that it led him to reexamine his expectations about himself as professor and his students as partners in an academic discussion. He also confessed to unrealistic expectations about the students, anticipating that their "[fascination] about that stuff" would be revealed in active class discussion. The discussions in our FLC

meetings helped him realize that what is more common in a class like this is that students need help getting to the point where they can move the conversation forward on their own. His participation in the group also influenced his views on student participation, saying,

> I learned from the learning community that class participation is not necessarily a student who raises her hand every five minutes to ask a question. It's somebody who is attentive and paying attention…maybe they are too shy or just afraid of something that is intellectually daunting like the theory of relativity.

Kate: Cultivating quality work. Kate is an associate professor of landscape architecture who taught a freshman seminar on educational gardens. As part of the class her students toured and researched local school garden projects. At the outset of the semester Kate was hopeful that her students had enrolled due to their interest in the topic, and her initial challenge was how to give them what they needed to stimulate that interest without overburdening them with work for a one-hour course. Very early in the semester Kate found herself changing some of the assignments she had pre-planned in order to achieve a better balance.

As Kate taught the course she confronted a level of student work that did not meet her expectations. She referenced assignments that were hand-written or contained information copied and pasted from Internet sources that were never referenced. Kate described a sense of shock that her students would not put more effort into their work product, but she admitted that she was accustomed to something quite different from upper-division students. Therefore, she decided to make adjustments to the course that would provide students the structured guidance that they needed while also prioritizing their enjoyment of the experience. To do this, she began to provide more details with each assignment so that students would better understand what is expected of college-level work, and at the same time she introduced more opportunities for lively interaction both in class and on an increased number of field trips. Kate came to believe that if she didn't take it quite so seriously and tried better to meet students at their level of need, the students would get more out of the class.

Kate indicated that the FLC was for her a needed source of support and confirmation that others were facing the same challenges with regard to student preparation and work product. She gained some new pedagogical strategies from the group and, in particular, learned of new ways to connect the program's required event attendance to the content of the course. Kate noted that in her preparation for the course she put a lot of effort into teaching the content in a way that connected to the published goals of the course, but while teaching she wondered if the students really attained those lofty goals in just a one-hour course. She stated that while her colleagues in the FLC gave her great ideas, she felt that it was still very much up to the individual instructor to find a way to make the marriage work between the course content and the program goals.

Grace: Lost in translation. Grace is an assistant professor of theoretical linguistics and began her course in the new program very enthusiastic about the goals and looking forward to the opportunity to connect with students in conversations about her discipline. She was looking forward to teaching a class in which she could "interact more closely with a small group and be different from their other classes." Grace also welcomed the opportunity to engage new students in the academic culture of the university, to "show them a side of the university or their professors that they don't normally see." She admitted to a small amount of uncertainty about how to interest the students in her theoretical research and not lose them.

Grace was not able to engage all of her students, saying that in her class of thirteen there were only about three students that were "on board." Her expectation that students would be interested in getting a closer look at the ways that faculty pursue knowledge in their area was largely unmet. Her comments in the interview focused on the structure of the program and her suspicion that perhaps its significance was lost on first-year students. Specifically, she noted that students who were overwhelmed by the large new environment in which they found themselves and managing several classes might find it too easy to lower their work ethic for a one-hour course.

Attending FLC meetings benefitted Grace in ways similar to what other participants reported. She found it helpful to talk to people who saw some of the same issues arise and who concurred that "[the students] are not quite as curious about what we do as we hoped they would be." She also extracted ideas for enhancing student/faculty interaction and for making her pre-planned assignments more manageable for the students and more collaborative. During one FLC meeting she worked with other participants to redesign an assignment built around a language data set, and she left the meeting with two new versions of the assignment, both requiring students to work together, submit, revise and resubmit the assignment.

Ann: The new world of freshmen. Ann is an associate professor of population health in one of the university's professional schools. As such, she teaches graduate students and some upper division undergraduate students. Ann's FYOS seminar marked

the first time she had taught freshmen. She taught her course through the vehicle of a non-fiction work about genetic research. She was uncertain about what to expect from first-year students, but was optimistic that she could engage them in good discussions about some of the controversies surrounding research protocols. She expected that she might need to experiment with the balance of guidance and what she called "hand-holding" regarding their work ethic.

After teaching her seminar Ann stated, "I would say that [my expectations] were different, but not lower." Like other FLC members said in their interviews, she recognized a need to arrange things differently, such as the timing and format of certain discussions or quizzes. She saw that her students had difficulty retaining material covered over half a semester and thought that a better strategy might be to assess them on smaller chunks of material. She insisted, however, that that the amount of work that she gave them was appropriate, despite the protests of some students, and that if she taught the class a second time she would not decrease the amount of work, but "just spread it out differently" throughout the semester.

As she expected at the outset, she did have to work to find a balance between helping them complete their assignments and encouraging them to be self-reliant and responsible. Ann described her struggle to impress upon students the need to attend class regularly and to turn in assignments on time. From students who did not attend required out-of-class events that Ann scheduled according to their preferences to students who unapologetically told her they would not be able to submit an assignment, Ann navigated a semester of many challenges. Like Grace, Ann wondered if students were not ascribing sufficient importance to the one-hour course.

Ann's situation was also unique to that of the other participants presented here because she taught her seminar in the spring semester, unlike the others who taught in the fall. Ann joined the FLC in the fall specifically to allow herself a full semester of group discussion as she prepared her seminar. Like the others, she was grateful for a supportive group that shared similar struggles, confirming for her that her challenges were common to many. She described having picked up many tips for engaging the first-year student reticent to speak in class. Accustomed to graduate students whom "you have to shut up sometimes," Ann was not used to having to pull responses out of students. Even with a whole semester of participation in the fall semester of the FLC she faced challenges once in the classroom with her first-year students, Ann found her second semester in the FLC helpful to "bounce ideas off of the faculty…even to listen to other people say that it didn't work [for them]."

Discussion

The first goal of the FLC was to provide structured assistance to the FYOS instructors in the form of resources, strategies and partnership-building. The interview data indicate the FLC did in fact provide a place where faculty felt comfortable admitting to the challenges and working together to identify possible solutions. Faculty repeatedly mentioned the benefit of learning that they were "not alone" in the challenges they were facing. In this FLC the faculty more experienced with freshmen often provided mentoring to those less experienced, as seen elsewhere (Kemp & O'Keefe, 2003) and as noted by Ann, who stated,

> I found it very helpful because you had people there who taught freshmen before, so that was good for getting ideas…of how to…get my syllabus together a lot better, get ideas as far as how to engage the students…a lot more help through the FLC than I would have come up with on my own.

The second goal of the FLC was to elicit feedback that could inform future institutional efforts to support FYOS faculty. With regard to pedagogy, several of the faculty interviewed shared the difficulties of planning the right amount and type of activities to stimulate class discussion. Ann and Sam admitted struggling with the "balancing act" of knowing how much of what Ann called "hand-holding" to give students and how much to expect that they do on their own. These comments echo previous findings that teaching first-year students forces faculty to rethink their pedagogy, sometimes broadly and sometimes in methodologically specific ways (McClure, Atkinson, & Wills 2008, p. 43; Wanca-Thibault, Shepherd, & Staley, 2002). The information collected through this FLC can provide direction for future faculty development efforts for FYOS faculty, designed and delivered through institutional channels such as the Center for Teaching and Learning. Such events could address topics such as the amount and type of work to assign in a first-year seminar, how to elicit discussion from hesitant first-year students, how to address the required campus events in a way that integrates them into the course topic, and much more. In our FLC strides were made in this area, and our successes would be a valuable resource for future FYOS faculty.

Limitations

There are a few limitations to this study. First, the authors conducted the interviews after faculty had finished their first FYOS classes, compromising somewhat the thoroughness of the responses to the first question regarding their goals and expectations.

Although the question was addressed at the first meeting (see the discussion schedule in Table 2), in a second iteration of this study the question would be asked before the start of classes and before the first meeting of the FLC.

Lastly, as with data from any FLC, the factor of participant self-selection must be considered. These faculty joined the FLC because they care about teaching. Therefore, their perception of challenges may be heightened in comparison to others who might be less committed to success in the new course. In like manner, they may be more apt to draw upon the experiences of colleagues, such as their fellow FLC members, and to apply them quickly in their own courses.

Implications

UGA's Center for Teaching and Learning (CTL) coordinates approximately one dozen faculty learning communities each year. In the opinion of the authors, drawing upon evidence from the FLC described here, the CTL should support an FLC for the FYOS program on a continual basis. At the time of this writing a second iteration of the FYOS FLC is up and running, facilitated by the faculty director of the FYOS program. The challenge to future FLCs, and to the FYOS program itself, is to continually draw new faculty that could provide fresh perspectives each year and to make those perspectives available to other FYOS faculty, campus wide, as a form of faculty development. Furthermore, the authors recommend that current and future FLCs be utilized as a formal assessment measure of the new program to complement measures already in place. This would further enable the university to more comprehensively track the faculty and student experience over the lifespan of this program in order to ensure its continual improvement.

The findings of this research may have applications on a broader scale. While some institutions do offer or even require an orientation or workshops to prepare faculty for teaching in a first-year seminar program, our research to date finds no evidence of the use of faculty learning communities as a means of developing faculty for this type of teaching. Previous research even suggests that "faculty to faculty" networking was one of the least employed means of working toward a common goal of student retention and success (Calder & Gordon, 1999, p. 22). However, one of the greatest features of FLCs is that they span a year, allowing for faculty to build relationships, view one another as resources, and perhaps to observe their own growth and improvement as faculty. Previous studies have shown that faculty who derive personal satisfaction from teaching first-year students are likely to persist, thus contributing the other overall success of the program (McClure, Atkinson, & Wills, 2008; Soldner, Lee, & Duby, 2004). Therefore, it is the opinion of the authors that, while the design and goals of the first-year program described here is specific to one institution, the potential gains to faculty might be observed anywhere. We would therefore call for other studies of the effects of faculty learning communities on the preparation, satisfaction and growth of first-year instructors.

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Cultural Capital in the Classroom: The Significance of Debriefing as a Pedagogical Tool in Simulation-based Learning

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Although social inequality is critical to the study of sociology, it is particularly challenging to teach about race, class and gender inequality to students who belong to privileged social groups. Simulation games are often used successfully to address this pedagogical challenge. While debriefing is a critical component of simulation exercises that focus on teaching about social inequality, empirical assessments of the significance and effectiveness of this tool is virtually non-existent in sociology and other social sciences. This paper analyzes the significance of debriefing in a simulation game called "Cultural Capital in the Classroom" in order to address this lacunae in the pedagogy literature. The analyses reveal that the simulation contributed to students developing a greater degree of empathy for the working class and that the individual debriefing was a crucial step in developing students' critical thinking skills. Students gain even deeper insights during the collective debriefing session, which influenced them to question the validity of the ideology of meritocracy.

The exploration of social inequality is a cornerstone of Introduction to Sociology courses. Students often grasp the influence of economic capital on constructions of social inequality (Coghlan & Huggins, 2004; Simpson & Elias, 2011) but fail to understand the influence of non-financial assets as clearly. Similarly, students study how inequality manifests itself in particular social institutions yet often fail to recognize the extent to which these institutions participate in the reproduction of social inequality. This paper's analysis of a simulation game called "Cultural Capital in the Classroom" addresses the challenge of teaching about social inequality to students from privileged social class backgrounds, and it highlights the central role of the post-simulation reflection—debriefing—in developing critical thinking. While debriefing is acknowledged as an important element of simulation-based learning (Cantrell, 2008; Fanning & Gaba, 2007; Wickers, 2010), it remains virtually ignored within the sociology pedagogy literature.

Review of the Literature

Teaching About Social Inequality with Simulation Games

Though social inequality is critical to the study of sociology, it is particularly challenging to teach about race, class and gender inequality to students who belong to privileged social groups because they are often resistant to the idea that their advantages are not attributed to merit and may feel that their group is being targeted unfairly (Bohmer & Briggs, 1991; Davis, 1992). American undergraduates tend to believe that the United States is a meritocratic society where one's position in the class structure is largely influenced by innate intelligence and hard work (Coghlan & Huggins, 2004; Davis, 1992). Students from privileged social class backgrounds rarely encounter barriers or constraints that challenge this point of view, and this limits their ability to understand and accept structural explanations for social inequality (Bohmer & Briggs, 1991). Even when students acknowledge that some individuals start out with more advantages than others, they are still likely to see these differences as less consequential to social mobility. Thus, students often perceive schools as neutral entities that transmit objective knowledge, rewarding one's efforts, talents, and abilities regardless of student's social class background.

Bourdieu's theory of social and cultural reproduction provides students with an alternative perspective to this perception (Bourdieu, 1977, 1984). Bourdieu argues that schools are key mechanisms for reproducing class-based power and privilege. He refers to the class-based experiences, values, beliefs, behaviors, and predispositions of the dominant group as cultural capital. Children acquire this cultural capital from their families and for their entire lives; for children from privileged social groups, communication styles and types of social interactions within their families resemble those used to transmit knowledge in schools. Bourdieu's (1977, 1984) work allows students to better understand the impact of social class on students' educational outcomes and prospects for social mobility because he turns the common perception of schools as equalizing agents on its head.

Many scholars address how to teach about social inequality in the sociology pedagogy literature (Coghlan & Huggins, 2004; Simpson & Elias, 2011). However, few of these studies focus on how to teach about cultural capital (Griffith, 2012; Isserles & Dalmage 2000; Norris, 2013; Wright & Ransom 2005). Similarly, while most of these studies include a discussion about the use of

debriefing following the simulation, it is an understudied area of inquiry. "Cultural Capital in the Classroom," the assignment used in the course instructor's Introduction to Sociology courses, contributes to the teaching pedagogy literature in sociology by drawing on Bourdieu's (1977) concept of cultural capital to show how schools are implicated in reinforcing social inequality and in assessing the significance of debriefing as a pedagogical tool that enhances students' learning. While there are many ways to assess student learning following a simulation, such as improvement in test or paper grades on an assignment, a significant finding from this study is that the group dynamic and reflection aspect of debriefing, which cannot be easily captured by other methods, contribute to the cognitive and emotional development of students.

The Significance of Debriefing

Debriefing refers to the follow-up discussion and/or reflection that take place after a simulation or experiential learning exercise (Cantrell, 2008). This discussion can be used to provide critique (Neil & Wotton, 2011), to assess the impact of the simulation on students' learning (Mariani, Meakim, Prieto, & Dreifuerst, 2013), to encourage reflection and critical thinking, to ensure that students arrive at a shared understanding of course content, or as a mechanism for processing emotions (Cantrell, 2008), particularly when teaching about social inequality to privileged students. Debriefing can take place in written or oral form, and it can be done individually, with a facilitator, or as part of a group discussion (Kriz, 2010). While debriefing is a critical component of simulation exercises that focus on teaching about social inequality, empirical assessments of the significance and effectiveness of this tool are not central concerns in sociology (Griffith, 2013; Norris, 2013; Wright & Ransom, 2005).

For example, Norris (2013) described a study where she used an innovative teaching tool in her introductory sociology courses at a research university and a liberal arts school. The participants were students with a similar demographic. The author used a simulation game called "Beat the Bourgeoisie" where she divided students into two social class groups, a small group representing the economically privileged bourgeoisie and the other representing the exploited proletariat. She then gave them a quiz based on the material taught in the course. All the members of the winning team received extra points. She then treated students differently depending on the social class to which they were assigned.

The simulation used a pre-test post-test design, which included a questionnaire administered after readings, lecture, and discussion before the simulation. The same questionnaire was used to assess students' beliefs and understanding of stratification after the simulation. In addition, the author used an oral debriefing session both to capture students' immediate reactions to the game and to draw out broader implications of what students had learned about social class and meritocracy. Like many articles on sociological simulations (Coghlan & Huggins, 2004; Griffith, 2012), however, debriefing is acknowledged as important but not as the primary focus of scholarly attention. In Cultural Capital in the Classroom, the focus is on the impact of debriefing as a pedagogical intervention designed to deepen students' understanding of how cultural capital fosters social inequality.

Empirical articles on post-simulation debriefing are more common in nursing literature than in sociology due in part to their effectiveness as pedagogical tools for enhancing clinical training and professional development (Cant & Cooper, 2011; Cantrell, 2008; Peters & Vissers, 2004; Wickers, 2010). In particular, debriefing helps nursing students reflect upon errors they have made in specific situations and on how to improve their future practice with actual patients. These studies help us understand how debriefing "works" in sociology and other social sciences where the focus is not on honing technical skills. While there is strong consensus within the nursing literature that debriefing enhances students' learning (Cantrell, 2008; Fanning & Gaba, 2007; Wickers, 2010), a limited number of studies empirically addressed the significance of debriefing as a post-simulation pedagogical tool (Neill & Wotton, 2011; Mariani, Cantrell, Meakim, & Dreifuerst, 2013). These gaps in knowledge underscore the need for more studies about debriefing in the sociology pedagogy literature. This article addresses these lacunae in the pedagogy literature in sociology in regard to the significance of post-simulation debriefing and point to potential contributions outside of sociology.

The Context of the Course

The course instructor conducted "Cultural Capital in the Classroom" in two different sections of an Introduction to Sociology course at a small liberal arts university located on the East Coast with a population of approximately 3500 students. Seventeen students were enrolled in the first section and eight students were enrolled in the second section; twenty-two students participated across both sections. As Table 1 indicates, the majority of the students were White (64%) and female (73%). Most students came from families where their fathers (82%) and mothers (68%) had at least a bachelor's degree and where family incomes were $100,000 or higher (68%). As such, the students enrolled in this course represent the types of students who often resist the study of social inequality (Bohmer and Briggs; Cantrell, 2008; Davis, 1993).

Table 1
Demographic Information

Demographics (N=22)	Number	Percent (%)
Gender		
Male	6	27.3
Female	16	72.7
Race/Ethnicity		
Black/African American (non-Hispanic)	3	13.6
White (non-Hispanic)	14	63.6
Hispanic/Latino	2	9.1
Asian	1	4.6
American Indian or Alaska Native	0	0
Multiracial	2	9.1
Educational Attainment (Father)		
Less than high school	0	0
High School	2	9.1
Associates	2	9.1
Bachelors	9	40.9
Masters/Professional	7	31.8
Ph.D.	2	9.1
Educational Attainment (Mother)		
Less than high school	1	4.6
High School	2	9.1
Associates	3	13.6
Bachelors	8	36.4
Masters/Professional	6	27.3
Ph.D.	1	4.6
Family Social Class (Class Segments)		
Privileged Class (~20%)		
Superclass (1-2% of population)	2	9.1
Credentialed Class (top 13-15%)	9	40.9
Professionals (4-5%)	4	18.2
(New) Working Class (~80%)		
Comfort Class (10%)	2	9.1
Contingent Class (50%)	4	18.2
Self-employed (3-4%)	1	4.6
Excluded Class (10-15%)	0	0

Note: For a description of Family Social Class Segments see Wysong & Perrucci, 2010.

The simulation was conducted during the second half of the semester when students had received multiple opportunities to engage with issues of inequality through lectures and course readings. Specifically, the course instructor presented social class as having multiple dimensions and introduced students to the concepts of economic capital, human capital, social capital and cultural capital (Bourdieu, 1977; Coleman, 1988; Marx, 1848). Students also learned about Marx's (1848) perspective of society as stemming from an individual's relationship to the means of production and the separation of society into a privileged elite class and an economically exploited wage earning class. Students' understanding of social class as a multidimensional construct was further developed with lessons on social capital where students learned about the valuable resources available to individuals depending on the social networks to which they belong. Students also learned about cultural capital through a lecture that included reference to Lareau's (2011) work, which describes the child rearing practices that middle class parents utilize to equip their children with skills to interact with authority figures and prepare them to be future leaders.

In the weeks leading up to the simulation, students were primed for discussions of social inequality with an exercise that allowed them to share their perspectives on social inequality in small groups. They were also asked to complete a survey originally constructed by Mindelyn Buford II, PhD at Northeastern University in Boston, MA (see Appendix A). The students then

discussed the results of their surveys with their classmates. We acknowledge that the timing of the survey was a limitation of the study, as distributing this survey at the beginning of the semester would have yielded more accurate information about students' pre-course attitudes. However, the survey would not have fit well at the beginning of the semester with the planned sequence of the course.

Procedure

The simulation required that each student draw from one of the identity cards listed in Table 2. Since Bourdieu's (1977) theoretical framework posits that the cultural capital of middle class families is more valuable than those of individuals from the working class, we created educational and occupational categories that we thought would be consistent with each character's class identity. Students were asked to assume the role of a child corresponding to the individual whose identity card they had selected and to play the role of that student in a simulated classroom environment where they would be given an exam. The goal of this exercise was for students to reflect on the value of cultural capital in the classroom by providing students in the middle class group with an educational advantage relative to students who played the role of a working class student. Accordingly, all of the students received a worksheet comprised of Chinese symbols. However, students who assumed the role of middle class students also received the English translation cheat sheet so that they could easily do well on the quiz. Students who assumed a working class identity received a cheat sheet with pictures of cartoon characters such as Sponge Bob.

The cheat sheet distributed to middle class children was a physical representation of dominant cultural capital acquired through previous educational or cultural experiences. The cheat sheet with popular TV characters was distributed to working class students to reflect the reality that parents of working class families often do not have the time or resources to invest in the kinds of cultural or educational experiences that would produce familiarity with Chinese symbols (or other forms of dominant cultural capital that it represents). It also reflects the reality that working class youth are more likely to spend their leisure time in informal activities such as watching television than students from more privileged backgrounds (Lareau, 1987).

Students were asked to raise their hands if they had the correct answer to each question, and the course instructor informed the class whether the response was accurate or not. Not surprisingly, all of the students who were assigned a middle class identity gave correct responses to the quiz questions; in contrast, all except one of the students assigned to the working class group gave incorrect responses to quiz questions.

Immediately following the simulation, students were asked to complete a survey and part I of a classroom activity questionnaire. They were instructed not to write their names on the survey, but to include demographic information such as age, race/ethnicity, gender, and the highest degree attained by their mothers and fathers. In addition, using the table from Wysong and Perrucci's (2010) article on the U.S. class structure that was assigned during week ten of the course, students were asked to estimate in which social class category they would place their family based on the types of jobs that their parents held (see Table 1). Part I of the debriefing questionnaire inquired about their views of social class inequality prior to enrolling in the course and how these views were impacted by the classroom simulation. Students provided written responses to questions below which allowed them to process what they had learned individually:

1. Prior to this class, did you view social class as having an impact on students' educational experiences or outcomes?
2. Prior to this class what were your views on the impact of social class on students' educational experiences and/or outcomes?
3. What is the most significant thing (if any) that you learned from participating in the cultural capital exercise/simulation?
4. Did the simulation deepen your understanding of cultural capital and how it manifests in real life beyond what you learned from course readings? If yes, how did it do so? If no, please explain why.

After students completed Part I of the debriefing questionnaire, the class engaged in a debriefing discussion about their thoughts and responses to the simulation using their written responses as a starting point for their conversation. At this point, most of the students were eager to share their views with each other. The professor played the role of facilitator by encouraging students to speak openly. Although she sometimes asked for clarification, she tried not to express judgment by interjecting her own point of view or through the use of body language. After approximately 20-30 minutes of discussion, students were asked to write responses to the two following questions on the debriefing questionnaire:

1. To what extent did class discussion further enhance your understanding of how cultural capital influences the educational experiences and outcomes of students?
2. Do you have any suggested changes that would enhance the effectiveness of this exercise?

Table 2
Possibly Identity Cards

Name	Race	Social Class	Educational Background	Occupation	Family Situation
Sallie	White	Middle	College Graduate	Stay-at-home Mom	Mother of Two
George	Black	Middle	Medical School Graduate	Orthopedic Surgeon	Father of Three
Janet	Black	Middle	Law School Graduate	Lawyer	Mother of One
Michael	White	Middle	Doctoral Graduate	College Professor	Father of Two
William	White	Middle	MBA Degree	Accountant	Father of Two
Debbie	White	Working	High School Dropout	Waitress	Single Mother of Three
Peter	White	Working	High School Graduate	UPS Delivery Man	Father of two
Rose	Black	Working	High School Graduate	Stay-at-home Mom	Mother of Four

Results

The Significance of Individual Debriefing

This section provides an analysis of the written debriefing that students provided individually immediately following the simulation regarding its impact on students' understanding of cultural capital. Eighteen students reported that the simulation deepened their understanding of cultural capital and reinforced course readings and concepts. Four of these eighteen students reported that the simulation increased their understanding only slightly. All except one of these four students belonged to one of the privileged social classes. Three students reported that the simulation did not deepen their understanding beyond course readings. One of these three students said that he had learned about cultural capital previously. These three students all belonged to the privileged classes as well. These data are consistent with prior research suggesting that students from privileged backgrounds have a more difficult time acknowledging social inequality (Bohmer & Briggs, 1991; Davis, 1992).

Among the eighteen students who reported gaining a deeper understanding of cultural capital from the simulation, we discerned three distinct types of responses: (1) concrete application and understanding of abstract concepts (2) empathy with less privileged students (3) and an oversimplification of the impact of poverty on students' backgrounds (e.g. does not account for resilience or other factors that might contribute to some working class "making it.")

The most common response from approximately forty percent (9) of the students was that the simulation helped students to develop a more concrete understanding of an abstract concept:

> Yes…the simulation and the concrete [cheat] sheet in particular helped to reinforce (course) concepts (Student #13, privileged class)

> Yes, it deepened my understanding because it showed first hand that even if those (working class) students wanted to know the right answers they couldn't do anything about it because they did not have the knowledge/resources. (Student #22, privileged class)

The second response by student #22 suggests that even if students from working class backgrounds want an education, they are limited by their parental resources, the primary source of this necessary knowledge. It shows this student's appreciation of structural inequality and that where one ends up in the class structure is not simply a reflection of one's personal choices and desires. For most students, this level of clarity came after the collective oral debriefing.

Perhaps the most significant benefit of the simulation was experiencing the feelings and emotions of their assumed identity. For example, some of the students reported feeling more empathy for the working class:

> Yes, it forces us to not simply learn from a reader's perspective or as an onlooker but forced us to experience the inequality on our own which was definitely valuable. (Student #14, privileged class)

The excerpt above suggests that reading about social inequality positions the student in the role of a passive "onlooker" who exists outside of the experience s/he is reading about, and so can remain emotionally detached from the information. As a participant in the simulation, however, the student feels the emotional impact of belonging to a disadvantaged group that contributes to feelings of empathy. Another student built upon this perception by showing how empathy can contribute to deeper understandings of the source of educational inequality:

> Those who represented the working class talked about how they did not take it seriously because they knew they weren't going to succeed. I think this sheds light on why less privileged students are less motivated and more likely to drop out [of school]. (Student #18, privileged class)

What is significant here is that students observed other privileged students exhibiting attitudes and behaviors that were inimical to academic success, simply from participating in a short classroom exercise, as opposed to working class youth who might be exposed to similar conditions in their real lives for a prolonged period of time. In addition, students often assumed that these differences in attitudes and behavior reflect inherent differences in cultural values across different ethnic, racial, and socioeconomic groups. Seeing the vulnerability of their classmates from similar social backgrounds allowed them to see that it was likely that the attitudes and behaviors that contribute to negative academic outcomes among working class youth are rational responses to external social forces, and that they might behave in a similar fashion under the same circumstances.

While the simulation did influence students' awareness of social inequality, a couple of students seemed to take a literal, one-dimensional interpretation of the activity that ascribed hopelessness and despair to the plight of working class students. For example:

> Yes, it showed that often there is simply nothing you can do to increase your cultural capital. The participants in the working class didn't do anything to deserve the same [inferior] cheat sheet. (Student #8, privileged class)

Although the simulation influenced a few students to think that a working class background is a death sentence, we do think the simulation and the individual debriefing that followed were effective in getting these particular students to recognize that just as the students in the simulated working class did not deserve to get the bad cheat sheet, in real life, members of the working class cannot be blamed for the circumstances into which they are born. Further, student responses during the individual debriefing suggested that the simulation was successful for most students in deepening their understanding of cultural capital beyond course readings. These data point to the strength of the individual debriefing which allowed students to put themselves in the shoes of other people with less privilege, allowing some to make abstract concepts more concrete and others to develop empathy for students from less privileged social backgrounds. That said, the response from student #8 above also points to the limitation of individual debriefing because students may still process the simulation with pre-existing biases and based on their particular understanding of the course material. In contrast, collective debriefing has the potential to counteract pre-existing biases as well as expose and redirect flawed logic that may come out during the individual debriefing because students get exposed to multiple perspectives that diverge from their own.

The Significance of Collective Debriefing

Student responses indicated that they felt even more enlightened after the collective oral debriefing than they had right after the simulation. Deeper insight from the collective debriefing session can be attributed to hearing alternative viewpoints from peers with different schooling experiences, which further enhanced students' understanding of the multiple ways that cultural capital can impact educational experiences and outcomes. For example, although students had a reading (see Cookson and Persell, 2004), that described the [social] engineering process referenced by Student #14 below, it was more impactful when students who had attended boarding schools validated the accuracy of the reading as is evidenced by multiple student responses below:

> It really makes you think about the true significance behind your school setting. I had never recognized how much engineering for success there is in private schools compared to public schools. (Student #14, privileged class)

> It was helpful to know the opinions of the classmates because they could also tell their own experiences learning in different kinds of schools. So it definitely was helpful to understand the different predispositions of students or the different ways of interaction between teachers and students. (Student #7, privileged class)

> Going to a boarding school, as I stated before, I knew I was lucky, but what really enhanced my knowledge of really how lucky I was, was with the other students in the class who did not have the same exposure-It put into perspective the amount of activity and opportunity that was available (to me). My experiences I now wholeheartedly understand were wildly different and special. (Student #1, privileged class)

In addition to further deepening students' understanding of cultural capital and educational inequality more broadly, the debriefing discussion was most useful in challenging students' belief that American society is a meritocracy, a revelation that students made with consistency only after the collective debriefing session:

> Prior to school, the experiences you have at home and in social surroundings set you up for failure or success at school. I had no idea it was to such a large extent. The system limits meritocracy severely. (Student #5, privileged class)

> It helped me to look at other issues that involve education and apply that to cultural capital. The relationships being made in private schools make it

> better for the child's future outcomes. This also emphasizes the US Society as stratified because it's rare that Americans (experience social mobility) based (only) on merit. (Student #4, working class)
>
> The lack of knowledge and resources to lower class individuals could clearly be seen through this exercise. Also, the perspective that people of lower class status are lazy and don't work hard was eliminated from my mind because it can be truly harder for them to achieve success. (Student #21, privileged class)

Student responses indicated that the collective debriefing session was crucial in students' understandings of cultural capital as counter to the American meritocracy ideology. It is likely that the discussion influenced students to make this connection precisely because the experiences of their classmates were so consistent with what they had presumably already learned from course readings, lectures, and the simulation itself. However, students could have easily dismissed course readings as based on flawed or inaccurate data that only reflected a partial reality. Similarly, they could have perceived the authors and the course instructor (a Black woman) as biased. In contrast, their peers might appear to be unbiased sources as they are not likely to be perceived as being invested in convincing them of any particular truth. As such, it is a powerful experience when these numerous personal accounts align with course readings and lectures. Taken as a whole, student responses point to the important synergy that takes place when individual and collective debriefing are used to unpack classroom-based simulations such as the one discussed in this article. Individual debriefing provides students with the opportunity for self-reflection without judgment where they have the opportunity to formulate their distinct points of view without input from classmates or the course instructor. The collective debriefing is like pointing multiple cameras at the same phenomenon from different angles, thus allowing for a deeper more holistic view of an image. Similarly, the collective debriefing provides students with a more holistic view of cultural capital and social inequality than they had after their individual debriefing session.

Discussion

This paper examined the significance of debriefing as a pedagogical tool in simulation-based learning by observing the impact it has on students in an Introduction to Sociology course. Students participated in a simulation called "Cultural Capital in the Classroom," an activity which aimed to highlight the potential role that schools can play in reinforcing social inequality in society. The exercise simulated the classroom, which is a familiar site to students, where they assumed either the role of a middle class or working class child who is taking an exam. The simulation then made visible how cultural capital privileges middle class students and places those from working class families at a disadvantage. In doing so, students came to realize the relationship between their acquisition of dominant cultural capital and their own academic success. From this micro-level example, students questioned the role of schools as institutions that foster equal opportunity for success across the socioeconomic spectrum and were increasingly likely to accept structural explanations for inequality. Many students had believed that educational institutions fairly distributed rewards based on innate intelligence and hard work. When the simulation challenged this core belief, students began to critically engage the assumption that American society is meritocratic.

The individual debriefing that immediately followed the simulation contributed to students developing a greater degree of empathy for the working class. This empathy partially resulted from having to assume the identity of a working class student or from observing the benefits accrued to students who assumed the identity of a middle class student. This is a significant finding because Norris (2013) reported that although students who participated in "Beat the Bourgeoisie" reported gaining a deeper understanding of social and cultural capital and barriers to mobility among members of the working classes, the simulation did not lead students to feel differently about poor people, and it did not lead them to critically analyze a specific social institution. In contrast, "Cultural Capital in the Classroom" capitalizes on the guilt and defensiveness that privileged students can feel in discussions about social inequality that point to them as beneficiaries of an unjust system of oppression. This simulation diffuses some of these feelings by requiring students to take on an assumed identity. Since unpopular views can be attributed to their assigned persona, taking on an assumed identity releases students from the fear that they will be judged unfavorably by their peers, and this creates a safe space that is conducive to critical thinking.

The most noteworthy finding, however, is that students did not begin to question the validity of the ideology of meritocracy until after they had participated in the collective debriefing. Once students came to terms with what they individually thought, the collective debriefing took on additional power by confirming or challenging what the students had deemed as credible. This power rested in the collective nature of this activity. Since the debriefing was mostly a discussion among the students, they were able to learn

directly from each other's experiences; this proved more powerful than hearing the same information from a professor who is normally seen as the only expert in the classroom. For example, students who attended boarding schools could affirm to their classmates that their experiences were in fact consistent with what the class had learned (from lectures and readings) about cultural capital production in elite schools, and, together, they were able to triangulate this knowledge with what they learned in the simulation, and their own schooling experiences.

Even so, it is important to note that the effectiveness of the collective debriefing depended on appropriate scaffolding throughout the semester. The individual debriefing provided a forum for students to independently synthesize and integrate prior knowledge gained from course readings and lectures, to apply them to the simulation and to develop a stance and defend it. The individual debriefing was a crucial step in developing students' critical thinking skills as it provided a safe space for students to reflect individually, without the pressure to share their views with their peers or the course instructor. Further, while the empathy for disadvantaged populations (mentioned above) that emerged from this simulation holds innate value in allowing students to imagine themselves in the shoes of "the other," this empathy also facilitated the critical insights generated in the collective debriefing phase. When feelings of empathy begin to replace feelings of guilt, discomfort or defensiveness, students become more invested in engaging in the intellectual labor required to think critically about social inequality (Meyer & Turner, 2002; Weiss, 2000). That is, while we often think of emotional work and intellectual work as separate, the individual and collective debriefing gives us a window into how emotional learning can bolster the capacity for the intellectual work that we call critical thinking.

Based on the analyses of the data presented thus far, the authors provide three recommendations for colleagues who are considering using this exercise in their courses. First, in hindsight, the course instructor would conduct the survey at the beginning of the course in order to more accurately capture students' pre-course attitudes about the extent of social inequality in the United States and use this information to tweak lesson plans throughout the semester to address students' misconceptions about social inequality. Second, scaffolding is important in order for this exercise to work. Students should be introduced to cultural capital in lectures and course readings prior to the simulation. The simulation is intended to deepen and concretize students' understanding of cultural capital. Third, and most important, both individual and collective debriefing should be used to assess and reinforce students' understanding of cultural capital as the data shows that these two types of debriefing reinforce each other.

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Appendix A
Social Inequality Mini-Survey by Mindelyn Buford II, PhD

1) Which phrase best reflects your general opinion about U.S. society: (select only one)
    a. U.S. society is meritocratic and an individual's chance to get ahead in U.S. society ***is not*** limited by their social origins.
    b. U.S. society is meritocratic, but an individual's chance to get ahead in U.S. society is limited by their social origins.
    c. U.S. society is stratified and an individual's chance to get ahead in U.S. society is limited by their social origins.
    d. U.S. society is stratified, but an individual's chance to get ahead in U.S. society ***is not*** limited by their social origins.

2) Which phrase best reflects your general opinion about inequality in U.S. society: (select only one)
    a. Inequalities of wealth, power, and status are socially created and should be kept to a minimum through laws and policies.
    b. Inequalities of wealth, power, and status are socially created, but they are inevitable and the legal system and government **should not** intervene.
    c. Inequalities of wealth, power, and status are naturally occurring, but should be kept to a minimum through laws and policies.
    d. Inequalities of wealth, power, and status are naturally occurring and inevitable so the legal system and government **should not** intervene.

3) Which is the most important to you? (select only one)
    a. Access to opportunities and resources regardless of class background
    b. Access to opportunities and resources regardless of racial background
    c. Access to opportunities and resources regardless of gender
    d. Access to opportunities and resources regardless of sexuality
    e. Access to opportunities and resources regardless of some other social characteristic (please list the characteristic)
    f. Don't know/none of the above

Instructions

1. Group Students based on how they respond to the questions (a's , b's cs' etc).
2. In groups discuss-why did you select a particular response? Why did you NOT select the others?
3. Report out and discuss each group's responses.

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Reflective Writing through the Use of Guiding Questions

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Reflections can be seen as powerful tools for growth and intellectual development. It is no surprise that the writing of reflections is common practice at a Federal Institute in the United Arab Emirates (UAE). The research presented sought to explore possible differences in reflective writing once guidelines were presented to a group of interns in the College of Education. Text analysis of written work samples were used to determine possible differences in reflective writing. Results showed that most students preferred to use the guiding question while writing their reflections. There was also a significant improvement in the quality of written reflections after reflection guiding questions were presented and used. This study contributes to the knowledge base of reflective writing of Emirati students and emphasizes the importance of support in the form of guiding questions. Educational implications and future research direction are also discussed.

Introduction

A desirable teaching goal is to have students write reflections because reflections are considered effective tools of intellectual development. Tertiary students are consistently encouraged and often required to reflect on their learning experiences because it is believed to help them learn (Davis, 2006; Maclellan, 2004; Mair, 2012; Tsang, 2011). In the field of education, reflection has now become of high interest, but as Mortari (2012) highlights in her analysis of the literature, a variety of approaches on how to help foster reflection is available, but little evidence shows how effective these reflective approaches are. Nevertheless, it is crucial to understand the meaning of reflection before any attempts are made to help the fostering of reflection and reflective writing.

Generally, the research question this study attempted to answer related to how faculty could support students in becoming deeper reflective writers. More specifically, can—and to what extent are—written reflections enhanced when students are provided with reflection guiding questions? The research presented will attempt to broaden the literature on how to foster the writing of reflections which may in turn benefit higher education institutions both internationally and also within the context of the UAE since tertiary students are requested to write reflections in order to improve their learning and practices.

Literature Review

The Nature and Purpose of Reflection

When reflection is being defined, the conceptual elements and theoretical perspectives put forth by Dewey (1933) are often referred to. Reflection, according to Moon (1999, 2004), is a form of mental processing with a specific purpose and/or predicted outcome that is applied to relatively complex or even unstructured ideas. Moon (1999, 2004) states that for students to engage in deep learning, reflection is required, whereas surface learning may occur because of a lack of reflection. Others have defined reflection to be a mental activity in which an individual attempts to make sense of an experience (Seibert & Daudelin, 1999). Dinkelman (2003) argues that reflection is conceptualized as a self-study, in which one engages in intentional and systematic inquiry in one's own practice. In the education profession, reflection is recognized as a complex and deliberate process of thinking about and interpreting an experience in order to learn from the experience (Atkins & Murphey, 1995). Imel (1992) also points that one reflects to improve practice. This is especially true if reflection is considered to be productive rather than unproductive (Davis, 2006). In this paper, reflection is understood to be consistent with Moon (1999, 2004) and with Atkins and Murphey's (1995) definition as a form of mental processing and deep thinking about a specific experience for the purpose of improving one's own practice. The type of reflective activity under investigation and discussion in this paper is that of reflective writing.

Taxonomies of Reflection

How one comes to evaluate the quality of a reflection can be quite difficult (Yost, Sentler, & Forlenza-Bailey, 2000). Consequently, hierarchies of reflective thinking have been formed. Van Manen (1977) formed the basis for this type of hierarchal framework indicating three levels of reflection, namely; empirical-analytical, hermeneutic-phenomenological and critical-dialectical. At the empirical-analytical level emphasis is on effectiveness, efficiency and productivity. The hermeneutic-phenomenological paradigm stresses that experiences are regarded as intentional and that knowledge is conditionally practical. At the critical-dialectical level, emphasis is on the ability to acquire social wisdom and to test social situations while considering social roles, equity dominance and social

justice. Several frameworks have been built on Van Manen's (1977) framework (e.g. Sparks-Langer, Simmons, Pasch, Colton, & Starko, 1990), but of particular relevance to this study is that put forth by Hatton and Smith (1995) because of its ability to capture the depth of a reflection.

At the lowest level, Hatton and Smith (1995) talk about *descriptive writing*, which is simply reporting events and interpreting these events as personal worries. With *descriptive reflection,* some effort is made to analyze reasons for events or situations, and this can also include the students' own interpretations. A higher level of reflection is the *dialogic reflection* in which a student engages in a dialogue with himself or herself. This type of reflection is characterized by an exploration and consideration of different reasons. Dialogic reflection is "hearing one's own voice…exploring alternative ways to solve problems in a professional situation" (Moon, 2004, p. 45). It is argued that only through dialogic reflection can students move into the highest form of reflection known as *critical reflection.* Critical reflection is "thinking about effects upon others of one's actions…" (Moon, 2004, p.45), and this is based on social, political and/or cultural considerations. A notable strength of Hatton and Smith's (1995) taxonomy of reflection is that it offers specific characteristics of reflective writing that allow one to determine whether or not and at what level reflection is being achieved. In addition, the taxonomies of reflection can offer students guidance to writing higher-level reflections in areas where students are required to reflect.

Reflective Writing

The writing of reflections can be considered a somewhat complex and deep process. Several education programs require students to reflect in written form as part of their learning experiences (Bean & Stevens, 2002; Tsang, 2003). Students engage in reflective writing because it is believed to trigger and prompt learning (Davis, 2006; Maclellan, 2004; Mair, 2012; Tsang, 2011). Mair (2012), for example, showed that students' learning was enhanced through an online resource that facilitated the retrieval of reflections, which in turn facilitated reflective writing. Reflective writing focuses on experiences that are attached to its context, hence reality is constructed while considering complexities of this context. Based on this, it has been argued that reflection involves cognitive, critical and narrative elements (Colton & Sparks-Langer, 1991). While reflecting on her own narrative experiences, for example, Akin (2002) stated that reflective writing helped her in developing a better understanding of her own teaching practice which in turn assisted her in the conceptualization of herself as a teacher.

Reflective writing may come in various forms such as reports, portfolios, journals and more recently emails, to name a few. Ward and McCotter (2004) believe that a reflective journal is the most effective and meaningful form of written reflection. There are several advantages to writing a reflection. When written effectively, reflections can act as a bridge of communication between the writer and the reader, allowing the reader an inside look into the experience the writer is writing about. This is especially relevant for faculty who serve as supervisors for interns out in the field. Supervisors may get a closer look and deeper understanding of their interns' experiences through their written reflections, especially if the written reflections are of high quality. But writing quality reflections is not something that accidently occurs. This notion has been historically pointed out by Dewey (1933) when he specified reflection to be a learned process requiring encouragement, reinforcement, supervision and training. More recently, it has also been highlighted that reflection is not gained through mere experience. Valli (1997), for example, says reflection should be encouraged intentionally and also points out that it requires much supervision. In support of this, Glazer, Abbott and Harris (2004) further claim that a supervisor should act as facilitator, and Gelter (2003) stresses that reflection should utilize social and personal values.

The feedback one receives also greatly influences the quality and development of reflective writing. In fact, as indicated in the literature, instructor feedback is considered one of the most effective methods that may help in fostering reflective writing. In a study that investigated instructor feedback on journal entries, when feedback related to the level of reflection was provided rather than feedback related to the experiences mentioned in the reflection, a positive impact on the quality of the written reflection was later observed (Bain, Mills, Ballantyne, & Packer, 2002). Students felt challenged through instructor questions and comments as they were guided to consider other viewpoints. Moreover, it is not uncommon for faculty to provide guidelines to their students to help them reflect upon their experiences (Moon, 1999, 2004). Many guidelines may be orally provided, while others may be in the form or written questions. This brings us to the research questions. The general research question this study attempted to answer related to faculty support to students in becoming deeper reflective writers. Specifically, can written reflections be enhanced, and if so, to what extent, when students are provided with reflection guiding questions?

For students who are challenged by not being able to critically reflect, this paper argues that when such students are provided with reflection guiding questions prior to writing a reflection, the quality of a low level

reflection may be positively impacted. In other words, challenged students are more likely to write higher level productive reflections if guidance in the form of reflection guiding questions is provided.

Significance of the Study

In a time when reflection in education is considered an effective approach to learning, the current study provided a closer look at a group of students' internship experiences and then inquired about possible changes in written text once guidance was provided. Furthermore, as open-ended questions were utilized in this study, this allowed for an alternative lens through which the researcher could better understand the interns' views regarding writing weekly reflections without guidance and writing weekly reflections with guidance. On a general note, this study reinforces efforts to help faculty devise ways to promote and enhance the writing of reflections.

Methodology

Participants and Study Context

A group of eleven female interns from the UAE specializing in the Child, Youth, and Family (CYF) services program offered by the College of Education at Zayed University (ZU) were selected to participate in this study. Though Arabic was the participants' native language, the main language of instruction at ZU is English, and so all reflections were written in English. The internship experience was in an Arabic speaking environment. The CYF program is offered on ZU's two campuses (Abu Dhabi and Dubai); the participants were all enrolled in an internship program on the Abu Dhabi campus. During this internship, students engaged in field work related to their area of specialization. The interns were identified because they were all required to write weekly reflections. All participants had previously written reflections for a variety of classes they had taken prior to their internship experience. The mean age for the participants was 23.6 years. Ages ranged from 22 to 26.

Research Design and Procedure

The study consisted of two phases. A mixed method approach in the form of action research was utilized, analyzing students' textual material obtained from internship experiences and employing a survey design to investigate how students felt about writing reflections with or without guiding questions. During phase 1 of the study and at the beginning of the Fall 2012 semester, a reflection question was introduced which simply requested interns to write weekly reflections related to their internship experiences. During phase 2 of the study and following the first five weeks of internship, the participants were then provided with a reflection guideline which consisted of seven guiding questions (see Table 1 below) with the following instruction: "The following questions are reflection guidelines that you may use while writing your weekly reflections." The questions were only a guide, and the interns could choose not to respond to them without any penalty. After five weeks of internship, students had written five reflections: one reflection for each week of internship. The reflection guideline was posted on Blackboard, a virtual mobile learning environment, at the beginning of week 6, and students were then sent an email requesting them to visit Blackboard in order to access the reflection guideline. The email was sent out to ensure that all students were informed of the Blackboard posting. No further instructions were given, and this was intentional in order to warrant that reflections were personal and not driven by a specific set of questions. In other words, there was no indication that students were obliged to answer any or part of the guiding questions, and neither was there a specified word count or page limitation. Throughout the study, the students did not receive any feedback (written or oral) related to the reflections they had submitted. This again was intentional given that the instructor's feedback could have impacted the quality of the reflections (Geyskens, Donche, & Van Petegem, 2012). By doing this, the researcher was able to ensure that minimal variables, such as instructor feedback, had impacted and played a role on the quality of the written reflections.

Participants were informed that the only action required on their behalf was to write and submit their weekly reflections as usual. The participants were also asked to complete the questionnaire after their internship experience was completed, and they were reminded that their participation was completely voluntary, though the writing of the reflections was still a part of their internship, hence weekly reflections still needed to be submitted whether or not participants consented to participate in the study. Participants were ensured that no risks were associated with this study that their grades would not be influenced by their participation, and that confidentiality would be maintained.

Instrumentation and Data Analysis

The study utilized a mixed method approach and sought to investigate differences in reflective writing when guidance was presented. To achieve this, a consent form, a 7-item questionnaire, and reflection guiding questions made up the instruments. The questionnaire was designed specifically for internship students who were required to write reflections as part of their weekly internship experience. The questionnaire included both

Table 1
Reflection Guiding Questions

Number	Question
1	Think about what you learned today. How has this changed your way of thinking?
2	What will you do with this information?
3	What surprised you the most about your experience this week?
4	What disappointed you the most about your experience this week?
5	If you had a chance to make a change (task related), what would that change be?
6	What might some obstacles be?
7	What do you plan to investigate further (task related)?

structured and open-ended questions, and this allowed for an in-depth analysis of (a) students' feelings towards writing reflections, and (b) the quality of written reflections once guiding questions were presented. Some of the questions that were asked after interns had completed their internship experience included the following:

- "How beneficial were the reflection guiding questions?"
- "How often did you refer to the reflection guiding questions when writing your reflections?"
- "Would you have preferred to have written your reflection without the reflection guiding questions?"

In addition, participants were asked to provide some recommendations for future interns regarding the writing of reflections. Data obtained from the survey and the written reflections were reviewed, coded and transcribed. The data was used for interpretation of the central practice under study. Text analysis was possible by utilizing Hatton and Smith's (1995) taxonomies of reflection. Analysis of the data was reviewed by an additional evaluator for inter-reliability and cross-validation purposes. The second evaluator is an active researcher with a doctorate degree in the field of education.

Results

Survey Analysis

When asked about how beneficial they thought the reflection guiding questions were when presented, most participants agreed that they were either beneficial or very beneficial (70%). Regarding how often students referred to the reflection guiding questions, 70% responded that they referred to them either often or very often as shown in Figure 1.

Guidance in the form of guiding questions that was used throughout the participant's internship seemed to be valued. It was viewed as a contribution to self-development. For example, one intern said that "It helped me understand and evaluate my weekly experiences" (Candidate 9). In addition, some of the recommendations by current interns for future interns related to time management and not so much to the actual content or quality of the reflection itself. Some of the recommendations included, "Stay-up to date with writing" (Candidate 2); "Write reflections on time because one can easily forget important situations" (Candidate 8); Write notes throughout the week in order to remember" (Candidate 10). Other recommendations related to the use of the reflection guiding questions, which were consistent with the survey results, for instance, "Request reflection guidelines" (Candidate 6) and "Refer to the reflection guidelines because they are very helpful" (Candidate 3).

Reflection Text Analysis

At the end of the semester and after completing all internship requisites, text analysis was obtained for participants' weekly reflections written during their internship experiences. As part of the text analysis process, comparisons were made to the reflections that were written before and after the presentations of the reflection guiding questions using Hatton and Smith's (1995) taxonomies of reflection described earlier where level one (L1) indicates descriptive writing, level two (L2) descriptive reflection, level three (L3) dialogic reflection, and level four (L4) critical reflection. As such, the data was systematically analyzed through comparing the available pieces of data to produce meaning (Creswell, 2012). To address the question of what scaffolds the four levels of reflections, the transcripts were read a third time to look at all points where students moved from the lowest level to higher levels. In addition, the developmental process of reflective writing was analyzed in a developmental sequence over time (Pultorak, 1996). Table 2 below shows some extracts of the weekly written reflections before the guiding questions were presented. The extracts illustrate that a significant number of reflections were at the lower levels of reflective writing; namely 77% were at the L1 level

Figure 1
Student Responses

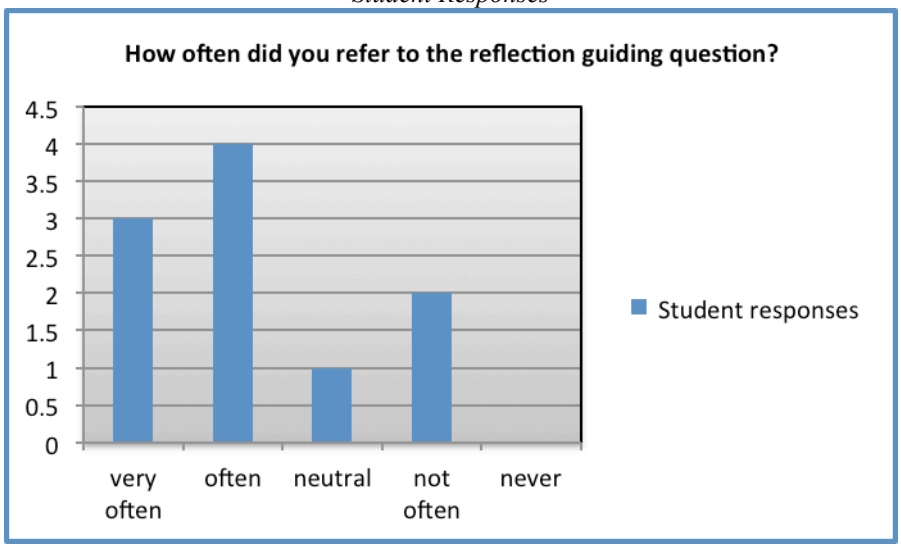

Table 2
Extracts Prior to the Presentation of Reflection Guiding Questions

Candidate Number	Week	Level	Extracts
1	2	L2	After the session I left the center and then I started thinking about the case…I was happy because I felt I'm able to apply what I have learned in the work
	3	L1	The most interesting event this week was when I attended…the aim was to help us understand the client which would enable us to deal with them easily
2	4	L1	I dislike the place because it was small room and there is a lot of people come in. In the end, I get a lot of benefits from this workshop and learn many things that will help me in the future.
3	4	L1	Attendance a workshop is very important step to develop my skills and qualification…the workshop that I attended "psychological skills" was very organized
4	1, 2	L1	She prepares for big event…She asks me to communicate with public... Actually, it is a new experience for me.
5	2, 5	L1	I have to be neutral and listen to all of the sides before judging them…we tried our best to solve the problem...when we told the mother…she started praying for us
6	2, 3	L1	We had to present some of the outcomes…It was a great chance to experience a new type of work than what I learnt in the university…She told us about her experience in the center.
7	1, 4	L2	This experience taught me…there are many problems that need to be solved…I should be strong and keep myself very calm
		L1	Was very interesting and very informative and I felt that I learnt a lot from it.
8	1, 5	L1	I was really shy...and uncomfortable…from this experience I learned that we should not feel shy. I hope they will fix this problem as fast as they can because it is necessary.
9	2	L1	The case that I have read was about a separated family who suffered financially.
10	3, 4	L1	I learnt two different ways of consulting with cases and learn several ways that they communicate with people…the information was not new except small part
11	2, 3	L2	I learnt how to write a report…but I feel I need to practice it more and be more professional…I believe that if people don't have somebody to listen to them, they start telling anybody

indicating descriptive writing, and 23% were at the L2 level indicating descriptive reflections. There was no indication of higher-level reflective writing during the first five weeks when students did not have access to the reflection guiding questions.

Table 3 below shows some extracts of the weekly written reflections after the guiding questions were presented. The extracts illustrate that a significant number of reflections were at the higher levels of reflective writing; namely about 73% were at L3 indicating dialogic reflections, and less than 27% at L4 (critical reflection) and L2 (descriptive reflection). A significant change in the level of the written reflections is evident after the presentation of the reflective guiding questions.

Discussion

Guidance in the form of reflection questions was seen to be of value as reflective writing moved from lower levels of reflection (L1 and L2) in weeks 1 to 5 to higher levels of reflection (L3 and L4) in weeks six to ten as demonstrated in Tables 3 and 4 above. When comparing students' statements before and after the presentation of the reflection guiding questions, there are evident differences in the level of reflective writing. In fact, an improvement in the level of reflective writing was seen almost instantly after the presentation of the reflection guiding questions during phase 2 of the study. Students written reflections went from writing statements like "I was happy…" (Candidate 1); "I like this place" (Candidate 2) to "What surprised me the most about my experience this week…" (Candidate 1), "If I had a chance to make a change it would…" (Candidate 2), "I was disappointed about many things actually" (Candidate 3). These differences in the reflective statements imply that students had an opportunity to use their knowledge of guiding questions and write higher-level reflections. Though just a few statements were at the dialogic and critical reflection level prior to the presentation of the reflection guiding questions, most statements were at the descriptive writing and descriptive reflection level. Henceforth, most of the statements were at the dialogic level after the presentation of the reflection guiding questions. Given that one can only move into the critical reflection level through the dialogic level (Hatton & Smith, 1995), the fact that most of the statements after the presentation of the guiding questions were at the dialogic level (L3) generates no concern, but is indeed somewhat promising.

Furthermore, because students were not obliged to answer all seven of the reflection guiding questions that were provided following the first five weeks of internship, some students who referred to the guiding questions only responded to some questions and not all. Candidate 1, for example, chose to leave Q6 and Q7 unanswered. A possible explanation for this could be the very fact that students could choose not to respond to any or all of the guiding questions as indicated in the instructions. In addition, students may have not thought about specific responses that related to the questions they did not respond to, hence they provided no response. This, of course, does not pose any concern, as reflections are very personal (Gelter, 2003) and should not only be guided by a set of questions. The quality of the reflection, however, may have been further enhanced by providing consistent feedback. This is consistent with the literature in that feedback is a powerful tool in the quality and progress of reflective writing (Bain, Mills, Ballantyne, & Packer, 2002). Nonetheless, the written reflections allowed for the analysis of the reflective writing which provides clear evidence of reflection occurring, though arguably perhaps not always at the critical reflection, but mainly at the dialogic level even after the presentation of the reflection guiding questions. It can also be highlighted that even after the second phase of the study there was no indication of issues related to social, political and/or cultural consideration in the reflective writings. Given the study context, a lack of consideration to political issues within the written reflections was not surprising as Emiratis do not openly discuss politics and neither are they encouraged to do so at the personal or social level, hence the written reflections were not burdened. Arguably, one is still capable of writing high-level critical reflections while considering personal, social and cultural issues only.

Educational Implications and Recommendations

Some educational implications can be drawn from the results of this study. For instance, faculty who assign written reflections as part of their course assessment or assignments should consider providing students with reflection guiding questions as they prove to help students write better quality reflections. In addition, even though students may not be under any obligations to use the reflection guiding questions, students should be encouraged to at least read them prior to deciding whether they want to use them or not. One way of ensuring students at least read the reflection guiding questions is to have faculty review the questions in class prior to posting them or sending them electronically.

From an educational standpoint, more emphasis on critical reflection should be given before and during practicum and internship experiences. This may be achieved through critical discussions in class where possible scenarios are formulated, discussed and reflected on. This may be further achieved by explicitly teaching students about the different levels of reflection

Table 3
Extracts After the Presentation of Reflection Guiding Questions

Candidate Number	Week	Level	Extracts
1	6, 8	L3	I realized that I should learn how to interrupt the client nicely without upsetting him/her…I asked one of my professors about how to limit clients time…in the future. I'd try to implement these steps in order to manage my time. What surprised me is that they don't have a rule. If I had a chance to make a change I would set a boundary with my clients by limiting the time..." What surprised me the most about my experience this week was when I heard about Wadeema's law…Why this law was not issued before…? Do we have to wait for something to happen to issue such a law? Many women get abused by their husbands, so why don't we have a similar law for protecting wives rights.
2	8	L3	I learn many things about guiding a conference such…I will apply this experience in my future career. If I had a chance to make a change it would that put one employee…I will do that to avoid the little issues...
3	7	L4	I learnt that any job or organization needs a leadership to manage it. I'm going to discuss the situation or the idea that I have with my classmates and friends to see their own points of view…Some adults do not have the responsibility to finish their work by themselves, they are like children you have to force them to do their own works. I will give employee each several month a workshop to improve and develop their way of working to be professional at work…I plan to observe employee each weekly to see their weakness and strength to try avoid these weakness and improve the strength side.
4	10	L3	This week showed me how there are some strategies, and skills should the social workers have…The things that surprised me…is a hardworking, and it has a lot of responsibilities. In addition, you should know how to deal with the cases, what you should say and what you should not…I was disappointed about many things actually…How you should controls your emotion in front of the cases which is very hard to me…I want to investigate more about the place that I am on now.
5	8	L3	I think this experience will help me a lot in future when if I involve in an event like this because I will…and I will try to avoid or reduce the mistakes that we faced.
6	6, 10	L3	I need to be prepared for more than what I expect of an event, because things happen without our knowledge. I will also try to learn more new things in my field about dealing with children. What disappointed me the most was the school managing system. I would like to experience more ways of how to deal with cases. I would like to invent new ways. The question is what if they affected the case negatively? This will make it difficult to deal with the problem…I would like to attend more meetings with my mentor, to understand more about the nature of work.
7	9	L2	I felt I was living in a small world and didn't know that such cases could happen in the UAE community.
8	7	L3	I have learned that I should be aware that some of the cases…What surprised me is when I asked the…To overcome this problem, I would suggest that someone would be responsible. However, the shortage of employees might affect this suggestion…I would read more about the best way to deal with people in different situations.
9	7	L2	My only challenge is dealing with different types of personalities as you might be working with people…these processes make me realize how hard planning an event is.
10	7	L3	I was dissatisfy with the writing the reports only with my mentor computer inside the job and this stress me with my work. If I had the chance to change this case I will ask the head office to provide special iPad…to investigate this idea I will make a survey for the mentors
11	7, 9	L3	This week I really was surprised from myself how confident I was when I talk to clients...and the signs that show me that I am doing a good job and being effective with clients…here I start thinking did I develop? How much is that? Can I help people? Can people trust me…every question has been asked; a voice inside me said, "Yes"…I realized that building a relationship is hard but destroy it is much easier.

so as to be explicit about expectations and goals when it comes to writing high-level reflections. In doing so, education faculty may help students to further bridge the gap between theory and practice.

The research findings demonstrate that students moved from lower levels to higher levels of reflective writing after the introduction of reflective guiding questions. Future research can perhaps test various types of guiding questions to determine whether or not specific guiding questions may have a stronger impact on reflective writing than others. Further, in contexts that have strong religious (or political) ties, one can present reflection guiding questions that may also take into account religious (and/or political) considerations, another approach through which dialogic and critical reflections may be achieved. Future research may also consider using control groups (e.g., a class with no guiding questions vs. a class with guiding questions) to further investigate the impact of guiding questions on reflective writing.

The study showed that guidance in the form of questions can improve reflective writing, but it did not demonstrate what role feedback played in the improvement of the reflective writing since no feedback was provided throughout the duration of the study. The importance of feedback should not go unnoticed as it can make a significant difference on student performance (Geyskens, Donche, & Van Petegem, 2012). Feedback given on weekly reflections that focus on how a reflection is written rather than on the content and what the student is actually writing about should also help students write higher-level reflections. It is believed that by providing on-going critical reflection discussions and reflection guiding questions along with effective feedback, reflections may be moved from being descriptive to critical in nature. Consequently, future research can perhaps investigate the impact of reflection guiding questions on reflective writing with and without feedback and critical discussions. Furthermore, since some students did not utilize the guiding questions, perhaps guidance through class discussions prior to field experiences which students are expected to reflect on could guarantee that all students receive guidance of some kind, whether or not they choose to make use of the reflective guiding questions. A longitudinal study of a similar design could be conducted to further investigate and gain a deeper insight into the developmental processes of reflective writing. Implications of cultural foundations merit further examination as well.

Even though this research was merely intended to be a starting point investigation on how to enhance the quality of reflections, it has provided a snapshot of the importance of guidance in the form of guiding questions during reflective writing. The results presented warrant further exploration in larger studies and across a variety of disciplines within the university before any generalized conclusions can be drawn from the study. Given the UAE context, the fact that many issues cannot be discussed openly may have also impacted students' ability to reflect critically on some issues.

Limitations of the Study

The sample size of interns used was lower than desired, and this somewhat limited the analytical strength of this study. Providing guiding questions after a few weeks of internship may have been perceived as feedback, and this is a limitation. Another plausible limitation worth noting is that students had five weeks of practice prior to the presentation of the guiding questions. Thus, this experience could have attributed to the student's enhanced written reflections.

The findings of this study allow education faculty to consider other means through which reflective writing can be enhanced. This is especially true for students who require language support during their learning experiences, as was the case in this study. As previously mentioned, the participant's native language was Arabic, and the language of instruction was English. The participants in this study were not fluent in English, and the fact that reflections were to be written in English may have impacted their ability to write critical reflections even after the presentation of the reflection guiding questions. Therefore, difficulty in expressing oneself in a second language may in fact have impacted the quality of the written reflections as well.

Conclusions

The study was designed to investigate how university faculty could provide guidance to students when it came to writing reflections. The research presented specifically aimed at exploring possible differences in written reflections when reflection guiding questions were presented to students. The results that emerged supported the stated argument that when provided with reflection guiding questions prior to writing a reflection, the quality of a reflection would be positively impacted. The quality of students' reflections was indeed enhanced, and this was measured using Hatton and Smith's (1995) taxonomies of reflection. Very few students' (Candidates 7 and 9) reflections were not impacted, but it is important to note that these were the same students who chose not to refer to the reflection guiding question. It can be contended that the presentation of the reflection guiding questions did not pose any negative impact on the reflections because students were under no obligation to use them, as indicated in the instructions that accompanied the reflection guiding questions. The majority of the students agreed that the reflection guiding questions

were beneficial, and the findings revealed that the reflective writing was a developmental process, which was impacted by the presentation of reflection guiding questions. On a general note, there was a significant improvement in terms of reflective writing detail and quality, and this implies that at least some student's reflective writing will be positively impacted when reflection guiding questions are presented.

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Student Test Grades in College: A Study of Possible Predictors

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Research on variables related to test performance has produced mixed results. Typically, research of this type involves only a few variables. In an attempt to obtain a more complete picture, we investigated how test grades might be related to variables such as classification, student seating location, test completion time, predicted grade, time spent studying, and perceived test difficulty. Undergraduate students in five courses completed their regularly scheduled tests and responded to demographic questions as well as questions about test difficulty, time spent studying and predicted grade. The results revealed that test grades were positively correlated with students' predicted grade. Test grades were negatively correlated with test completion time and with perceived test difficulty. Test grades were not correlated with students' reported study times. Other relationships among the variables are discussed.

University instructors and researchers alike continually search for variables to help predict student test scores. This is an important area to investigate because understanding which variables are correlated with student test scores can help with instructional decision-making. Variables such as time taken to complete a test, student seating location and perception of test difficulty have all been discussed as possible predictors for test scores (e. g., Feinberg, 2004; Hong & Karstensson, 2002; Perkins & Wieman, 2005). Studies have been conducted with students ranging from elementary school to college settings (e.g. Tagliacollo, Volpato, & Pereira, 2010; Zomorodian et al. 2012).

Literature Review

Time Taken to Complete Tests

Over the past decade, several studies have investigated the time taken by college students to complete tests. Feinberg (2004) studied the connection between test completion times and test scores and found that college students who spent more time taking a test made higher grades. The difference was most notable with lower performing students. Basturk (2009) studied test completion time, test scores, and gender among college students. For multiple-choice tests, females who took longer on tests had higher scores.

In a study involving undergraduate students, Landrum (2009) found that test completion time was sometimes, but not always, negatively correlated with grades. Tadayon, Nyman, and Barker (n.d.) explored test time, score, gender, class type (online or in-person) and classification among college students. They found that overall, students who spent more time on the test had slightly higher grades. Further, gender differences were mixed in that on the first test females took longer to take the test and earned higher scores, while on the second test females again took longer but scored lower than males. Overall, seniors spent the most time on the tests and had the lowest scores, and juniors spent the least time and had the highest scores. Online students took longer to take the test and had slightly lower scores than the in-person class. Bridgeman, Cline, and Hessinger (2004) studied adults taking the GRE exam and found no gender differences, but did they find that giving students extra time on exams had a small positive effect on test scores. Other studies have found that test completion time and grade were not related. For example, Nevo and Spector (1979) standardized and combined data from eight college freshman and sophomore classes and found that time taken to complete the tests was not correlated with test scores. As the authors pointed out, the relations between test completion times and test grades had not been studied often in classroom settings.

We were particularly interested in one aspect of the relationship between test completion time and test grades. Anecdotal evidence indicates that often, both the first few and last few students to complete a test have some of the highest and lowest grades. Perhaps some students finish quickly because they are well-prepared and know the answers. Others may finish quickly because they are not well-prepared and do not know the answers and simply turn in their tests. Similarly, some students may take a long time to complete tests because they are being very careful and checking their work, while others take a long time because they do not know the answers and are either writing as much as they can with the hope that some of it will be relevant or they are writing very little but are waiting to see if they can remember something. If these patterns are occurring, we would expect to see greater variability in the test scores among the earliest and latest finishers than among students who finish in between these groups. If this is the case, this could obfuscate the relationship between test completion time and grades by making the two variables appear to be uncorrelated when a class is analyzed as a whole. That is, the mean scores of the students finishing early and

late could be similar to the mean scores of those finishing in between even though the range and standard deviations of the scores could be significantly different. It is worth noting that Paul and Rosenkoetter (1980) found no significant relationship between the order in which students completed a test and the scores the students received. Tests were divided into quartiles based on the order in which they were completed. These quartiles were then compared in terms of mean scores and variability among the scores. The quartile variances were not significantly different.

Seating Location

Researchers have also investigated student seating location in relation to test performance and classroom behavior. Marx, Fuhrer, and Hartig (2000) explored seating location and how frequently fourth-grade students asked questions. The classroom design alternated between a semicircle and row-and-column seating in two-week periods over eight weeks. Seating was randomly assigned during both arrangements. The data revealed that students asked questions more frequently when the classroom used a semicircle design. Central positions, which were in close proximity to the teacher, were associated with asking more questions. Perkins and Wieman (2005) studied college students in a large introductory class and randomly assigned them to sit in the front or back of the room. The seating assignments were changed midsemester so that students in the front were moved to the back and students in the back were moved to the front. It was found that the number of students who received A's decreased the further their original seating was from the front of the room. Students who were doing well in the front of the room continued to do well when moved to the back of the room. Kalinowski and Taper (2007) found that while students who sat in the front rows had higher overall GPA's, test grades and attitudes were unaffected by seat location. All of the participants were biology majors, and the classes were smaller than those used in the Perkins and Wieman (2005) study. These factors could be related to the discrepant findings. Tagliacollo et al. (2010) found that elementary school students who chose to sit further away from the board had lower test scores, more absences and lower grades than students who sat closer to the board. They also found motivation for learning was a factor in determining both seat position and performance. Students sitting in the front row had more motivation for learning, and this affected their seating choice. Similarly, Holliman and Anderson (1986) allowed students to choose their seats and found that students sitting in the front rows received higher grades than those sitting farther back. Cinar (2010) studied seating preferences among university students in Turkey. Female students preferred to sit in the front rows, and students sitting in the front rows cared more about the lesson and were more willing to participate. Zomorodian et al. (2012) found that medical school students who changed their seats frequently, possibly due to frequent absences or coming to class late and taking any available seat, received lower grades. No significant gender differences were found.

Perception of Test Difficulty

Student perception of test difficulty has also been studied. For example, Hong (1999) found that perceived difficulty of undergraduate statistics tests affected scores indirectly by causing the students to worry. Similarly, Hong and Karstensson (2002) found that students who perceived an undergraduate statistics course to be difficult experienced greater test anxiety and that this may have been related to lower test scores.

Summary of Previous Findings

The literature on time taken to complete tests is inconclusive. Of the studies reviewed here, four found positive correlations between test time and grades, one found a negative correlation in some but not all cases, and two found no correlation. The relationship between seating location and grades is more consistent, with students sitting near the front of the room performing better regardless of whether seating was assigned or chosen by the students. Similarly, and perhaps not surprisingly, the literature indicates that students perform better on tests that they perceive as being less difficult.

Research Aims

The goal of the present study was to investigate several possible correlates of test grades simultaneously in an attempt to clarify the relationships between these variables and further our understanding of how each is related to test grades. Overall, the literature regarding variables related to test scores is inconclusive. Some studies indicate that these variables are associated with differences in test scores, and other studies found no such relationships. The current study differs from past research in that it looks at a larger number of potentially relevant variables in one study. The results of this study may help us better understand learning environments so that elements of classroom design, instructional design and test preparation can be used to help increase student learning. The hypothesis for this study was that seating location, test completion time,

perception of test difficulty, study time, predictions about grades, classification (freshman, sophomore, junior, senior) and gender would be correlated with test grades.

Methods

Participants

All participants were students enrolled in one of five undergraduate psychology classes. These courses included general psychology, developmental psychology, adolescence psychology and basic statistics. The participants included 42 male and 114 female students and one student who did not answer the gender question. The participants ranged in age from 19 to 54 years old with a mean age of 20.5 years. This included 104 Caucasians, 42 African Americans, eight Asians, and one Native American. By classification, the sample included 22 freshmen, 76 sophomores, 43 juniors and 15 seniors. Class size ranged from 30 - 75 students. All classrooms featured typical seating arrangements with tables arranged in rows. Students chose their own seats at the beginning of the semester. The classes included multiple-choice, short answer and calculation problem exams. Data were collected on five tests in each course throughout the semester. Response rates to the questions concerning study time, perceived difficulty, and predicted grade ranged from 85%-90% for test 1, 87%-92% for test 2, 68%-73% for test 3, 50%-52% for test 4 and 68%-70% for the final.

Procedure

Prior to the first test in each course, we collected demographic information from participants including gender, age, ethnicity and classification. As participants completed the demographic information sheet, we also asked them to indicate whether they sat in the front or back of the classroom. To assist with answering this question, the instructor indicated the front/back dividing line in each room by standing in the middle of the room and instructing everyone behind that point to choose "back" and everyone in front of that point to choose "front." The following 3-item questionnaire was attached to each of the five tests.

1) On a scale of 1 – 10 (1=very easy, 10=very difficult) how difficult was this test?
2) What grade (0-100) do you think you will make on this test?
3) How much time (number of hours) did you spend studying for this test?

After each student turned in a test, the instructor recorded the time taken to complete the test. This procedure was followed for all tests. These data were later compared to test grades, classification and seating location.

Results

As stated earlier, we were interested in whether seating location, test completion time, student perception of test difficulty, study time, student predictions about grades, grades on previous tests and classification were correlated with test grades.

The data were standardized to allow for combination of data across tests and classes. Correlations between test grade, predicted grade, test completion time, predicted grade and study time are shown in Table 1.

A t-test revealed that test grades of students sitting in the back vs. front of the room were not significantly different $t(588) = .87$, $p = .385$. Seating location and classification were not found to be significantly related to grades, perceived difficulty, study time, predicted grade nor time taken to complete the tests.

Finally, we separated the data into five groups based on the order in which students turned in the tests. So Group 1 included the first 20% of students to hand in their test, Group 2 included the next 20% of students, and so on. We did not find evidence of significant differences in variability among these groups.

Discussion

The data revealed several interesting relationships between variables and test grades. Perhaps most surprisingly, test grade was not correlated with reported study time. It is possible that this was due to students inaccurately reporting the amount of time they studied for each test. Mean study times across tests varied from 2.1 to 2.8 hours. The data were highly variable with a range from zero study time to 15 or 16 hours for some tests. Study time was positively correlated with time taken to complete the tests. If students' reported study times are accurate or at least correlated with their actual study times, this would indicate that students who spent more time studying also spent more time taking the tests. Other significant correlations revealed that students who made higher grades on the tests predicted higher grades and rated the tests as being less difficult. These results were consistent with previous findings. Additionally, the correlation between perceived difficulty and predicted grade was significant, with students who predicted higher grades rating the tests as being less difficult. Students who completed the tests more quickly made higher grades and predicted higher grades. Previous research indicated an inconsistent relationship between test completion time and grades. The fact that students were able to predict their grades may mean that they feel that their tests are being graded

Table 1
Correlations Between Test Grades and Other Variables

	Test Grade	Difficulty	Test Time	Predicted Grade	Study Time
Test grade	—				
Difficulty	-.144***	—			
Test time	-.082*	.048	—		
Predicted **G**rade	.422***	-.294***	-.141**	—	
Study time	-.042	-.034	.231***	-.029	—

Note. *p < .05, **p < .01, ***p < .001

fairly. Even if this is not the case, knowing approximately how well one has done may be a type of immediate feedback that could impact future study habits. If so, instructors should strive to test in ways that lead to accurate predictions by students. Student seating location (front vs back) was not found to be related to test grades. Past research has shown mixed results with some studies finding that seat location was a predictor of test grades.

Our findings were consistent with those by Paul and Rosenkoetter (1980) in that the variability in test grades was not significantly different across the five groups based on the order in which the students turned in their tests.

Looking at these results as a whole, the strongest correlations were positive correlations between predicted grade and actual test grade, between test completion time and study time, and the negative correlation between perceived difficulty and predicted grade. There were no correlations between study time and either perceived difficulty or predicted grade.

Some limitations of this study include student self-reporting study time. It may have been difficult for student to recall the amount of time they spent studying for a test. It may be beneficial in the future to ask students to monitor and report their studying throughout the week so they can provide more accurate information regarding their study time. It may also be helpful to ask students not only to indicate the perceived difficulty about a test, but also explain what factors account for this perceived difficulty so these factors can be investigated.

More research is needed to investigate the relationships between test grades and variables such as test completion time, seating location, study time and perceived test difficulty. In particular, the relationship between test completion time and grades is unclear. It may be the case that the relationship depends on the other variables mentioned here or perhaps others that have not been investigated. Further analysis may allow researchers to determine which variables are most closely and most consistently related to test scores. This could help instructors make decisions regarding classroom design, test preparation and instructional design. These factors have the potential to influence student test scores as well as student perceptions of tests.

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The Evaluation of Music Faculty in Higher Education: Current Practices

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The purpose of this research was to ascertain the methods used to evaluate music faculty and whether achievement measures, or student progress, impact the evaluations made about teacher effectiveness for music faculty in the higher education context. The author surveyed Chairs of Departments or Directors of Schools of Music (n = 412) listed as degree-granting (Baccalaureate, Masters, and Doctorate) in music performance on the National Association of Schools of Music's current membership directory in the United States. Administrators (n = 142) responded to an emailed link to an online survey where they were asked to give information regarding their programs, their faculty, and their processes for evaluating teachers' effectiveness, yielding a response rate of 34%. Methods of faculty evaluations and the ways in which they were used were examined. Respondents shared exemplars of the instruments used to evaluate faculty. Results from this study suggest that the methods for evaluating faculty include students' perceptions of instruction, peer evaluations of teaching, self-assessments of teaching and measures of student progress as the current practices being employed. Suggestions for the field include further investigation as to what administrators might agree upon as to appropriate measures of student progress, achievement or growth.

Evaluation, in general, in higher education has become nationally important and is recognized as one of the ways in which teacher effectiveness can be improved. The overarching philosophy is that if teaching effectiveness or quality can be measured, then teachers needing assistance can be identified and remediated, while highly effective or high quality teachers can be rewarded within the promotion, tenure and merit systems. Many institutions of higher education across the USA include an Office of Assessment on campus, and other similar centers or initiatives, not only to assist in accreditation procedures and to provide measures for accountability, but also to garner data regarding the teaching quality of professors. In some cases this identifies certain teachers as having more or less impact on student learning. Institutes for Teaching and Learning are also part of many higher education institutions, and they are responsible for providing professional development for faculty, as well as measuring levels of student perceptions about the instruction they have received. Institutions differ in regards to which measures are used in evaluating faculty teaching performance, but traditionally, student perceptions of instruction surveys have been used along with peer evaluations of teaching. To determine whether practices have changed as higher education moves into the 21st century, this paper examines how performing arts faculty are currently evaluated in partial replication of a previous study (Hipp, 1979). Hipp's extensive dissertation focused on the evaluation of music faculty in regards to several factors, such as promotion, tenure, retention, teaching effectiveness, faculty development, merit increases, teaching assignments and committee assignments. The current study focuses only on evaluation of teaching effectiveness.

Literature Review

The recently published American Educational Research Association report (AERA, 2013) recommends, based on the work of a task force, that to evaluate teaching the focus should be on student learning outcomes (p. 1). More specifically, the report provides recommendations that systems designed to evaluate faculty would assist institutions define 'teaching quality' based on student learning outcomes. It is recommend that faculty members be assisted to improve their teaching by identifying where they need professional development, and that evaluators determine a faculty member's relative strengths and weaknesses (p. 3). In the field of the arts, the National Association for Schools of Music also make available a document (NASM, 2009) designed to assist institutions, programs, and individuals making local assessments regarding arts faculty evaluation and reward systems in higher education. This document, based on the work of an interdisciplinary task force, encourages the user to determine the primary indicators of merit with respect to teaching, service, creative work and research (p. 10) and to understand which perspectives might be critical in determining merit. The document also suggests that arts units determine which opportunities are available to faculty in terms of support, time and peer review (p.12). Given that institutions of higher education determine their own expectations for promotion and tenure, there will be observable differences. Examining the Education document and the Arts document illustrates this clearly, and, naturally, different disciplines should have different expectations. From a thorough review of the literature, however, it has become evident that little is known about how arts, and specifically music, faculty are currently evaluated for their teaching. Given that the arts often have very different teaching and learning

settings, it seems that further investigation may be warranted.

For over 25 years, there have been at least two standard procedures used in evaluating faculty teaching in general (Kulik & McKeachie, 1975; Seldin, 1999). The first procedure relies on observations of the quality of teaching. Observations of teaching behaviors have been made by students, colleagues, supervisors or, in some cases, the teacher himself (Kulik & McKeachie, 1975, p. 210). The second type of procedure for evaluating faculty involves measures of students' performance, and it is here the music performance and pedagogy research literature falls short in regards to evaluation in the music performance courses in higher education. It is hard to find significantly real differences among grades awarded to performing arts music students; therefore, it becomes difficult to relate small differences to any characteristic of the teacher. Researchers (for example, Abeles, 1975; Duke & Simmons, 2006; L'Hommedieu, 1992; Parkes & Wexler, 2012) have established which characteristics and behaviors are effective in applied music teachers (teaching in the one-to-one studio setting), but we do not know if these characteristics and behaviors impacted cumulative learning in students over time or what other characteristics are expected in large-group classrooms such as music history or theory. We do not know what is measured in peer observations of teaching nor whether these observed behaviors are valued by administrators when they evaluate the teaching effectiveness of applied music performance teachers (Hipp, 1983).

The American Association of University Professors (AAUP, 2014, p. 201) makes a distinction between student perceptions and student learning as two different types of data when assessing the effectiveness of instruction. Older studies (e.g., Rodin & Rodin, 1972) in the wider education literature suggest that the positive correlations between students' ratings of a teacher and the achievement (grades) of that teacher's students are a pitfall of using student observations of instruction as the only measure of a teacher's effectiveness. Corroborating or triangulating several measures of teaching effectiveness (e.g., with formal observations, peer assessment, self assessment, and student evaluations) at multiple points in time may give a more comprehensive picture as to the strengths and weaknesses of a teacher's effectiveness or competency. Publications such as Berk's *Thirteen Strategies to Measure College Teaching* (2006) might be a useful example of such multiple measures; the bulk of this publication is designed to assist faculty, administrators and clinicians in developing rating scales across a variety of evidence sources such as student ratings, peer ratings, external expert ratings, self-rating, videos, student interviews, exit and alumni ratings, employer ratings, administor ratings, teaching scholarships, teaching awards, learning outcome measures and teaching portfolios. He suggests using national professional standards (Standards for Educational and Pyschological Testing (AERA, APA, & NCME Joint Committee on Standards, 1999) for how teaching effectiveness or performance should be measured (p.12) to move beyond simply using student ratings. Other models of faculty evaluation (e.g., Arreola, 2000; Braskamp & Ory, 1994; Centra, 1993; Keig & Waggoner, 1994; Romberg, 1985) also include multiple sources of evidence with more weight given to student evaluations and peer evaluations. Berk (2006) stresses the importance of field testing and item analyses when using rating scales to measure teaching effectiveness. His main concern is with item descriptive statistics (p.148), interitem and item-scale correlations (p.152) and factor analysis (p.155); in general, he advocates the importance of collecting evidence of validity and reliability (p. 161-182). Clearly internal consistency is important when using scales or instruments to measure teaching effectiveness, and a lack of internal consistency affects the usefulness of any instrument.

The current study explores how some performing arts faculty are currently being evaluated and answers the following research questions: 1) How are music faculty in higher education in the United States currently being evaluated for their teaching? 2) Have the reliabilities and validities of the instruments used to measure teaching effectiveness been examined? 3) Are measures of student learning outcomes or progress part of the process? If so, what are those measures? 4) Have the reliabilities and validities of the measures of student outcomes or progress been examined?

Method

The survey was developed by the author and uses items (with permission, personal communication, December, 2012) from Hipp's (1979) dissertation focused on the evaluation of music faculty. The author used only the teaching effectiveness items from Hipp's study to determine how music faculty are being evaluated today. The instrument used was a small subsection of Hipp's original survey, and the items can be seen in Appendix A. An invitation was sent to 412 directors to take an online survey, and 142 completed the survey, giving a response rate of 34% in total. The survey invitation and two subsequent invitations were sent to the Chairs of Departments, or Directors of Schools of Music listed as degree-granting (Baccalaureate, Masters, and Doctorate) in music performance on the National Association of Schools of Music's current membership directory in the United States. Administrators responded to an emailed link to the online survey where they were asked to give

information regarding their programs, their faculty and their processes for evaluating teachers' effectiveness. The survey responses were descriptively and qualitatively analyzed and are represented in the following section.

Results

The respondents firstly described their program, institution, school and position, and they answered questions regarding the specifics of how music faculty are evaluated. The descriptive data illustrating their official capacity or position is shown in Table 1. Administrators represented publicly funded institutions (n = 94, 66%) and privately funded institutions (n = 48, 34%), and their institutions offer the following highest degrees: undergraduate, (n = 47, 33%) masters (n = 77, 54%), and doctorate (n = 18, 13%). Their music major and institution enrolment sizes can be seen in Table 2.

Most units 97% (n = 138) had written policies pertaining to the evaluation of music faculty and 3% (n = 4) did not. Of these institutions with policies, 59% (n = 81) were institution-wide and 41% (n = 57) were policies developed specifically for the music unit. The same 41% (n = 57) reported that music faculty participated in the formulation of these policies when they were developed specifically for the music unit. Most respondents 82% (n = 117); however, reported that their units also used institution-wide evaluation instruments for faculty evaluation. Of these 117 respondents, only 37 (32%) reported that this instrument was developed by an institutionally provided center for the support of teaching in higher education.

Faculty Evaluation Instruments

Fifty six percent (n = 79) of respondents reported that their units utilized instruments that had been specifically designed for the evaluation of music faculty, and of these, 49% reported using a single form for all types of music instruction, 54% reported using a form specifically for applied studio teachers, 42% reported using a form specifically for the evaluation of ensemble directors, 6% reported using a form specifically for the evaluation of composition / theory teachers, and 51% reported using a form for the general evaluation of classroom teachers. Administrators were asked to further describe the forms, and open-ended responses were grouped into the following categories: additional miscellaneous details, administration timelines, and developmental processes as to how forms were developed. Examples are illustrated in Table 3.

When asked if their faculty evaluation form had been examined for internal consistencies, 18 (24%) respondents reported in the affirmative, and 58 (76%) reported that the form used for music faculty had not been examined. Of the 24% that reported examination of internal consistencies, the following processes were described: general consultation with faculty, use of standard deviation calculation, faculty vote, cross-checking, campus consultants, review by evaluation committee, data tracked by Director of Institutional Assessment, and internal SACS accreditation committees.

Student Evaluations of Faculty

Most administrators (98%, n = 138) reported the use of student evaluations of faculty. In terms of the specific types of student input used, the respondents reported the following: course/instructor surveys and questionnaires (100% of participants), personal statements from students (65% of participants), student reference letters (12% of participants) and other types such as student comments, interviews with students, personal statements from students and observations of committee mentors (3% of participants). Sixty-eight percent of administrators reported no examination for internal consistencies. Thirty-two percent (n=44) of administrators reported that their student surveys or questionnaires had been examined for reliability or validity (internal consistencies). The processes for examining internal consistencies were similar to the faculty evaluation forms and included processes such as cross-checking, review committees, institutional evaluations, internal assessments by a Director of Assessment, evaluation committees, comparisons to national data banks, evaluation by a research center on campus, Office of Institutional Research examinations, faculty senate examinations and institutional verifications. One respondent made a point of explaining that their student rating form, while internally consistent and developed by a leading psychologist, was not a good fit for their music students (Participant 20.9c). Nearly all administrators (91%) reported that teachers cannot opt out of participating in student ratings / evaluations.

Peer Evaluation

Most (81%) respondents reported that peer evaluation was utilized in their music units. The formats of peer evaluation included (but were not limited to only one) formats such a narrative report based on an observation (85%), evaluation forms (40%), reference letters (39%), personal statements from peers (38%) and questionnaires (5%). Evaluation of teaching conducted by professionals outside the institution was conducted by 41% of the music units. Of those, similar formats of input were sought; reference letters (81%), personal statements (36%), evaluation forms (14%) and questionnaires (3%) from peers outside the institution.

Table 1
Official capacity

Title	n	Percent (%)
Head of Department or School	33	23
Chair of Department or School	78	55
Associate Dean	3	2
Dean	20	14
Other*	8	6

Note: *Other responses were Director of School (*n*=4), Chair of Music Division (*n*=3), Coordinator of Department (*n*=1)

Table 2
Enrollment Size Ranges

Major Enrollment	Number	Percent (%)
Under 50	9	6
51-100	31	22
101-200	43	30
201-400	42	30
401-600	11	8
601-700	5	4
Above 700	1	1
Institution Enrollment		
Under 2500	23	16
2501-7499	27	19
7500-10,000	14	10
10,001-20,000	41	29
20,001-30,000	24	17
30,001-40,000	10	7
40,001-50,000	3	2

Self-evaluation and Evaluation by Alumni

High levels (75%) of self-evaluation were reported to be used, and examples of the types of formats shared were self-reflective narratives regarding growth over time (93%), student scores or measures of student achievement (59%), quality teaching in videos (49%), and other types of evidence (25%) such as "supporting documentation, examples of syllabi, assignments, student work, course documents, teaching portfolios, student letters, examples of student achievements, examples of students meeting learning objectives, students' placements in graduate programs and other student awards." Administrators (11%) reported that they used evaluations from alumni in evaluating faculty, but when used, questionnaires (44%) were the most often solicited, along with and reference letters (38%) and personal statements (19%).

Student Progress

Student progress measures were used specifically as part of faculty evaluations at 52% of the music units in this study. Student progress measures were reported to consist of (but were not limited to) standardized tests (10%), pre-post-tests (11%), departmental examinations (42%), grade distributions (22%), informal (78%) and other types (30%) such as "performance observations, tracking of graduates, jury exams, graduation rates, performance awards, competition and job placements, student performance in ensembles and other reports by unit Chairs or Heads". The majority of administrators (93%) reported that the student progress measures had not been examined for internal consistencies. The 7% of administrators who did examine for internal consistencies reported processes such as continual review by peers, faculty committee review, college department review and statistical procedures.

Administrators were asked about the progress or achievements of former students being included in faculty evaluation. Sixteen percent of administrators reported using them. In particular, administrators reported informal assessments of former students (71%), along with job placements records (43%), questionnaire (10%) and on-line surveys (5%). Administrators explained that, "reports of student achievements are

Table 3
Categories of additional descriptions

Descriptor examples	Frequency
Details	11
Separate evaluation forms	
No specific form	
Narrative evaluation	
Scantron-type evaluations	
The form is simply a comment sheet	
Peer evaluation form	
Course evaluation form	
Music-unit specific form	
The form measures three categories: teaching, professional activities, and service	
Administration	28
Administered online	
Administered at the end of semester	
All faulty are evaluated each semester	
Used by the Department Chair at the end of semester	
Questionnaire can be used for peer evaluation as well	
Administered in Fall and Spring semesters.	
Administered annually	
Development	26
Faculty developed the form	
Developed by faculty	
Developed by music faculty over a long period of time	
Started with templates from MTNA … areas adapted them	
Developed by music department chair	
Developed as part of Retention, P &T criteria and vetted at the Institutional level	
Developed a long time ago	
Developed by the college, applied by the music unit	
Developed by the full-time faculty	
Questionnaire developed by School of Music and Dance	

supplied by the faculty member." They also reported encouraging faculty to list the accomplishments, career success and current positions of former students.

Additional Observations of Teaching

Thirty five percent of administrators reported using additional observations of teaching and of those, they described the observations occurring by Deans, or Directors or other administrators at regular intervals, but especially in the case where faculty were coming up for tenure decisions. Other observations were reportedly made by the University Teaching Excellence Center or equivalent. Administrators were asked if they evaluated their applied studio teachers differently to their other faculty and thirty-three percent said they did. The results of how applied studio teachers are evaluated differently are reported elsewhere (Author, in press), but more than half the administrators (67%) evaluated all their music faculty with the same criteria.

Importance and Sources of Evaluations

Administrators were asked to rank the various methods of evaluation of faculty, e.g., evaluations by students, by colleagues, by alumni, by outside professionals, self-evaluations, students' progress, former students' progress or observations of teaching (on a scale of 1-5, 1 having no importance and 5 having extreme importance). In this study, administrators ranked the evaluations by students and by colleagues (peers) the highest. Table 4 illustrates all the rankings of the ways in which applied faculty may be evaluated.

Administrators were also asked to rank how important (with the same scale) the ways in which the

Table 4
Rankings

Methods of Evaluation	Mean	SD
Evaluations by colleagues	4.13	0.99
Evaluation by students	4.08	0.74
Self evaluation	3.73	1.19
Other observations of teaching	3.27	1.21
Evaluation of students' progress	3.11	1.21
Evaluation by outside professional sources	2.67	1.38
Evaluation of former students' progress	2.06	1.09
Evaluation by alumni	1.88	0.88

Note: $n = 142$ for this question.

results of faculty evaluations were used. Table 5 illustrates their rankings.

Administrators were additionally asked to choose the single most important use of faculty evaluations, and their answers show that making decisions for tenure (37%) and improving teaching effectiveness (31%) were the most important.

Teaching Evaluation Tools

Several ($n = 13$) administrators chose to share their actual forms, tools and rating scales as part of this research study. An analysis of the documents revealed some commonalities and similarities. The most common tool shared was an observation form. This type of tool listed procedures and behaviors that were expected before and during teaching, such as planning instruction and assessments, setting objectives and engaging in good teaching methods. Teaching methods varied widely. Elements such as being organized, making students aware of the goals of the course, engaging students in meaningful participation, communicating clearly, demonstrating enthusiasm, having command of the subject matter/ course material, using class time effectively, responding appropriately to student questions, encouraging critical thinking, providing clear explanations, being available outside of class meetings, dealing with topics in an interesting manner, having a degree of rapport with students and providing student with feedback after assessing achievement appropriately were all included. The format of some documents varied with several allowing space for comments in the above areas while others were in checklist form on which the observer checks off observed behaviors. Some forms required description only of class/lesson activities and then allowed space for a narrative describing the teaching effectiveness. It is important to note here that this analysis was only conducted on the 13 tools that were shared. These tools most likely do not represent all the types of teaching evaluation tools of the sample of all respondents.

Administrators also shared peer evaluation and self-evaluation forms, which asked faculty to rate their perceived levels of effectiveness in helping students learn. One peer evaluation form was designed in Likert-type scale to which the peer-observer could respond to prompts such as "the instructor was well organized and prepared" and "the instructor maintained a good balance between technical and musical concerns" with responses from Strongly Disagree to Strongly Agree.

Discussion

Generally, the findings of this study illustrate that music faculty, as represented by the respondents to this survey, are evaluated primarily with student evaluations of teaching / instruction (98%), with peer evaluations of teaching (81%), with self-evaluations of teaching (75%) and measures of student progress (52%). This is not dissimilar from the results of Hipp (1979), and a comparative table (Table 6) illustrates the differences between the current study and Hipp's data with respect to the types of evaluations used. It seems that peer and self-evaluations of teaching have increased in use, and perhaps are valued more today than in 1979 in regards to determining faculty teaching effectiveness.

The first research question sought to determine how music faculty in higher education in the United States are currently being evaluated for their teaching. From the responses from these administrators, it seems that over a half (56%) use evaluation tools designed by the music unit faculty specifically for the music faculty. These measured their teaching along with institutionally required teaching evaluation measures such as student evaluations. It is encouraging to report in the current study that 97% of units have written policies and procedures for faculty evaluation. The Hipp (1979) study reported that only 76% of music units had policies and procedures in place for evaluating faculty, and that 58% of these were developed specifically for the music unit. Figure 1 illustrates the wide variety in types of tools/instruments being used, as well as variety

Table 5
Rankings of how results are used

Evaluations are used…	Mean	SD
To make decisions regarding promotion	4.58	0.73
To make decisions regarding tenure	4.56	0.89
To make decisions regarding retention	4.32	0.89
To improve teaching effectiveness	4.29	0.76
To encourage faculty development	4.03	0.80
To formulate individual faculty goals	3.93	0.85
To make decisions regarding merit increases in salary	3.62	1.53
To make decisions regarding teaching assignments	3.35	1.09
To make decisions regarding committee assignments	2.06	1.02
To make decisions regarding class scheduling	1.98	1.06

Note: n = 142 for this question

Table 6
Comparison of Current and Hipp's Data

Types of Evaluations	Current (N=142)	Hipp (N=364)
Student evaluations of teaching / instruction	98%	91%
Peer evaluations of teaching	81%	57%
Self-evaluations	75%	38%
Student progress	52%	55%

in the processes used to create the tools/instruments. Twenty-four percent of administrators reported that these tools/instruments used for music faculty evaluation in general had been examined for internal consistencies, and while the exact reasons for this are not known, it may be because there are several different types of instruments being used and some do not lend themselves easily to an internal consistency analysis.

The second research question of the current study inquired as to the reliabilities and validities of the instruments specifically used to measure teaching effectiveness, such as student evaluations. Thirty-two percent of administrators reported their student evaluation instruments had been examined for internal consistencies, and the remaining 68% reported not examining for internal consistencies. Again, it is not clear as to the reasons for this; it could be the case that administrators who reported not examining for internal consistencies might be unaware about the processes, or that they had been performed by another office on campus, or that there were other reasons not explored by the current study. Obviously this finding warrants further investigation. Respondents reported that instruments had not been examined in the case of peer and self-evaluation, nor alumni evaluation. Peer evaluation processes such as narrative reports and descriptive writings are difficult to examine in terms of consistency; however, in the case of the one Likert-type peer observation scale that was shared by a respondent, findings from this study support a move for administrators to start considering examination of internal consistencies where appropriate for items such as Likert-type or ranking scales.

Research question three was concerned with whether measures of student learning outcomes part of the evaluation process for faculty. Student progress measures are indeed being used by more than half (52%) of the respondents in this study. A variety of measures were used including standardized tests (10%), pre-post-tests (11%), departmental examinations (42%), grade distributions (22%), informal measures (78%) and other types. The other types such as performance observations, tracking of graduates, jury exams, graduation rates, performance awards, competition and job placements, student performance in ensembles and other reports by unit Chairs or Heads which might provide deeper insight into whether a student has reached their full potential with a teacher. This study also reveals that former student progress, as reported by faculty, is also used by 16% of units. Hipp (1979) reported that 27% of units were using former student progress measures and that 55% of units used student learning outcomes; however, they were described and utilized in different ways. Hipp (1979) reported only four percent of units used standardized tests, 2% used the pre-post test method, 13% used departmental

examinations, 43% used jury examinations, 11% used grade distribution data, and 45% made informal assessments about a student's progress. It seems that music units today are still making informal assessments about students' learning outcomes and are looking less often to the achievements of former students as an indicator of teacher effectiveness.

Research question four was regarding the reliabilities and validities of the measures of student learning or progress. While only half the respondents in this survey use measures of student learning outcomes or progress in their faculty evaluations, it is clear that this type of data is not examined for internal consistencies. The data that illustrates music student success is perhaps not to be found in a test score of some kind, but rather in a series of data points that show a trend. For example, if a student gets good grades, plays well in ensembles, graduates on time, and garners a position in a good graduate program or a job placement, the data points support a conclusion that this student was successful.

Given the breadth of goals music units have for their students upon graduation, such as skill acquisition, development of a performer identity, nuanced musicianship, a high level of performance, and graduate school placement or job placement, the question raised is, are the markers being used as evidence of student learning outcomes and/or progress enough or appropriate? Also, are the data points current administrators are using actually indicative of good teaching? This leads to a further research question that is raised by the inclusion of mixed student progress data points in the teaching evaluation of music faculty, and that is, which of these data points are attributable to the teacher? Finally, how do administrators find a fair, defensible strategy for combining these multiple sources of information to make evaluations about a teacher's effectiveness? This question should be examined in the near future with empirical research.

Berk (2006, p.13) suggests that these multiple sources can "serve to broaden and deepen the evidence based used to evaluate courses and to assess the quality of teaching," however, he underscores the importance of a unified conceptualization of teaching effectiveness for higher education in general. The AERA report also recommended that in evaluating teaching the focus should be on student learning outcomes (AERA, 2013, p. 1). Music units are in a unique position where the student learning outcome goals can vary from unit to unit, depending on the degrees offered. Music unit administrators meet regularly at the National Association for Schools of Music meetings and as such, it is recommended that an open discussion be tabled to outline appropriate goals and data points. Standardization is not the goal; instead, there should be the identification of a series of appropriate goals and data points for small units, for large units, for public or privately funded institutions, for university departments and for music schools. Institutions who pursue this could make use of the Degree Qualifications Profile (Lumina Foundation, 2014) and explore the differences between specialized knowledge, broader integrated knowledge, intellectual skills, applied learning, civic learning and institution-specific areas to align the expected learning outcomes for students.

An alignment of student learning outcomes and degree expectations could naturally extend to an outlining of what is expected of teachers. This notion of a "unified conceptualization of teacher effectiveness" (Berk, 2006, p. 13) is a worthwhile suggestion and should be useful for other disciplines as well. Berk suggests additionally that unit administrators develop their own rating scales for evaluating teaching and courses, and he illustrates in detail the techniques for doing so, as well as for undertaking the necessary reliability and validity testing. The answers to research question two of this study illustrate that; in particular, many music units (68%) may not know the reliability and validities of the student evaluation instruments they are using to measure their faculty teaching effectiveness. Given that 98% of music units in this study use student evaluations as one of the primary measures of teaching effectiveness, this seems concerning and may also be of concern for other disciplines that find themselves in a similar position. Music faculty in this study have clearly been involved in developing, writing and examining the instruments used to evaluate teaching effectiveness, but perhaps they need more assistance from their institutional centers of assessment to determine whether these instruments are evaluating the constructs intended and whether they are doing so in a consistent, valid and reliable manner. This is especially important when the use of faculty evaluation in teaching is for high-stakes decisions such as promotion and tenure.

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Appendix A
Instrument Items, replicated from Hipp (1979)

1. Please indicate your official capacity or title
2. Please indicate whether your institution is state or privately supported
3. Please indicate the highest degree offered by your music unit
4. Please indicate the enrollment range within which your institution falls
5. Please indicate the enrollment range within which your institution falls
6. Are there written policies pertaining to the evaluation of faculty in your institution? (Y/N)
    a. If so, are these policies and procedures institution-wide, or were they developed specifically for the music unit?
    b. If so, are these policies and procedures institution-wide, or were they developed specifically for the music unit?
7. Does your music unit use faculty evaluation instruments that are utilized institution-wide? (Y/N)
    a. If so, is this instrument developed by an institutionally provided center/ institute for the support of teaching in higher education? (Y/N)
8. Does your music unit utilize evaluation instruments that have been specifically designed to the evaluation of music faculty? (Y/N)
    a. If so, please indicate the type or types of instruments in use. Check more than one item, if applicable. (Single form for all types of instruction, a form for the evaluation of applied studio music teachers, a form for the evaluation of ensemble directors, a form for the evaluation of composition/theory teachers, a form for the evaluation of classroom teachers)
    b. Has this, or have these instruments, been examined for their internal consistencies, such as reliability and validity? (Y/N)
    c. If so, please explain the process by which internal consistencies were determined.
9. Are student ratings / evaluation of faculty engaged in within your music unit? (Y/N)
    a. If so, please indicate the types or types of student input used. Check more than one item, if applicable. (Course/instructor surveys, personal statements from students, student reference letters
    b. Has the survey or questionnaire instrument been examined for their internal consistencies, such as reliability and validity? (Y/N)
    c. If so, please explain the process by which internal consistencies were determined.
10. Does the instructor have the option of participating or not participating in student rating (evaluations) of his/her teaching? (Y/N)
11. Is evaluation by colleagues (peer evaluation) engaged in within your music unit? (Y/N)
    a. If so, please indicate they type or types of input that are used for peer evaluation. Check more than one item, if applicable. (An evaluation form, a narrative report based on an observation, questionnaires, reference letters, personal statements)
12. Is evaluation by professionals **outside** the institution a part of the faculty evaluation process in your music unit? (Y/N)
    a. If so, please indicate the type or types of input used by the professional outside the institution. Check more than one item, if applicable. (An evaluation form, questionnaires, reference letters, personal statements)
13. Is the faculty member being evaluated required to provide a self-evaluation of his / her own teaching? (Y/N)
    a. If so, please indicate the type, or types, of input a faculty member might provide in a self evaluation. Check more than one item, if applicable (Examples of quality teaching – e.g. videos, self reflective narrative regarding growth over time, student scores/ measures of achievement, other – please explain)
14. Is evaluation by alumni a part of the faculty evaluation process in your music unit? (Y/N)
    a. If so, please indicate the type or types of input provided by alumni. Check more than one item, if applicable. (An evaluation form, questionnaires, reference letters, personal statements)
15. Is an assessment of the progress of a faculty member's students a part of the faculty evaluation process in your music unit? (Y/N)

   a. If so, please indicate the form that these student progress assessments take. Check more than one if applicable. (Standardized tests, pre-test post-test, departmental examinations, grade distributions, informal, other – please describe)
16. Has this, or have these assessments, been examined for internal consistencies, such as reliability and validity? (Y/N)
   a. If so, please describe the process by which internal consistencies were determined.
17. Is an assessment of the progress or achievement of a faculty member's **former** students a part of the evaluation process in your music unit? (Y/N)
   a. If so, please indicate how these assessments of former students are made. Check more than one item, if applicable. (Questionnaires, online surveys, job placements records, informally, other – please describe)
18. Are any other observations made of a faculty member's teaching, by individuals such as Administrators or Centers for Learning and Teaching in Higher Education? (Y/N)
19. Please indicate the relative importance (1 is not important, 5 is extremely important) of the following sources and methods of evaluative input regarding teaching effectiveness utilized in your music unit for decisions affecting the awarding of promotions in rank, tenure, and merit increases in salary for **all music faculty that teach groups of students** (e.g., classroom teachers, composition /theory teachers, ensemble directors) (Evaluation by students, evaluations by colleagues, evaluation by alumni, evaluation by outside professional sources, self evaluation, evaluation of students' progress, evaluation of former students' progress, other observations of teaching)
20. Please indicate the relative importance (1 is not important, 5 is extremely important) of the following sources and methods of evaluative input, regarding teaching effectiveness utilized in your music unit, for decisions affecting the awarding of promotions in rank, tenure, and merit increases in salary for **applied music performance faculty** (Evaluation by students, evaluations by colleagues, evaluation by alumni, evaluation by outside professional sources, self evaluation, evaluation of students' progress, evaluation of former students' progress, other observations of teaching)
21. Please indicate the relative importance (1 is not important, 5 is extremely important) of the ways in which the results of faculty evaluation are currently used in your music unit. (To encourage faculty development, to improve teaching effectiveness, to formulate individual faculty goals, to make decisions regarding tenure, to make decisions regarding promotion, to make decisions regarding merit increases in salary, to make decisions regarding teaching assignments, to make decisions regarding committee assignments, to make decisions regarding class scheduling.)
22. Would you be willing to share the instrument or instruments your unit uses to evaluate music faculty teaching effectiveness? (Y/N)

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Enhancing Undergraduate Students' Research and Writing

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Concern about the research and writing abilities of undergraduate students led to the development, implementation and enhancement of four sequential writing assignments in an introductory course. These writing assignments—which included a report on an interview of a professional in the field, a research paper on an aspirational career, a research paper on interim positions that would prepare a person for the chosen career, and a reflection paper—were designed to help students gain increased knowledge of, and understanding about, careers in sport management. Based on reflections and feedback from students, revisions in these assignments were made over three years to strengthen students' research and writing skills. A course portfolio containing examples of student learning enabled the professor to provide evidence of student learning and to make the teaching-learning process more visible.

Introduction

College teachers have often imparted knowledge as "sages on stages" even though student learning can be achieved more effectively when teachers serve as "guides on the side" (Weimer, 2002). Teachers can no longer rely solely on lecturing and expect to be perceived as experts imparting knowledge. Rather, they are increasingly held accountable for actively engaging students and documenting their learning. Effective teaching requires continuing reflection upon what was successful in helping students learn and implementation of changes enhancing the learning process (Bean, 2011; Brookfield, 2006; McKeachie, Svinicki, & Hofer, 2011).

Building on the premise that teaching is intellectual work focusing on actively engaging students, the purpose of this paper is to describe a course redesign process focused on strengthening the research and writing abilities of undergraduate students. The professor sought to improve and document student learning using a series of four writing assignments designed to enhance students' research and writing abilities and share the importance of continuous reflection so other faculty might benefit from lessons learned. Specifically, the nexus between career exploration, a personally relevant topic for undergraduate students considering careers in sport management, and writing about possible careers based on research as evidence of learning was documented through student examples in a course portfolio.

The professor implemented the initial course redesign in spring of 2010 in an introduction to sport management course with an enrollment of over 80 mostly first- and second-year students and developed an online course portfolio that described the process and provided examples of students' work. After reflection and conversations with colleagues, the professor made additional changes in the four writing assignments in each of two subsequent semesters when teaching the course. Before detailing this three-year process, a brief review of literature is discussed to lay a theoretical framework for this instructional approach dedicated to increased student learning. This literature review is segmented into three topical areas: teaching as intellectual work, student engagement, and the enhancement of students' research and writing abilities.

Teaching as Intellectual Work

Since the publication of Boyer's (1990) *Scholarship Reconsidered*, the intellectual work of teaching has been experiencing greater acceptance and gaining status in higher education. In describing teaching as intellectual work, Bain (2004) concluded that exceptional teachers treated lectures, discussion sections, problem-based sessions, and other elements of teaching as serious intellectual endeavors and as cognitively demanding and important as research. Savory, Burnett, and Goodburn (2007) provided a practical guide and formal model for making the scholarly work of teaching visible. Specifically, they suggested methods for planning and conducting classroom research including structuring the exploration of in-class inquiry questions and emphasized the importance of the teaching-learning process through detailed examples, and they related faculty experiences.

Bernstein (2002) concurred, "Teaching university-level courses is a form of serious intellectual work that can be as challenging and demanding as discovery research" (p. 215). He described four specific steps in the intellectual work of teaching. First, teachers identified content to be discussed and intellectual goals for learners to achieve. Second, decisions about instructional design were made. Third, teachers selected activities that helped students understand ideas taught. Fourth, intellectual work was "the evaluation of the effectiveness of the course and how well learners achieved the understanding set forth in the goals" (p.

216). Bernstein suggested peer review of reflective writing and teaching, such as through a course portfolio, fulfilled formative as well as summative purposes. He described an expanded, collaborative process for peer review of teaching, including three reflective statements comprising a course portfolio, as the foundation of teaching as intellectual work. The first reflective statement framed course goals and content. The second described teaching methods and instructional practices used to promote learning; the third presented examples of student performance accompanied by teacher feedback. Teacher reflection over the course culminated the process. Other educators, such as Bernstein, Burnett, Goodburn, and Savory (2006), also supported use of a course portfolio. Connected with the intellectual work of teaching was the need to facilitate greater student engagement, as discussed in the next section.

Student Engagement

Active engagement of students is essential to learning (Angelo & Cross, 1993; Bean, 2011; Brookfield, 1987; Brookfield, 2006; Cross & Steadman, 1996; Diamond, 2008; Murray, 1985). Lowman (1995) reported exemplary teachers engaged students in discussions, used group work to promote learning, and integrated learning inside and outside the classroom. Barkley, Cross, and Major (2005) also advocated for collaborative learning stating,

> It involves students actively, thereby putting into practice the predominant conclusion from a half-century of research on cognitive development. It prepares students for careers by providing them with opportunities to learn the teamwork skills valued by employers. It helps students appreciate multiple perspectives and develop skills to collaboratively address the common problems facing a diverse society. And it engages all students by valuing the perspective each student can contribute from his or her personal academic and life experience (p. 10).

Brookfield and Preskill (2005) claimed that one specific example of student engagement, discussion, provides a rich learning experience to achieve these learning outcomes: provide opportunities for students to explore diverse perspectives, increase awareness of and tolerance for ambiguity or complexity, recognize and investigate assumptions, listen attentively and respectfully, develop appreciation for differences, increase intellectual agility, connect with a topic, respect others' voices and experiences, learn habits of democratic discourse, help create knowledge, build capacity for clear communication of ideas and meaning, develop abilities for collaborative learning, become more empathic, develop skills of synthesis and integration, and transform themselves. These authors argued persuasively that discussion facilitated greater student engagement with content and increased learning. The best college teachers, according to Bain (2004), demonstrated their commitment to learning by engaging and motivating students, helping them gain understanding, guiding their actions and performances, challenging them to reflect upon and critique their learning, and helping them make judgments about their learning.

Peer review of writing and learning through the writing and revision process offered two effective strategies for student engagement. Yang (2011) suggested students learned new ideas and perspectives as well as improved their writing skills through peer review. Shaw (2002) found students seemed to care about how their classmates perceived their work, with peer pressure motivating students positively in their writing. However, peer review of writing was not without issues regarding its effectiveness. Yang stated, for example, too often students engaged in off-task chatting and only shared generic compliments instead of giving "revision-oriented feedback" (p. 688).

To address these concerns, Bean (2011) emphasized the importance of instructors providing guidance to students to optimize the effectiveness of peer review sessions. Fallahi, Wood, Austad, and Fallahi (2006) suggested using a framework of grammar, writing style, writing mechanics, and referencing in peer editing when teaching basic writing skills. McGroarty and Zhu (1997) stressed teaching students how to provide feedback on peers' writing to develop needed skills and build confidence in providing honest critiques. Peer review, they recommended, needed to focus on global concerns such as ideas, audience, purpose and organization. Bean (2011) listed peer review of drafts of student writing as one strategy to encourage revisions and suggested that peers were important resources for helping develop critical thinking skills. He concluded, "These studies support the value of peer review in encouraging revision, showing that students learn as much by doing the reviews as by receiving them" (p. 302).

College students who may fear writing because of lack of practice may procrastinate until they experienced the pressure of a submission deadline, resulting in less than their best work (Shaw, 2002). Completion of drafts of writing assignments so students could obtain feedback from instructors and classmates was encouraged by Bean (2011); Ellis, Taylor, and Drury (2005); Fallahi et al. (2006); Shaw (2002); and others. Revision of papers helped students realize writing was a process that could increase their confidence and abilities, not a one-time event (Yoder,

1993). Again, as Bean (2011) emphasized, formal writing assignments that included revision and multiple drafts were powerful tools for teaching critical thinking.

A strong connection existed between scholarly teaching and student engagement. The intellectual work of teaching required continuous reflection upon, and use of, instructional strategies that more actively engaged students in constructing new and meaningful knowledge. Building on the intellectual work of teaching and essentiality of active student engagement, the next section describes the important of enhancing students' research and writing abilities.

Research and Writing Abilities

Bean (2011) stated, "…the most intensive and demanding tool for eliciting sustained critical thought is a well-designed writing assignment on a subject matter problem" (p. xvi). He described ways for instructors to engage students more actively in disciplinary content while utilizing writing at the forefront of the teaching-learning process. Ellis, Taylor, and Drury (2005) supported the nexus between writing, disciplinary content, and learning when they reported,

> …research into student writing at university has shown that the experience of writing not only helps students to become familiar with the standards and style of written expression expected in their disciplines, but it also helps them to clarify their understanding of the subject matter about which they are writing. (p. 49-50)

Student writing and research skills often have been areas of concern among higher education faculty. For example, faculty in the department of history and philosophy at Eastern Michigan University developed a writing process model to combat frequent student procrastination in a research and writing methods course (Olwell & Delph, 2004). This semester-long model with incremental steps included identification of topics weeks before papers were due, compilation of bibliographies before beginning the writing process, and submission of drafts or detailed outlines so teachers could provide feedback about research weaknesses, thesis organization or writing style. Using this model, teachers purposefully guided students in developing strong thesis statements and providing supporting evidence based on research and critical analysis.

Effective teaching required intellectual commitment by faculty and students as well as instructional approaches to help students improve their research and writing abilities. The course redesign described in this paper was guided by principles of teaching as intellectual work, student engagement leading to greater learning, and the importance of enhancing research and writing skills. The professor designed, and subsequently revised based on reflection and student feedback, four writing assignments in an introduction to sport management course. Guided by the work of Bernstein (2002), Bernstein, Burnett, Goodburn, and Savory (2006), and Savory, Burnett, and Goodburn (2007), the professor developed a course portfolio that presented course goals, a description of the course redesign, examples of instructional practices and activities, and evidence of student learning through examples of student work (see http://www.cte.ku.edu/portfolios/lumpkin).

Methods

Background on the Introduction to Sport Management Course

Introduction to Sport Management is a required prerequisite course taken by between 80-90 students per semester who are seeking admission as sport management majors. The initial learning outcomes for this course included the following: (1) Students through an exploration of the fundamental content areas within sport management will make a reasoned, knowledgeable choice about whether sport management is an appropriate career path; (2) Students will be able to explain the principles of leadership and management as applied in sport settings; and (3) Students will be able to describe, analyze, and apply the principles and issues in sport ethics, personnel management, financial management, sport law, facility and event management, strategic planning and sport marketing.

When planning the new writing assignments, the professor added a fourth course goal: Students will identify careers of interest to them, investigate the chosen careers, and demonstrate through written assignments their knowledge about, and understanding of, how to advance in chosen careers. Reasons for adding this learning outcome were to help each student explore a possible career interest by interviewing a person in the selected career and writing a synopsis of what was learned, investigate entry and sequential professional positions he or she might hold to gain experiences and develop expertise in preparing for chosen careers, and reflect upon and make personal application of what was learned.

To facilitate students' abilities to conduct research, to enhance their writing, and to serve as resources for them, assistance was solicited from professionals in the university's library and Writing Center. On the second day of class, a librarian described the website she had developed specifically for the class. This website included instructions for using databases to locate scholarly articles and books, evaluate and use online resources, and cite resources properly. Additionally, to help students with their research, on the course management system the professor provided a list of

scholarly journals and during class modeled how to identify key points in a scholarly article. The assistant director of the Writing Center described how its personnel could help students improve their writing from idea conceptualization through the revision process, culminating in a well-written assignment. Figure 1 depicts the process used in planning and implementing the research and writing assignments. Figure 2 shows the connection between the learning outcomes, instructional strategies used in this course, and the writing assignments.

Four Writing Assignments

Bean (2011) argued,

> The relationship between the amount of writing for a course and students' level of engagement—whether engagement is measured by time spent on the course, or the intellectual challenge it presents, or students' level of interest in it—is stronger than the relationship between students' engagement and any other course characteristic (p. 1).

He added, "…[G]ood writing assignments (as well as other active learning tasks) evoke a high level of critical thinking, help students wrestle productively with a course's big questions, and teach disciplinary ways of seeing, knowing, and doing" (p. 1-2). Students learned through writing as they embraced authentic tasks challenging them to grapple with what they were reading, got actively engaged with important problems and issues, and thought more critically about what they were trying to state. Dean (2010) and Graham and Perin (2007) agreed that writing-to-learn was highly effective because students had to think critically and actively engage with the subject about which they were writing.

Despite these proven connections between writing and critical thinking and learning, often students resisted writing because it was hard work. Evidence of this resistance had been noted by the professor in the few writing assignments completed by many former students in this introductory course. Contributing factors to poorly written papers, according to Olwell and Delph (2004), were students' frequent procrastination in beginning work on their papers, often as late as the night before the due date resulting in the lack of thesis statements; reliance on easily accessible, rather than substantive, scholarly sources; unsubstantiated claims; lack of coherence and organization in describing key points; and unedited, poorly written papers.

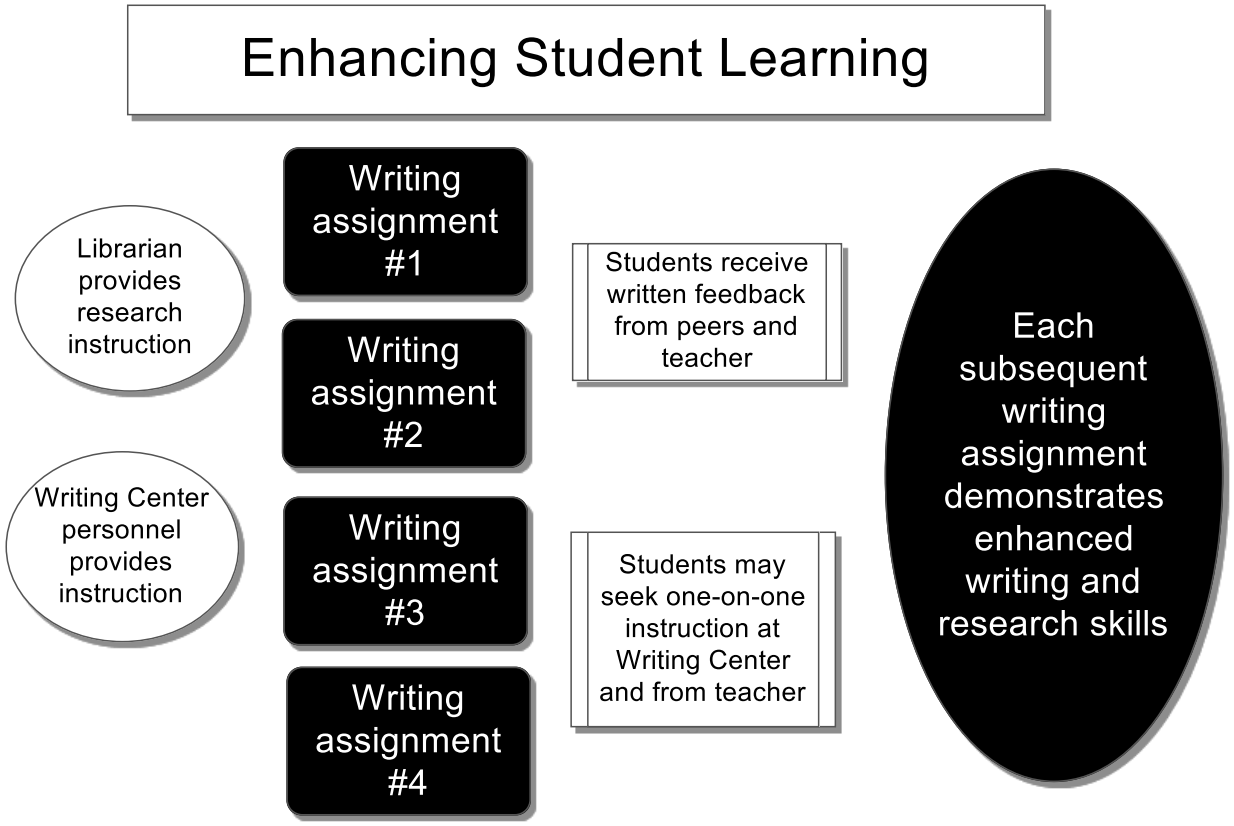
The task description for writing assignment #1 required each student to identify a specific career of interest within sport management; conduct an in-person, telephone, or electronic interview of a professional in the selected career; and write a 2-3 page report describing what was learned. Expectations for this and other writing assignments were provided through grading rubrics (see Tables 1, 2, 3, and 4 for examples of the grading rubrics for the four writing assignments as revised over three years) with exemplary, proficient and marginal performance in four criteria: description of the career and responsibilities of the person interviewed; knowledge and understanding of career preparation and development; and organization and communication. Based on the assumption that students would increase their knowledge and reflect on their learning in each of the four sequential writing assignments, the possible points for each were 20, 40, 60 and 80. The points associated with each criterion increased proportionately with each subsequent writing assignment. The overall grading scale for the course included 100 points for online quizzes covering reading assignments, 300 points for 3 examinations and 200 points for the 4 writing assignments.

One week prior to the due date for writing assignment #1, students were asked to bring drafts of their papers to class. Requiring students to bring drafts of papers to class prevented waiting until the night before the due date to begin working on the writing assignment. During this class period, each student was grouped with classmates who had interviewed professionals in similar sport management careers (e.g., athletic directors; general managers; sport agents; and sport marketers) and read and provided peer feedback to at least two classmates about the information presented and clarity of the writing. A secondary outcome for students from reading classmates' interview draft papers was to glean additional information from what others had learned. Students were encouraged to get additional help at the Writing Center before finalizing writing assignment #1.

A copy of the grading rubric was attached to each student's paper on all writing assignments and evaluative checkmarks and comments placed in the section of the rubric matching the graded or summative assessments. In addition, hand-written comments were made by the professor on each paper with sequential emphasis on content, organization and grammar. This feedback also was formative because students were required to revise and resubmit subsequent writing assignments.

The quality of graded writing assignment #1 papers ranged widely. Some students did well because they met requirements for exemplary performance, diligently edited their writing, and took advantage of feedback received from classmates or someone in the Writing Center. The majority of students emphasized what they learned from the person interviewed but could have edited their writing more carefully for clarity and

Figure 1
Enhancing Student Learning



grammar. A few students procrastinated, leading to late submissions, poorly edited papers and cursory descriptions of what they learned from their interviews.

The criterion for the revised and resubmitted writing assignment #1 stated: Clear and informative revised report on the interview; each revised writing assignment was worth 10 points of the grade for the newly submitted writing assignment. For example, the performance criteria for revised paper (#2) stated: clearly communicates evidence of critical thinking, detailed analysis and an understanding of the sequential jobs and responsibilities of individuals seeking to advance in the chosen career. The revision and resubmission process facilitated students' learning as reflected in organization and clarity of writing.

The task description for writing assignment #2 required each student to write a 2- to 3-page research paper based on information from at least 5 sources of information (these could be obtained electronically or in print other than from newspapers) about the interim positions or sequential steps for advancing toward the selected career within a 20-year period of time. Students who wanted to change to different career choices for their writing assignments were permitted to do so. Most students' revised writing assignments #1 showed greater clarity and more careful editing; however, a few students failed to use the feedback provided by the professor, resulting in their receiving fewer points.

For writing assignment #2, several students struggled in locating informative sources to help them learn about the types of entry-level and mid-level positions professionals in sport management careers would hold as well as the knowledge and experience needed for advancement in careers. The criterion asking students to describe the sequential jobs and responsibilities in the career path challenged students as many relied on minimally helpful, but easily accessible, electronic resources; other students read more broadly in scholarly articles and books that greatly enhanced their understanding of types of responsibilities associated with these jobs and skills and abilities needed to be successful.

At the mid-point of the semester, students were invited to provide anonymous feedback via the course management system on any aspect of the course. They were specifically asked to respond to three open-ended questions: what they liked about the course, what they

Figure 2
Alignment of Writing Assignments with Pedagogical Approaches and Learning Outcomes

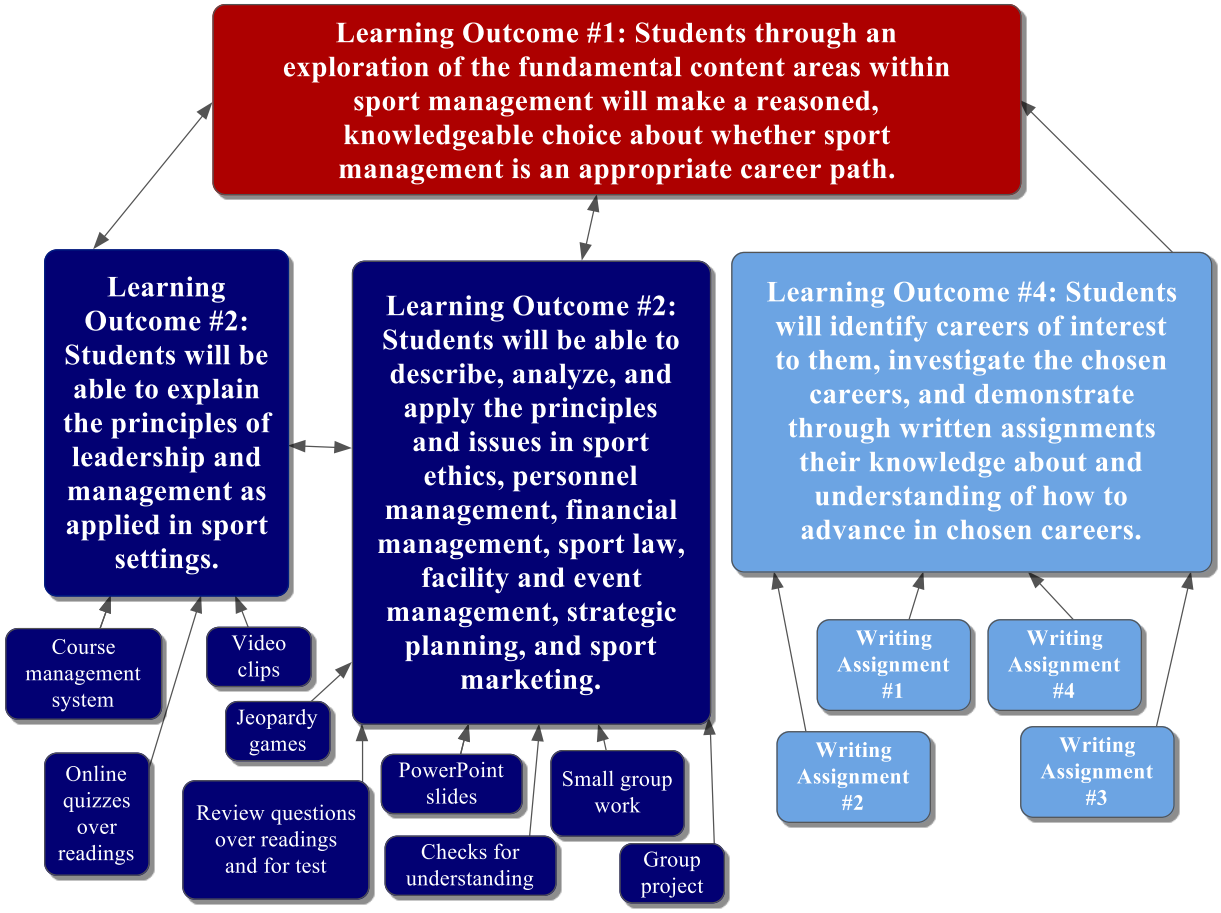


Table 1
Grading Rubric for Writing Assignment #1

Categories	Meets few criteria	Meets some criteria	Meets most/all criteria
Career Background (20) Paper describes the current position and responsibilities of the person interviewed.	0-6	7-13	14-20
Career Information (20) Paper includes information about and examples of career preparation and advancement of the person interviewed.	0-6	7-13	14-20
Career Advice (10) Paper describes advice for career success from the person interviewed.	0-3	4-7	8-10
Organization and Communication (10) Paper is well-organized, communicates effectively, and uses proper grammar, punctuation, and spelling.	0-3	4-7	8-10

Table 2
Grading Rubric for Writing Assignment #2

Categories	Meets few criteria	Meets some criteria	Meets most/all criteria
Career Background (20) Paper provides a job title, a detailed description of the selected position, and a description of the types of organizations in which this sport management position exists.	0-6	7-13	14-20
Knowledge and Understanding (30) Paper shows evidence of knowledge and understanding about the selected position including a description of various job responsibilities and examples of competencies required for success in this sport management job.	0-15	16-22	23-30
Organization and Communication (10) Paper is well-organized, communicates effectively, and uses proper grammar, punctuation, and spelling.	0-3	3-7	8-10

Table 3
Grading Rubric for Writing Assignment #3

Categories	Meets few criteria	Meets some criteria	Meets most/all criteria
Career Background (20) Paper includes a detailed description of the sequential jobs and experiences needed to prepare for the selected career including education, internships, and various jobs held.	0-6	7-13	14-20
Knowledge and Understanding (30) Paper demonstrates knowledge about sequential jobs, experiences, and responsibilities that prepare an individual for the selected career including specific examples that could inform your career decisions.	0-15	16-22	23-30
Organization and Communication (10) Paper is well-organized, communicates effectively, and uses proper grammar, punctuation, and spelling.	0-3	3-7	8-10

did not like about the course, and what suggestions they had for improving the course. Responses specifically about the writing assignments stated students liked exploring different careers, but they did not like the provision of peer feedback on drafts of papers, the number of writing assignments, and the number of sources required for the writing assignments. Students suggested eliminating the peer feedback, having more extra-credit opportunities, and reducing the number of sources required for writing assignments. Since this was the first time these writing assignments had been required of students and in response to this feedback, four changes were made with the goal of helping students be more successful: elimination of the peer feedback; the revision of writing assignment #2 made optional for bonus points as part of writing assignment #3; reduction of the required minimum number of sources for writing assignment #3 from 5 to 3; and revisions to writing assignment #3 made optional for bonus points as part of writing assignment #4.

The task description for writing assignment #3 required each student to write a 3-4 page research paper that described the roles and responsibilities of

Table 4
Grading Rubric for Writing Assignment #4

Categories	Meets few criteria	Meets some criteria	Meets most/all criteria
Career Background (30) Reflections in this paper demonstrate an understanding of information learned.	0-15	16-22	23-30
Knowledge and Understanding (20) Paper makes personal applications of the information learned including thoughts on the chosen career and discussion of how you will use the information to be successful.	0-6	7-13	14-20
Organization and Communication (10) Paper is well-organized, communicates effectively, and uses proper grammar, punctuation, and spelling.	0-3	3-7	8-10

an individual in the chosen career. Writing assignment #3 was challenging for students because it required more time and effort to locate a minimum of three scholarly articles or books to obtain in-depth information about chosen careers. Students who relied solely on easily accessible, minimally informative and commercially popular websites received lower grades because of the lack of sufficient depth and breadth of information. While a few students chose not to revise writing assignment #2 for extra credit, most did. For those who had done well on their second writing assignment, making revisions resulted in their receiving 10 extra credit points. Many students in their revisions, however, only responded to specific questions asked in the professor's written comments and/or corrected grammatical errors. Other students made major revisions to improve their quality of their writing and received all of the extra credit points.

The task description for writing assignment #4 required students to write a 4-5 page reflective paper that made personal application of what was learned and how this shaped his or her thinking about, and conceptualization of, what it took to be successful in the chosen career. Most students chose to revise writing assignment #3 by addressing the marked grammatical issues and revisions needed as identified by the professor, and they received scores of up to 20 extra credit points. A few students failed to make specific personal application of what they had learned, even though this criterion was worth 20 points as stated on the grading rubric. For most students, the quality of writing assignment #4 was stronger than for previous writing assignments, possibly because no new research was required.

In reflecting on these four writing assignments, several students wrote that they would not have chosen to write four papers, but they enjoyed learning more about possible careers in sport management through their interviews, research, investigations and reflections. Students acknowledged they learned characteristics about possible careers they liked, disliked, or never knew of, and they were glad they discovered through researching and writing about careers. Their writing improved through preparing drafts and receiving feedback to use when making revisions in subsequent submissions.

Second Iteration of the Four Writing Assignments

After conclusion of the course, the professor reflected upon successes and challenges of the four writing assignments and talked with colleagues about the use of writing assignments in their courses. As a result, a few modifications were made in preparation for teaching this course in spring of 2011. These changes are briefly summarized below.

The order of the task descriptions for the second and third assignments were exchanged because the professor believed it would be easier and more beneficial for students to investigate the roles and responsibilities of persons in career choices before exploring interim types of experiences they would complete and positions they might have in progressing toward their chosen careers. As a part of the second and third assignments, more extensive research was required as was reading career sketches of professionals in a variety of sport management careers. The second iteration of writing assignment #2 required students to write a research paper about their own long-term career aspirations to gain a better understanding about the responsibilities of individuals in these roles and whether fulfilling these duties would be of interest to

them. Students had to utilize information obtained from a minimum of five articles published in scholarly or sport-related journals for this paper.

With an ultimate career goal more clearly in mind, writing assignment #3 required each student to write a research paper based on information from at least 10 sources of information (5 of these had to be articles published in scholarly or sport-related journals, while 5 could be obtained electronically from commercial websites) about interim positions or steps for advancing in or toward the selected career. While increasing the number of sources for writing assignment #3, the requirements were more flexible to allow students to find information online about lower-level jobs in chosen careers.

With the large class size, the professor decided to eliminate the requirement to revise and resubmit previously graded papers as portions of the grades on subsequent writing assignments. One reason was the huge time demands for grading seven papers; another reason was that some students failed to spend the time required to substantively revise their original writing assignments. This change influenced the decision to make each of the four writing assignments worth the same number of points, 60 points each. However, after students received their grades for writing assignments #2 and #3, they requested and were given the option to revise and resubmit one writing assignment of their choice to improve their grades.

Because of the importance of receiving feedback to enhance their writing, students were encouraged to meet individually with the professor to discuss and get comments on drafts. A few students took advantage of this opportunity with positive effects on their writing, research and grades. Peer feedback was reinstated with each student required to bring a draft of each writing assignment to the class immediately preceding the due date for submission to receive comments and edits from peers. To make these sessions more beneficial to students, written guidance for peer feedback was provided by the professor. The questions listed below are examples of this guidance:

1. What did you learn about this person's career journey? Give positive feedback about this.
2. What would you like to learn more about this person's career journey? Provide specific feedback.
3. Did this person describe and show an understanding of the sequential jobs and responsibilities needed to prepare for the selected career?
4. Did this person organize the paper and communicate clearly and effectively?

To emphasize the requirement of preparing a draft and bringing it to class, students who failed to do this were marked absent for that class (depending on students' overall attendance, this could negatively affect their grades). Finally, to encourage students to get help from the Writing Center, they were allowed to make up one unexcused absence from class by going to the Writing Center for assistance with at least one writing assignment.

Upon reflection, the second iteration modifications in the writing assignments were positive. The peer feedback sessions were more engaging and helpful for students due to increased guidance and clarity provided by the professor. Additionally, students liked not having to revise three writing assignments as parts of their grades, yet appreciated the optional opportunity to revise and resubmit one writing assignment for additional points. More students availed themselves of opportunities to get formative feedback from the professor prior to the submission of their writing assignments.

Third Iteration of the Four Writing Assignments

Changes in points associated with each writing assignment, peer feedback, and order of the writing assignments were continued the third time this course was taught in spring of 2012. The requirement to read career sketches for writing assignments #2 and #3 was eliminated, although students who incorporated information from the various positions that sport management professionals advanced through in writing assignments #2 and #3 benefited from what they learned and wrote. More extensive guidance was provided by the professor to help students give peer feedback to classmates, which continued to improve the quality and helpfulness of the feedback. Students who demonstrated problems with their writing (i.e., scores of 7 or below out of a possible 10 points on the organization and communication section of the grading rubric) were required to provide proof of receiving assistance on a subsequent writing assignment from an individual in the Writing Center. To assess how effectively course learning outcomes, and specifically the two associated with the writing assignments, were being met, on the day of the final exam the professor asked students to anonymously provide feedback.

Results

Analysis and Synthesis from Students' Perspectives

When initially presented on the first day of class, the four written assignments and the research requirements for two of these were daunting to first- and second-year students. While some students may not have been eager to embark on the required work, others may have questioned whether they possessed the skills necessary to be successful. Regarding writing

assignment #1, however, students appreciated the flexibility to interview any person working in sport management, ask any questions they wanted, review examples of excellent papers submitted by former students, and use the grading rubric to guide their writing. Combined, these led to most students earning over 50 out of 60 points on this assignment. However, despite repeated encouragement to seek assistance from the Writing Center, some students submitted papers with insufficient editing and numerous grammatical mistakes.

For writing assignments #2 and #3, most students preferred to rely on easily accessible online information rather than to seek help from the professor or a librarian when searching for scholarly resources. Consequently, many students struggled and were frustrated when trying to locate or identify required information about the sport management careers they chose as well as the entry- and mid-level positions that would prepare them for career advancement. Some students' reluctance to seek help resulted in their receiving lower grades and learning less than they would have from more scholarly resources. The professor collected helpful scholarly resources from students in this class and posted these on the course management system the next time this course was taught.

Overall, students enjoyed writing assignment #4 because it did not require conducting research or an interview. In their papers, on the end-of-course evaluation, and in talking with the professor, several students commented about how valuable they felt the learning associated with the sequenced writing assignments was. The connection between what they learned and their career aspirations had become meaningful and personally applicable.

In addition to learning information about the 12 topics in a survey course about sport management, students' responses about meeting course learning outcomes were extremely positive (see Table 5) (i.e., 100% , with 58 students stating the objective to "identify careers of interest to them, investigate the chosen careers, and demonstrate through written assignments their knowledge about and understanding of how to advance in the chosen careers" was fully met; 23 responded it was mostly met; and the other 2 added it was somewhat met) (see Table 5). The concept map shown in Figure 1 depicts the linkages between the course learning outcomes with the writing assignments and instructional strategies used by the professor.

Concluding Comments

The Nature of Teaching

Teaching is intellectual work. Continually examining and enhancing the teaching-learning process is a critical aspect of effective teaching and requires a heartfelt commitment to, and lifelong passion for, learning. Faculty members who believe teaching is intellectual work are more likely to inspire students to fully engage in the learning process, enhance their critical thinking skills, and actively seek to learn. As Bain (2004) reported, the best college teachers set high standards. Value-added education demands setting and meeting high standards for teaching and learning. With the goal of enhancing and documenting student learning, the professor added four sequential writing assignments, engaged in continuing reflection about how to improve the writing and learning process, and made mid-semester and reflective adjustments.

Overall reflections on the effectiveness of the four writing assignments yielded these insights:

- Many students were reluctant to use the Writing Center even though they were strongly encouraged to take advantage of this helpful resource. For example, in the second iteration of the revised course, 14 out of 85 students went to the Writing Center to get help with their writing assignments; in the third iteration, the 10-12 students who scored 7 or less on the criterion of organization and communication on any of the first 3 writing assignment were required to receive help at the Writing Center. This small percentage suggested that students felt they already had the needed writing skills to get whatever grades were their goals; maybe students did not wish to spend the extra time to get help; or maybe they procrastinated in writing their assignments, so they did not have time.
- Many students struggled in finding scholarly sources of information about careers in sport management. While additional guidance was provided to students to help them find resources for writing assignments #2 and #3 in the second and third iteration of this course, some students still relied too heavily on easily accessible and mostly commercial websites, many of which were limited in content and direct relevancy to requirements of the writing assignments. In the third iteration, the professor provided additional guidance in how to use databases to find resources. Students were encouraged to meet with the professor for individualized help, which some did.
- Based on positive feedback received through the reflection paper and anonymous end-of-course evaluations, most students thought they improved their writing abilities. For example, in response to the open-ended question about what things the instructor did well as a part of the end-of-course evaluation, one student in the second iteration of

Table 5
Student Feedback about the Extent to which Course Objectives Were Met

Course learning outcomes	Fully met	Mostly met	Somewhat met	Minimally met	Not met
Students through an exploration of the fundamental content areas within sport management will make a reasoned, knowledgeable choice about whether sport management is an appropriate career path.	66	17	0	0	0
Students will identify careers of interest to them, investigate the chosen careers, and demonstrate through written assignments their knowledge about and understanding of how to advance in the chosen careers.	58	23	2	0	0
Students will be able to explain the principles of leadership and management as applied in sport settings.	59	23	1	0	0
Students will be able to describe, analyze, and apply the principles and issues in sport ethics, personnel management, financial management, sport law, facility and event management, strategic planning, and sport marketing.	95	22	3	0	0

the course wrote, "helped me with my writing." Another student in the third iteration wrote, "I enjoyed the paper assignments." As students focused on making revisions, the quality of their resubmitted writing assignments showed improvement. Evidence of student learning as demonstrated through their writing assignments is provided in the course portfolio available at http://www.cte.ku.edu/gallery/portfolios/lumpkin.

- Most students realized the value of these writing assignments because by connecting these with career exploration they learned more about options and opportunities in sport management careers. For example, a student in 2012 stated in writing assignment #4: "As I look back on my experience, I see how this class has impacted my future decisions and career path in sport marketing tremendously. Learning about all the different fields people want to go into and learning about each one, benefited me in one way or another. I felt like I could take something I learned from each lesson and apply it to marketing. Although having to write so many papers was not what I was expecting, it got me on track and motivated me to start getting serious about my own career path."

Like this student, others in their writing assignments #4 (reflections) commented on the helpfulness of learning more about one or more careers and how beneficial it was to confirm or contradict their preconceived notions about these careers. Some students stated what they learned reaffirmed their desires to pursue certain careers. Other students learned the job expectations for the careers they investigated were quite different than they thought and changed their minds or were rethinking what their career choices might be. Having conducted research and written about their aspirational careers as well as possible interim experiences and jobs they might hold to prepare for these careers, reflecting on what they had learned was considered by most students to be highly beneficial.

Implications of this Course Redesign

The incorporation of research and writing assignments into an introductory course is broadly applicable in higher education. Designing writing assignments to make them directly relevant to students' lives enhances how engaged they will be. Since many students struggle with writing in general and writing research papers in particular, it is incumbent on faculty members to structure writing assignments in clear, understandable and meaningful ways. This includes specific task assignments, guidance in how to identify and use scholarly sources and frameworks for conceptualizing and writing research papers. Encouraging students both to avail themselves of personnel working in a Writing Center and to take advantage of peer and teacher feedback also is beneficial in improving writing skills. Clearly stated, high expectations described in grading rubrics help students understand expectations and strive to achieve them (Bean, 2011).

From the professor's perspective, three implications of this course redesign are most poignant. First, given that the focus of teaching should remain on

students and their learning rather than on the discipline (Bain, 2004), teachers should seek feedback from students about how to make their learning more relevant and meaningful. Second, reflecting on teaching should be never-ending. After each class throughout the semester and in the planning process for teaching a course again, the reflective teacher will examine every aspect of course content, the instructional process and assessments including writing assignments, and he or she will make adjustments that will lead to greater student learning. Third, documentation of student learning is increasingly imperative in higher education. While development of a course portfolio may not work for everyone (although it is recommended), collecting examples of students' writing is a powerful reminder of the difference teachers are making in student learning.

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Developing an Experiential Learning Program: Milestones and Challenges

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College and University faculty members have increasingly adopted experiential learning teaching methods that are designed to engage students in the learning process. Experiential learning is simply defined as "hands-on" learning and may involve any of the following activities: service learning, applied learning in the discipline, co-operative education, internships, study abroad and experimental activities. This paper includes a general discussion of the organizational and assessment activities that were required to implement the Experiential Learning Scholars Program (EXL) at a large public university. The program was developed over a three-year time period and was fully implemented in five years. After almost ten years operation, the EXL Scholars Program has become institutionalized on the campus and is a valued and high profile initiative that engages students in learning.

Developing an Experiential Learning Program: Milestones and Challenges

Faculty members at institutions of higher learning have increasingly adopted teaching methods that are based on best practices for student learning and on developing methodologies that engage students in the learning process. One such approach to engaging students in learning is experiential learning. Experiential learning is simply defined as "hands-on" learning and may involve any of the following activities: service learning, applied learning in the discipline, co-operative education, internships, study abroad and experimental activities.

This paper provides theoretical evidence for the value of experiential learning for both students and faculty and offers a process for developing a campus-wide experiential learning program. Specifically, the literature review provides support for experiential learning as a pedagogical technique, provides examples for the development of the definition of experiential learning over time, and offers some guidance for institutionalizing an experiential education program. Based on studying the literature, the program developers made initial plans and then developed the structure, budgeting, curriculum development activities, marketing, and assessment activities for the program. These activities are explained in the paper along with some conclusions about milestones and challenges related to the program development.

Literature Review

Following is a discussion from the literature of the various ways experiential learning has been defined and operationalized in practice, an evaluation of the value of experiential learning to the learning process, and issues related to institutionalizing an experiential learning program at universities.

Experiential Learning Defined

Katula and Threnhauser (1999) identified experiential learning as one of the most notable trends in higher education during the past thirty years. During this time, a definition for experiential learning has been developed and refined. A wide range of definitions have been developed for experiential learning over the years. Some of the accepted definitions of experiential learning are included in Table 1.

Kolb and Kolb (2005) provide more insight into the definition of experiential learning through propositions of experiential learning theory. These propositions include:

1. Learning is best conceived as a process, not in terms of outcomes.
2. All learning is relearning.
3. Learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world.
4. Learning is a holistic process of adaptation to the world.
5. Learning results from synergetic transactions between the person and the environment.
6. Learning is the process of creating knowledge. (p. 194)

Kolb draws on the work of philosopher John Dewey, one of the "foremost exponent of the use of experience for learning" (Beard & Wilson, 2006, p. 17). Dewey (1944, p. 74) noted that experience alone did not produce learning and required "that reconstruction or reorganization of experience that adds to the meaning of that experience and which increases ability to direct the course of subsequent experience," therefore emphasizing the reflection aspect of experiential learning to create knowledge. Higgins (2009) also discusses "critical reflection" as "an important facet of experiential education" (p. 49). Beard and Wilson (2006) define experiential learning as "the sense-making process of active engagement between the inner world of the person and the outer world of the environment" (p. 19). Based on a review of these definitions and the propositions, it is clear that

Table 1
Definitions of Experiential Learning

Author	Year	Definition
Dewey	1971	"The student learns by doing: or to put this in other words, he test hypotheses in the laboratory of real life" (p. 10).
Kolb	1984	"Learning is the process whereby knowledge is created through the transformation of experience" (p. 38).
Cantor	1995	Active learning – the learner takes responsibility in the learning process
Cantor	1995	A "process of learning and a method of instruction, immersing students in an activity and asking for their reflection on the experience; learning activities that engage the learner directly in the phenomena being studied"
Katula & Threnhauser	1999	Making "knowledge into know-how" (p. 240)
Katula & Threnhauser	1999	"That learning process that takes place beyond the traditional classroom and that enhances the personal and intellectual growth of the student. Such education can occur in a wide variety of settings, but it usually takes on a 'learn-by-doing' aspect that engages the student directly in the subject, work or service involved." (Northeastern University as cited in Katula and Threnhauser, p. 240)
McKeachie	2002	"Experiential learning refers to a broad spectrum of educational experiences, such as community service, fieldwork, sensitivity training groups, workshops, internships, cooperative education involving work in business and industry, and undergraduate participation in faculty research," (p. 246).
Kolb & Kolb	2005	A "learning cycle or spiral where the learner 'touches all the bases'- experiencing, reflecting, thinking, and acting-in a recursive process…Immediate or concrete experiences are the basis for the observations and reflections"
Lee	2007	"Experiential learning is a broad term referring to multiple programs and systems for providing students in educational institutions with work-based applied learning opportunities," (p. 38).
Eyler	2009	"A process whereby the learner interacts with the world and integrates new learning into old constructs," (p. 1).
Eyler	2009	Service-learning is "a form of experiential education that combines academic study with service in the community" (p. 1).
Qualters	2010	Experiential education "assists students in translating classroom knowledge into meaningful learning for their future…Experiential education needs to be viewed as a unique form of pedagogy involving deep reflection, collaboration, and assessment," (p. 95).
Association for Experiential Education	2013	"Experiential education is a philosophy that informs many methodologies, in which educators purposefully engage with learners in direct experience and focused reflection in order to increase knowledge, develop skills, clarify values, and develop people's capacity to contribute to their communities."

Note: Citations for definitions are listed on the reference page.

experience and reflection are two critical aspects of experiential education, as suggested by Katula and Threnhauser (1999) and by Kolb and Kolb (2005).

Value of Experiential Learning to the Learning Process

Some critics question if experiential learning programs enhance student learning. Katula and Threnhauser (1999) found that cooperative education experiences that are stand alone and not effectively integrated with the academic discipline do not enhance student learning. There is also concern that study abroad experiences may not lead to any greater learning than a personal trip abroad (Katula & Threnhauser, 1999). Sometimes service and learning are totally disconnected in service-learning programs and learning goals are not achieved (Cone, 2003). It is also possible that some service-learning arrangements are more quid pro quo arrangements rather than opportunities for students to give back to the community (Katula & Threnhauser, 1999).

Alternatively, many researchers strongly believe that incorporating experiential learning into academic courses enhances student learning. Experiential learning practices have been identified by Kuh (2008) as high-impact educational practices that have been shown through research to increase student retention and engagement. In this top 10 list of high impact educational practices, four are directly connected to experiential learning: diversity/global learning (which often is accompanied by study abroad or other experiential learning in the community), internships, undergraduate research and service learning/community-based learning. Also Kuh provides data that shows service learning and study abroad both are perceived by students to be high-impact in terms of deep, general, personal and practical learning.

One common form of experiential learning is the internship/cooperative education program. Internship students learn to make connections between what they are learning in courses and their on-the-job experience. Steffes (2004) suggests that an internship helps students explore whether they are suited to a particular setting and/or career path. They also discuss that students who complete internships have found professional benefits after college such as greater job satisfaction. Purdie, Ward, Mcadie, King, and Drysdale (2013) found in their survey study of 716 undergraduate students in the UK that students who had participated in work-integrated learning (interns, practicum, clinicals, etc.) reported significantly higher confidence in goal setting and goal attainment. They suggest this may enhance the student's ability to establish and achieve goals in the workplace. Simons et al., (2012) conducted a multi-method study of learning outcomes of students enrolled in an intern program. Their qualitative data revealed that all field supervisors and all students felt the internship helped the students acquire an in-depth understanding of the academic content.

Another common form of experiential education is service learning. Cantor (1995) says developing a respect for diversity is an outcome of service learning programs. Baldwin, Buchanan, and Rudisill (2007) studied the impact that a service learning program has on teacher education candidates' respect for diversity. Their findings suggest that service learning is a positive influence on teacher candidates' willingness to teach in diverse school settings. Teacher candidates "even began to question societal inequities that they encountered," (Baldwin, Buchanan, and Rudisill, 2007 p. 326). Other studies have found that service learning positively impacted freshman students' esteem and motivation to volunteer for professional growth (Eppler, Ironsmith, Dingle, & Errickson, 2011) and developed work-based competencies and global citizenship (Ramson, 2014).

Following are some of the positive outcomes about experiential learning that have been identified in research projects. Research shows that experiential learning helps students understand how to apply theory (Bucher & Patton, 2004; Eyler, 2009) and can improve students' reasoning skills (Coker, 2010; Knecht-Sabres, 2010). Coker (2010) conducted pre- and post-tests of occupational therapy students who completed a one week experiential learning, hands-on therapy program. She found that increases in the students' post-test scores on the Self-Assessment of Clinical Reflection and Reasoning and California Critical Thinking Skills Test were statistically significant ($p < .05$) after completing the program. Victor (2013), in a qualitative study with participants of an outdoor experiential course in literature, examined the long-term impact of the experience-based course. Regarding the course's long-term impact, four themes were found from participant interviews. These included that the course "nurtured creativity; increased collaboration skills; developed self-confidence/self-knowledge; and reinforced the importance of having a relationship with the outdoors" (p. 93). These benefits are also supported by a qualitative study conducted with participants in an Outdoor Adventure Education course (D'Amato and Krasney, 2011).

Other student outcomes often associated with experiential education include: increased student readiness for self-directed learning (Jiusto & Diabiasio, 2006); self-confidence (Knecht-Sabres; 2010; Lee & Dickson, 2010; Simons, et al., 2012); personal, civic, and professional development (Aldas, Crispo, Johnson, & Price, 2010; Simons et al., 2012); increased working relationships and collaboration among faculty and students (Retallick & Steiner, 2009); and experiences that help students gain employment such as professional networking contacts (Hart, 2008; Lee & Dickson, 2010; Simons, et al., 2012).

Institutionalizing the Experiential Education Program

The difference between experiential education programs that enhance student learning and those that do not is likely the approach used by the university to develop the program. Experiential learning programs that educate faculty in best practices are supported by committed administrators, and those who understand that translating experiential learning into the higher education curriculum is a work in progress (Katula & Threnhauser, 1999) are more likely to be successful. Faculty members need to be mentors to their students so that students can understand the importance of civic learning, and faculty must take time to listen to students as they work through questions that are part of the experiential learning process (Cone, 2003). Woods (2001) refers to this faculty mentor role as a shepherd who "provides a safe space for learning to occur and

encourages learners to recognize the opportunities for growth available." Kolb and Kolb (2005) observe, "One can develop a state of the art learning-focused curriculum that is doomed to failure if faculty members are not on board with it philosophically and technically" (p. 209). They also advocate that "a coordinated institutional approach can provide the synergy necessary for dramatic organizational change" (p. 209).

Administrative challenges may make institutionalizing experiential education programs difficult. For example, experiential education programs may be seen by some faculty as taking time away from the discussion of discipline theories. Also, administrative demands, such as requirements for productivity in research or larger class sizes, may complicate the ability of institutions to institutionalize experiential learning programs. In some cases, administrators put too much emphasis on numbers to the neglect of the quality of the program (Cone, 2003). Bucher and Patton (2004) argue that curriculum, service and mission must be simultaneously considered if experiential education programs are to be successful. If only two of the three are considered in developing and operating experiential education programs, the results are one of the following: programs requiring knowledge for knowledge's sake, curricular faddishness, or forms of experiential education that do not provide learning. Donovan, Porter, and Stellar (2010) provide several strategies for successful experiential education programs such as defining experiential learning, engaging faculty in planning and oversight, developing learning goals, establishing some type of quality control (i.e. course review), developing communities of practice, seeking "inside/outside expertise" (i.e. bringing in speakers or attending conferences) and showcasing student work (p. 93). The challenge for administrators and faculty who want to make these programs successful and accepted as part of the university is that considerable time and effort must be spent on planning and implementation.

The National Society for Experiential Education (NSEE) offers several principles of good practice ("intention, preparedness and planning, authenticity, reflection, orientation and training, monitoring and continuous improvement, assessment and evaluation, acknowledgement") that should be considered in development of an experiential education program (National Society for Experiential Education, 1998). According to Cantor (1995) institutions must adequately support the program financially by providing budgets and appropriate faculty course loads. Campus infrastructure should be developed to support these activities, such as a centralized office that reports to the chief academic officer, monetary incentives, and recognition of participants (Bringle & Hatcher, 2000). The NSEE principles state, "[A]ll parties to the experience should be included in the recognition of progress and accomplishment. Culminating documentation and celebration of learning and impact help provide closure and sustainability to the experience." Cowart (2010) defines an integrated experiential learning program as one that has student support, a visible number of faculty delivering courses, a "formal institutionalized mechanism" for growing the program and some level of funding (p. 66).

Results from an evaluation of the experiential learning literature can be used by universities/colleges to define and begin to operationalize experiential learning programs, to understand the values of experiential learning to the learning process and to provide insight into how these programs can be institutionalized. This approach was used in 2005 to begin the process of development of experiential learning at a large, public university located in the southeastern United States. Development and implementation of that program is discussed in the following sections of this paper.

Defining the Program and Initial Planning

Development of the program discussed in this paper was an initiative for the Quality Enhancement Plan (QEP) for Southern Association of Colleges and Schools (SACS) reaffirmation. A committee of approximately thirty faculty, administrators, community leaders and students was established to plan a large scale project that would enhance student learning on campus. Whether an experiential learning program is developed as part of an accreditation effort or as an initiative without accreditation oversight, the initial planning and definition of the program is critical to future success. During the early discussions, it is important for the campus community to consider its mission and goals and how experiential learning fits the university. Experiential learning should be included in the institution goals to ensure that financial resources will be available and that administration will view the program as essential to the university's day-to-day work. Some colleges/universities may also have hands-on learning at the core of the institution's history. For example, the history of an institution as a normal school (mission for hands-on training of teachers) or a history of a strong study abroad program may be the impetus for engaging the university community in the value of developing a formal experiential learning program. Considering the institution's strengths early on is also important. If the institution has faculty who have expertise in experiential learning, an office that already focuses on some aspect of hands-on learning and financial resources already focused on activities such as study abroad or service learning, these strengths are likely to be positive forces in building commitment to development of a campus-wide experiential learning program.

Specifically defining what is meant by experiential learning and the determination of the breadth of the

program should be discussed after an assessment of university history, mission, goals and strengths so that the program can be organized in a way that best fits the institution. The experiential learning program discussed in this paper is called the EXL Scholars Program; it is a comprehensive program that includes student activities in study abroad, internships, laboratory classes, teacher education experiences, service learning and applied learning. After a thorough study of the literature, program developers selected a definition that would guide development of the program. Based upon a definition used by Northeastern University, experiential learning is defined as:

> That learning process that takes place beyond the traditional classroom and that enhances the personal and intellectual growth of the student. Such education can occur in a wide variety of settings, but it usually takes on a 'learn-by-doing' aspect that engages the student directly in the subject, work or service involved. (as cited in Katula and Threnhauser, 1999, p. 240)

This definition kept the program developers focused on developing a program that would enhance students' "personal and intellectual growth," emphasize "learning by doing," and engage students "directly in the subject, work or service involved." In addition, the definition was helpful in keeping program developers specifically focused on ensuring that experiential learning classes would require experiences/activities in addition to regular classroom activities.

Planning is a critical process, and it may take as much as three years to implement a comprehensive experiential learning program. During the initial planning stage, the campus, the community and local community leaders (business, education, non-profit) should be involved, and students should be an integral part of the process. Specific student learning outcomes, program outcomes and assessment activities should be developed early in the planning because they will guide development and implementation activities. It is also important to have regular discussions with campus leadership and to build commitment of the institution community early on in the process. Developing a marketing plan, logo and a memorable name for the program will also help to build awareness and excitement for the program. As the planning process develops, plans will change from general, over-arching ideas to specific, stated objectives and processes. Careful planning and definition of the program will be beneficial in the long term because it will ensure that implementation will stay on track, and comprehensive planning will help the program to be institutionalized more quickly.

Development of the Experiential Learning Scholars Program

The Experiential Learning Scholars Program (EXL) required a three-year planning process. During the development process, planners determined the structure of the program including issues related to coordination activities, budgeting, curriculum development, marketing and assessment needs. Specific information for planning follows.

EXL Program Structure

EXL Planners decided to develop a comprehensive, university-wide program for experiential learning. Students may elect to take courses that have an EXL designation indicating they are hands-on learning classes that meet the EXL criteria, or students may become EXL Scholars by completing a series of courses and activities prescribed that lead to an EXL certification that is put on the students' transcripts. (The EXL certification is explained in more detail later in the paper.) Courses in the EXL Program include these categories of experiential activities: co-operative education/internship, study abroad, applied experience, service learning, creative activity, teacher education and laboratory course. EXL planners worked with administrators and faculty in existing institution programs such as study abroad and service learning to coordinate plans for EXL so the existing mission of those programs is enhanced. In addition, a budget was developed for a five-year implementation time frame. Forms were developed for a variety of activities related to the program, and a website containing information about the program and forms for faculty, staff and community members were included in the website. Plans called for a part-time director and as program needs increased, a full-time director.

Curriculum Issues

To implement the EXL Scholars Program, it was necessary to develop student learning outcomes, a process for approval of EXL designated courses, requirements for the EXL program designation/certification, an EXL capstone course and assessment activities. These are described briefly below.

Student learning outcomes. Six learning outcomes were developed for the program based on a study of the experiential learning literature (quoted from EXL website):

1. Students will develop an experience-based knowledge of their disciplines and demonstrate the ability to apply theories and concepts to practical problems.

2. Students will engage in systematic reflection and demonstrate the ability to critically examine their experiences and to create connections between those experiences and disciplinary knowledge.
3. Students will make contributions to their communities and learn the value of making these contributions (good citizenship); students will develop as individuals including understanding the needs of others, learning cultural awareness, and appreciating the differences in others.
4. Students will develop and demonstrate managerial skills including planning, organizing, problem solving and communicating.
5. Students will develop and demonstrate leadership skills including interpersonal skills, ability to direct others and teamwork.
6. Students will develop and demonstrate research skills that will help them be successful in graduate programs (Experiential Learning Student Learning Outcomes, n.d.).

Assessment processes (including rubrics and surveys) and an assessment completion time schedule were developed for each of the learning outcomes (explained below).

EXL designated courses. EXL Planners developed a specific list of criteria for each of the types of EXL courses (e.g., study abroad, service learning) and set a requirement that faculty would select at least four learning outcomes for each EXL class. To receive approval for a class to count for EXL credit, faculty complete a form with information about learning outcomes that are part of the class along with details about the experiential project that would be completed in the class. After approval by the EXL Director, a designation is included on the course section to indicate it is experiential. Students can see this designation in the online registration system and on their transcripts. The institution also has three EXL prefix courses: EXL 2010/3010 (Service Learning Practicum), EXL 2020/3020 (Leadership Studies Practicum), and EXL 2030/3030 (Civic Engagement Practicum). These EXL prefix courses are available to faculty who have special projects or initiatives that do not fit a regular class in their discipline.

Courses required for EXL designation. Students who elect to earn the EXL designation on their transcripts must complete the following:

1. 16 to 18 hours of EXL designated classes. EXL classes include co-operative education/internships, study abroad, applied learning, service learning, creative activity, teacher education, and laboratory experiences.
2. At least one external activity. (Project that requires the student to interact with people external to the university or a research project in which students must interact with people outside their department or outside the campus community.)
3. MTSU internal service component. Students may complete this requirement in one of three ways: participate in a leadership role in a campus sponsored charitable activity, volunteer with a campus office to assist other students, or be a campus leader.
4. Documentation of completion of EXL activities via an E-Portfolio.
5. Participation in assessment activities for the program (surveys and class activities) (Experiential Learning Program Requirements, n.d.).

EXL capstone course. Students who want to earn the designation must complete a one-hour independent study course that requires the development of an e-portfolio. Students create a website that includes examples of their work in EXL classes and demonstrates they have met the learning outcomes for the program. Reflection is an important component of the e-portfolio. These e-portfolios are graded by the EXL director with a rubric, and students use the e-portfolios as part of the package of information they provide to potential employers.

Assessment activities. An approach for assessment was developed for each student learning outcome. Some outcomes were assessed by rubrics and others by surveys. A specific schedule was developed for assessment with some assessments being completed every year while others may be completed every two or three years. In addition, the assessment schedule was phased in over a five-year time frame, so that all assessments were not completed the first year. This allowed for incremental implementation of the program. The approach to assessment for each learning outcome along with the initial assessment during implementation of the program is shown in Table 2.

In addition to direct assessment of the learning outcomes, several indirect assessment activities were also completed. For example, students completing the EXL Scholars Program certification were asked to complete a survey of their perceptions. EXL faculty and community members who work with EXL students also complete surveys. These surveys provide information to assist the EXL director in improving the program. In addition to student learning outcomes, the program planners developed several program outcomes to assess the general success of the EXL Scholars Program. Some of the program assessments that are evaluated each year include: number of students taking EXL classes, number of EXL faculty, number of EXL courses offered each semester and number of EXL students earning the EXL certification each semester. There is also an assessment of the dollar value that is

Table 2
Plan for Five Year Implementation of Assessment and Continuing Schedule

Learning Outcomes	Assessment Methods	Initial Timetable	Continuing Assessment Schedule
Students will develop an experience-based knowledge of their disciplines and demonstrate the ability to apply theories and concepts to practical problems.	Rubric, end of program student survey	Assess at the end of year one	Yearly assessment
Students will engage in systematic reflection and demonstrate the ability to critically examine their experiences and to create connections between those experiences and disciplinary knowledge.	Rubric, end of program student survey	Assess at the end of year one	Yearly assessment
Students will make contributions to their communities and learn the value of making these contributions (good citizenship); students will develop as individuals including understanding the needs of others, learning cultural awareness, and appreciating the differences in others.	Course survey of activities, end of program student survey	Assess at the end of year two	Yearly assessment
Students will develop and demonstrate managerial skills including planning, organizing, problem solving, and communicating.	Rubric, end of program student survey	Assess at the end of year four	Assess every two years
Students will develop and demonstrate leadership skills including interpersonal skills, ability to direct others, and teamwork.	Rubric, end of program student survey	Assess at the end of year four	Assess every two years
Students will develop and demonstrate research skills that will help them be successful in graduate programs.	Rubric, end of program student survey	Assess at the end of year five	Assess every two years

contributed to the region through the efforts of EXL students.

Planning and Implementation Challenges

Over the five-year planning and implementation timeframe, the program developers encountered a number of challenges. Initially, determining the scope of the program was problematic. What kinds of activities would the program cover? Some committee members preferred that the program be set up as a service-learning program, while others wanted a more comprehensive program that included laboratory courses, study abroad, applied learning, etc. Developers learned very quickly that a broadly defined program would be more difficult to define, organize and monitor due to the variety of activities that would be included in the program. Throughout the development and implementation process, planners had to continually think of ways to keep the program streamlined while developing effective processes, forms, and assessment measures. Developing surveys, assessment measures and processes that could apply to the variety of experiential learning activities in the program also required some consideration of ways to incorporate the variety of activities into one series of documents that could be easily used by instructors and program leaders.

While developing the student learning outcomes was not difficult (these were based on the experiential learning literature), determining how to measure them and developing the rubrics were challenges. Additionally, getting faculty to complete the rubrics and developing consistency in scoring the rubrics across the campus (variety of courses and variety of types of experiential activities) required lots of discussion and training. Building faculty interest during the first two years was easy since faculty who already had an interest in experiential learning opted into the program; adding faculty during later years required some education and discussion. Finally, building interest and knowledge about the program among students was difficult. Since students are at the university for a relatively short amount of time, finding a way to ensure students knew about the program required development of several marketing approaches (EXL branded items, participation in student picnics, use of social media, stories in the student newspaper, etc.). The best

marketing approach was to get buy-in for the program from faculty and have them introduce students to EXL. Through dealing with these challenges, the program planners were able to develop a cohesive program that meets the needs of the campus community.

Institutionalizing the Program

The EXL Scholars Program was developed over a three year time period and was fully implemented in five years. During implementation of the program, data was collected for student learning outcomes and program outcomes. This data was used to understand issues related to student learning and to make improvements in the program. Some of the data is provided in Appendix A to indicate the types of data that were part of the implementation phase of the program.

After initial implementation, the program became an integral part of the campus. Several initiatives were developed that help to keep the program up-to-date and ensure that the program continues to be relevant to the institution community. Some of these initiatives include:

1. Development of an EXL Advisory Committee made up of faculty – This committee advises the director, reviews applications for grants/awards and develops policies for the program.
2. Award to recognize an outstanding graduating EXL student – The student award is provided at a university awards ceremony, giving visibility to the program.
3. Grants available to faculty for EXL class activities – These grants encourage new faculty to join the program and provide money to help students with projects.
4. Award to recognize an outstanding EXL faculty member – The faculty award encourages faculty to be involved in the program and provides visibility for the program among faculty and the university community.
5. Recognition by the president of EXL certificate graduates at commencement (students wear special cords to signify their achievement) – Students who receive the EXL designation are recognized at commencement and information about the EXL program is provided in the program. There is also a designation the students' transcripts indicating completion of this program.
6. The EXL Program is now housed within a college and the director reports to a dean – At the end of five years of operation, a full-time director was hired and the program was moved to the University College.

Conclusions

After almost 10 years of implementation, the EXL Scholars Program has become institutionalized and is a valued and high profile initiative on the campus. This is due in part to creating a centralized office as suggested by Bringle and Hatcher (2000) as well as involving faculty in each phase; establishing learning goals; requiring course review; and showcasing student work which are all strategies affirmed by Donavan, Porter, and Stellar (2010). Furthermore, the program supports the NSEE Principles of Good Practice (1998) by engaging faculty during the course proposal and review process in a discussion about "intention, preparedness and planning, authenticity and reflection." The EXL Office also conducts orientation and training for faculty and departments and program assessment and evaluation as well as acknowledges outstanding EXL student and faculty as suggested by the NSEE Principles (1998).

The program has built-in demand, meaning that students ask faculty to set up their courses as experiential learning courses. Employers know about the program and seek out EXL graduates. Impact on the community is measured by calculating the number of hours students spend volunteering each semester when organizations would otherwise have to hire employees. By the fifth year of the program, calculations were that student EXL activities provided a yearly impact of $1.5 million to the region. In addition to time spent by students and dollars saved by organizations through EXL student efforts, more opportunities are available to community members who need basic service assistance from the community.

This program was developed as a way to enhance student learning and has been successful as demonstrated by the student learning outcome data as well as the reflections presented by students in their EXL Scholars e-portfolios. Student learning outcomes are measured each year in a way that allows the university community to understand the value of experiential learning to their specific students, and the data provides information to faculty for continuous improvement activities. It is evident after ten years of operation that experiential learning engages students in the learning process, that faculty are also actively engaged in their teaching, and that these programs have the capacity to change the culture of learning on a college campus.

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Appendix A
Selected Student Learning Outcomes and Program Outcomes for Five year Implementation

	2006 – 2007	2007 – 2008	2008 – 2009	2009 – 2010	2010 - 2011
STUDENT LEARNING OUTCOMES					
Experience-based knowledge of the discipline (rubric benchmark = 80 % proficient)	84 %	79 %	83 %	89 %	86 %
Systematic Reflection (rubric benchmark = 80 % proficient)	80 %	78 %	81 %	90 %	90 %
Develop Leadership Skills (rubric benchmark = 80 % proficient)	N/A	N/A	N/A	Rubric developed	86 %
Develop as individuals (survey benchmark = 80 % perceive their development)	N/A	N/A	Test of Survey	Interacting with people from other cultures = 67% Understanding others' needs = 91 %	Interacting with people from other cultures = 80% Understanding others' needs = 92 %
Managerial Skills (rubric benchmark = 90 % proficient)	N/A	N/A	N/A	85 %	90 %
Research Skills (rubric benchmark = 80 % proficient)	N/A	N/A	N/A	Rubric tested and developed	90 %
PROGRAM OUTCOMES (Academic Year)					
Participating Departments	10	16	18	19	21
New Courses Approved	59	13	20	22	35
Class Sections Offered	122	218	236	247	314
Faculty with Approved Courses	54	64	69	93	168
Student Seats Filled in EXL Classes	1,727	3,126	3,367	3,927	5,194
EXL Certificate Graduates	0	15	99	126	148
Hours Spent on Community Projects	N/A	136,904	139,561	160,040	193,638
Number of projects completed	N/A	2,094	2,185	2,911	3,040
Value of Volunteer Efforts to Community ($8 hour)	N/A	$1.095 million	$1.11 million	$1.28 million	$1.55 million

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Enhancing Student Engagement and Active Learning through Just-in-Time Teaching and the use of PowerPoint

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This instructional article is about an innovative teaching approach for enhancing student engagement and active learning in higher education through a combination of just-in-time teaching and the use of PowerPoint technology. The central component of this approach was students' pre-lecture preparation of a short PowerPoint presentation in which they answered a few general conceptual questions about the coming lecture topic. The power of PowerPoint, it is argued, is about structuring student thought and student engagement before and during lectures, as well as giving students more power to be involved to shape content and interactivity of university lectures. The article concludes with some valuable lessons and pointers for course instructors across disciplines about the pedagogy and use of PowerPoint as an instructional method for enhancing student engagement and active learning.

This instructional article describes an innovative approach for encouraging student engagement and active learning in undergraduate courses in higher education through the use of PowerPoint, a relatively "old" and widely used technology in teaching and learning in higher and other forms of education. As much research has shown, the role of technologies, in particular in blended and online forms of teaching and learning, is critical for student engagement and active learning in today's higher education learning environments (Dunn, 2011; Garrison & Kanuka, 2004; Oblinger & Oblinger, 2005). With new technologies such as social media, blogs, wikis and e-portfolios (Wankel & Blessinger, 2012a, 2012b), there are a myriad of different ways to motivate and help students to engage with their peers, their teachers and the course material. The "Net Geners [Generation]" of students want from learning technology and technology-enhanced learning that it is flexible in delivery, relevant to the course work and learning objectives, and interactive (McNeely, 2005, para 4.7, 4.9).

The technology enhanced teaching and learning approach outlined here was borne from the knowledge and experience as a university educator that 1) student want interactivity and active learning, and (2) that learning is shifting from teacher to more student-centered approaches, which means a shift in pedagogies to constructivist teaching practices. In this context, I was wondering how I could use PowerPoint, a technology, which is familiar to both teachers and students and even expected by students for lecture presentations, to promote student engagement with course content and make lectures more interesting, student-centered and interactive. The idea behind this approach was to enhance student engagement with course material before, during and after the lecture through PowerPoint rather than presenting in lectures my own PowerPoint slideshow about the topic and providing the students with a copy afterwards or beforehand on the University's learning management system (LMS). In other words, PowerPoint was used not to enhance the lecture presentation but to enhance student engagement in preparation for the lecture and for interactive lecture activities. As McNeely (2005, para 4.9) rightly states, any "faculty member who uses PowerPoint in a lecture [just for the presentation] is not using technology interactively."

This article will begin with the theoretical background and pedagogical principles about student engagement, active learning and just-in-time teaching (JiTT), which forms the basis of the teaching approach using PowerPoint, described here. After that, the article will outline the method and the findings of this instructional method, which can be used by teachers/instructors in any discipline in the higher education sector. The article concludes with some valuable lessons and further points for using this instructional method for teachers/instructors.

Theoretical Background: Student Engagement and Active Learning

Student engagement has emerged as one of the principal cornerstones and objectives of teaching and learning in the higher education systems around the world (Shaun & Quaye, 2009). The concern with student engagement in higher education is nothing new as "university educators have always had a core interest in understanding and managing students' engagement in effective learning" (Radloff & Coates, 2009, p. 9). But with globalization, increasing internationalization of curricula and more student-centered and constructivist educational pedagogies, the focus is more than ever on understanding and improving student engagement and, with it, the student experience and student outcomes. As the Australian Council for Educational Research (ACER, 2012) noted in a recent media release, "student engagement is key to staying

competitive" in an increasingly global market of higher education where raising educational quality is the central determinant for universities succeed in that market. In this context, student engagement and educational quality become increasingly linked (Coates, 2008, p. 34).

The growing focus on student engagement can also be seen in efforts to measure student engagement at universities so that student engagement and, with it, student experience and student learning outcomes can be improved. The National Survey of Student Engagement (NSSE) is conducted annually in the USA since 2000, and it has been a leading example for other countries' efforts in this field. The Australasian Survey of Student Engagement (AUSSE) is run every year by the Australian Council for Education Research (ACER), an independent not-for-profit organisation, since 2007. These surveys try to incorporate various dimensions of student engagement. The AUSSE measures six areas of Australian university education: 1.) Academic challenge, 2.) Active learning, 3.) Student and staff interactions, 4.) Enriching educational experiences, 5.) Supportive learning environment and 6.) Work integrated learning (Radloff & Coates, 2009).

These different dimensions of student engagement highlight the complexity of improving student engagement and for defining student engagement in a comprehensive way. The Australasian Student Engagement Report 2008 defines student engagement as "students' involvement with activities and conditions likely to generate high-quality learning" (Coates, 2008, p. 1). Astin (1984, p. 297) defined student engagement as "the amount of physical and psychological energy that the student devotes to the academic experience." These definitions put the onus of engagement on the student and not the educational institutions to be involved with the "activities and conditions" at their higher education institutions, leaving out all other dimensions and the fact that learning to a large degree takes place outside structured learning and classrooms. In contrast, Kuh's (2009, p. 683) definition of student engagement tries to combine the individual and institutional factors of student engagement: "student engagement represents the time and effort students devote to activities that are empirically linked to desired outcomes of college *and* what institutions do to induce students to participate in these activities." It is clear that there is "compelling" evidence that enriching the experiences and academic challenges for students is the most successful strategy for engaging them (Zepke & Leach 2010, p. 171).

I do not intend to go into the debates about the responsibilities of students and universities for effective, equitable and inclusive student engagement. My position is that it is ultimately the responsibility of universities and lecturers/course coordinators to provide stimulating and engaging learning environments for students. Other work about student engagement also takes this position (e.g. Harper & Quaye, 2009; Smith, Sheppard, Johnson, & Johnson, 2005). What is clear, however, is that in the context of globalization and internationalization of education, mentioned earlier, the institutions themselves have to play a greater role than previously for providing the right learning environment for student engagement. Times have changed from when students had to adjust to the learning environment provided; in the globalized world of education the learning environment has to adjust to the diversity of students and their needs to acquire a wide range of skills (Harper & Quaye, 2009). In this more complex and globalized world of higher education in the 21st century, the goals of student engagement have evolved from prevention of student dropout, which is still an important criterion for engaging students, to achieving better learning outcomes and academic success, improving the student experience and creating lifelong learning attitudes and skills (Christenson, Reschly, & Wylie, 2012). Student engagement and active learning are increasingly seen as a prerequisite for effective and meaningful learning and achieving many academic and other outcomes, such as better critical thinking skills, openness to diversity, and growth in leadership and other job related skills (Miller et al., 2011; Smith, Sheppard, Johnson, & Johnson, 2005).

Student engagement and active learning are closely linked. The benchmarks for the Australian and US National Survey of Student Engagement, as stated above, hence include active learning as an important instrument and dimension of student engagement. Active learning can be defined as "the extent to which students are involved in experiences that involve actively constructing new knowledge and understanding. Engaging students in these forms of learning is at the heart of effective educational practice" (Radloff & Coates, 2009, p. 17). The following section will further explore the pedagogical principles, which have informed my approach of using PowerPoint for the promotion of student engagement and active learning.

Pedagogical Foundations: Just-in-time Teaching (JiTT) and PowerPoint Pedagogy

Lectures remain the dominant form of teaching at universities. Because of their long tradition and entrenched position in academia, their ease and efficiency of presentation, and institutional inertia and personal habits, lectures are "likely to remain a major part of traditional Higher Education for the foreseeable future, regardless of the arguments against them" (Huxham, 2005, p. 18). However, the traditional, didactic, teacher-centered lectures are increasingly

challenged by student demands for more engaging, interesting and interactive lectures. Keeping up lecture attendance at universities, despite research showing overall a positive correlation between lecture attendance and academic performance (Clark, Gill, Walker, & Whittle, 2011; Huxham, 2005), is a growing challenge for universities and lecturers. With lecture recordings provided in learning management systems (LMS), more and more online or blended learning (combination of online and face-to-face teaching and learning) options in courses, and student being subject to other pressures, such as work commitments, they make increasingly more deliberate decisions about the value of attending lectures (Billings-Gagliardi & Mazor, 2007; Clark, Gill, Walker, & Whittle, 2011). In my own experience, lecture attendance has dropped in my courses over the last few years, which is due—as reflected in formal student evaluations at the end of my courses—not because of the quality or content of the lectures or the style of my lecturing, but because of more intense study workload and outside study requirements such as paid work and/or family demands. The answer to reverse low lecture attendance, it seems to me, is not to replace lectures with online lectures or other online activities, but rather to use a blended learning approach which makes the face-to-face time more interesting, engaging and valuable for students. In general, students will make an effort to go to lectures as long as they can see the benefits for their own learning.

One approach of making lectures more engaging and interesting and giving students more involvement with lecture and lecture content is Just-in-Time Teaching (JiTT), developed by Novak and Gavrin (Gavrin, 2006; Novak, Patterson, Gavrin, & Christian, 1999; Novak, 2011). It is an approach that "encourages students to be well prepared for class" and promotes active learning during class time (Gavrin, 2006, p. 9). Although the implementation of JiTT pedagogy varies from discipline to discipline and the individual teaching approaches of instructors, it follows certain steps to make lectures more interactive and relevant to students' knowledge and to achieve active learning by students (Simkins & Maier, 2010). The pedagogical strategy of JiTT is based on feedback loops between teaching and learning and between outside classroom and face-to-face classroom activities (Novak, 2011, p. 65). Students prepare for class through web-based "warm up" exercises, which then affect the content and interaction during class time. Warm-up preparatory work can be designed differently by the lecturers, comprising, for example, reading of provided text, short essays, quizzes or review of videos, but generally "asks students to answer several open-ended, conceptual questions about the material that the instructor will discuss in class" (Garvin, 2006, p. 9).

Students are expected to develop answers to the question by themselves. It is a key feature of JiTT that students "read and consider new ideas before coming to class. As a result, they are far better prepared" (Garvin, 2006, p. 11). The work or assignment is submitted prior to the face-to-face delivery of the lecture. The JiTT classroom or lecture is linked to the preparatory work by the students, as the lecturer views the exercises or assignments (e.g. a pre-class quiz) and adjusts the lecture content and activities accordingly by using the pre-class student material for discussion or short in class exercises, and by concentrating on identified misconceptions or gaps in knowledge. The warm-up exercises provide insights to what students understand or not, where there are misunderstandings, and with what they are struggling.

In the lecture, the students will most likely be exposed to PowerPoint as this technology is ubiquitous as an instrument for lecture presentations. Because of its pervasiveness and importance in higher and other forms of education, PowerPoint pedagogy has been subject of much research (Adams, 2006; Brock & Joglekar, 2011; Clark, 2008; Konukman, Rabinowitz, Kernodle, & McKethan, 2010). Others before me have asked the question about what the power of PowerPoint really is (Craig & Amernic, 2006; Rose, 2004)? Is there any power to the points made in PowerPoint; is PowerPoint leading to "death" by bullet/powerpoints; or is it an "evil" instrument that stifles effective and engaging teaching and learning (Tufte, 2003)?

Like all learning technologies, PowerPoint has advantages and disadvantages and is not by itself a good or bad thing (Weimer, 2012). There is inconsistent evidence that PowerPoint significantly improves student learning and results in better grades (Craig & Amneric, 2006, p. 150; Hill, Arford, Lubitow, & Smollin, 2012, p. 243). However, it remains the preferred method of lecture presentations for students (Amare, 2006; Clark, 2008; Hill, Arford, Lubitow, & Smollin, 2012), and students believe that PowerPoint facilitates their own learning and better retention (Apperson, Laws, & Scepansky, 2008). Students' perception of the utility of PowerPoint for learning, however, is much lower than that of teachers (James, Burke, & Hutchins, 2006). Students see the benefits of PowerPoint for content comprehension and exam preparation (Hill, Arford, Lubitow, & Smollin, 2012). Teachers like it for the ease to present material and the structure it provides to their presentation, but many are ambivalent about it as it has advantages as well as many disadvantages (Brock & Joglekar, 2011; Hill, Arford, Lubitow, & Smollin, 2012).

Critics of PowerPoint (Adams, 2006; Fendrich, 2010; Simons, 2004; Tufte, 2003) view it as an impediment for promoting interactive lectures and student engagement with each other and the material. PowerPoint, they argue, reduces creativity and spontaneity in classrooms, making students more

passive spectators than participants; encourages linear thinking with little room for flexibility and improvization by lecturers for exploring other material than the ones set out in the PowerPoint presentation; promotes oversimplification and generalization and homogenizes knowledge rather than stimulating critical explorations of concepts and their relationships. The reliance on PowerPoint, these critics argue, facilitates a one-directional, presenter-centred classroom with a passive audience with more emphasis on entertainment than education. Many of these criticisms are valid and have stimulated research and educational change to improve PowerPoint pedagogy. Research has shown that it depends ultimately on the lecturer/presenter and her/his teaching pedagogies and presentation skills whether these negative points of PowerPoint play out in the learning environment or not. The critical issue is not whether instructors use PowerPoint or not, but *how* they use it and how they encourage active learning in the classroom (Cherney, 2011; Gier & Kreiner, 2009). As Clark (2008, p. 43) argues, "the greatest variable rests with the teacher, who can use the technology in pedagogically exciting ways, even in a lecture."

In my courses I use PowerPoint for delivering my lectures because it helps me to structure content and presentation. For me, the way to achieve interactive lectures is not to get rid of PowerPoint, but rather to use it more effectively for student engagement and active learning. Similarly to Clark (2008, p. 40), who was wondering how PowerPoint can be "used effectively to support a more constructivist pedagogy," I was asking myself how I can use PowerPoint, a technology which students are familiar with, to encourage more active learning and student engagement with the content material? I guess I am one of the lecturers who is heeding the call by others to avoid the "tyranny of PowerPoint" by experimenting "with different possibilities and [try to] discover new potentials" (Gabriel, 2008, p. 271) and working with "PowerPoint's potential to improve teaching and promote learning" (Weimer, 2012).

My concern was not to make my PowerPoint presentation and lecture more stimulating, interesting and engaging, or more "populist," as Schrad (2010) suggests, through the incorporation of images, audio and video clips, pop culture references, websites and humor. I have done that with my PowerPoint presentations, but from my experience it does not, as claimed by Schrad (2010), lead to increased lecture attendance and student learning. I am also concerned with maintaining the traditional, one-way, teacher-dominated, non-interactive lecture, even if the lecture is made more "populist" by making PowerPoint more interesting, as well as more useful for more engaged learning with the lecture through complementary handouts or content-specific questions (Konukman, Rabinowitz, Kernodle, & McKethan, 2010).

In contrast to these approaches, I wanted to encourage student engagement with the content material through the use of PowerPoint as a learning tool *before* and not just during the lecture. Linking JiTT pedagogy with the 'old' technology of PowerPoint seemed to me an exciting idea, which stimulated the teaching method outlined in this article.

Teaching Method: JiTT and PowerPoint

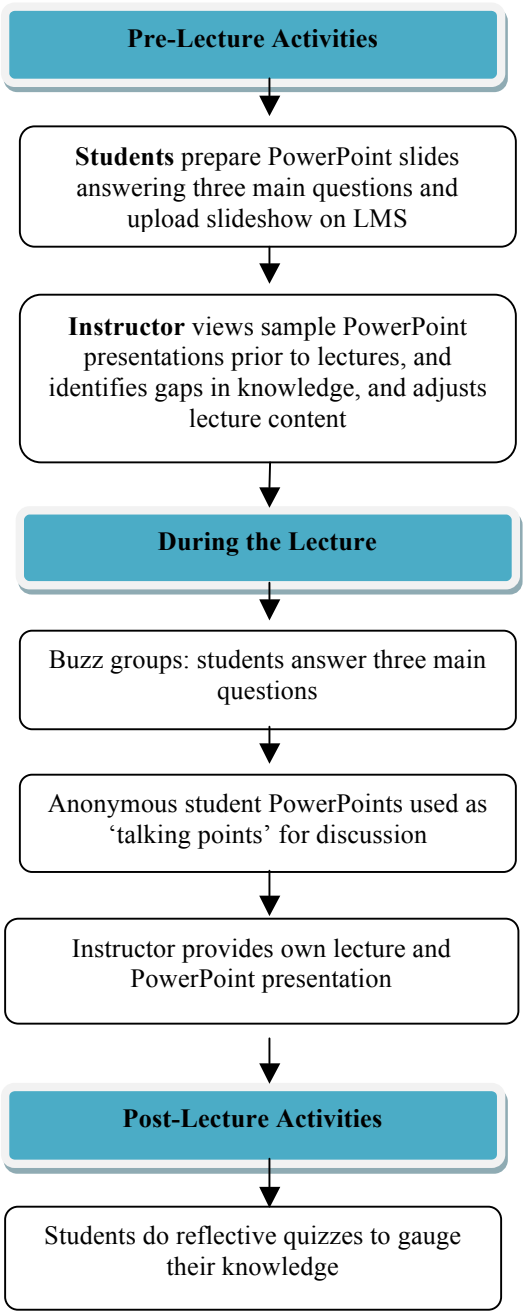
The innovative teaching method of using PowerPoint for enhancing student engagement, and active learning was used in an undergraduate course at university level in Australia. The course is convened by the author and consists of two lectures (50 minutes long) and one 50 minute tutorial each week for a 12-week-long semester. Lecture attendance is not compulsory and not monitored, and all lectures are audio/video recorded and provided after the lecture on the University's learning management system (LMS) for the course. This new teaching approach was done in 2012 with 94 students enrolled in the course.

Students were provided on the LMS with a lecture module for each lecture which contained: 1) Lecture objectives; 2) the empty template for the PowerPoint slideshow which contained three general or conceptual questions about the upcoming lecture; 3) helpful material relevant to the topic, e.g., policy briefs, short videos (maximum 10 minutes of length), short excerpts of readings (1-3 pages long), and links to web-based material; and 4) a link to the journal page of the LMS where students individually submitted their PowerPoint slideshow (this journal is private and can only be viewed by the course convenor/lecturer).

The various steps of this JiTT approach using PowerPoint are illustrated in Figure 1:

1. Pre-lecture "warm up" exercise:
    1.1. Students had to prepare a short PowerPoint slideshow (they were provided with 3 slides with 3 questions which they had answer in their own words with the help material in the lecture module). Students had to do ***one*** of the two lectures of each week during the semester. The class was divided into two groups with different responsibilities for covering the two lectures per week. Students submitted their slideshow into an individual journal up to 2 hours before the lecture

Figure 1
Flowchart of JiTT activities



1.2. I viewed a sample of student slideshows before the lecture in order to adjust lecture content according to common misconceptions and/or gaps in knowledge detected from the student slides. I collected some student slides for anonymous presentation at the up-coming lecture.

2. During the lecture:
   2.1 At the beginning of each lecture, there were short "buzz groups" of three students to collaboratively work out short answers to the questions for the lecture (about 10 minutes).
   2.2 Anonymous student lecture slides and quotes were used as "hangers" or "talking points" for discussion in the lecture. When I selected student PowerPoint slides, I tried to include work from all students during the semester (without revealing the student's identity) and always made positive comments about the work.
   2.3 For the remaining part of the lecture (about 25 minutes), I presented my own PowerPoint about the lecture topic, summing up main points and relating it back to the group discussion that just happened in the lecture.

3. Post-lecture reflective quizzes:
   3.1. Students had to do a short reflective quiz (about 10 questions) about the content of both lectures of the week at the end of the week. These were multiple choice or short answer questions. The quizzes were part of the overall assessment.
   3.2. I provided my own PowerPoint slideshow and also the audio/video recording for each lecture *after* the lecture on the LMS so that students can use it for the preparation of the weekly reflective quizzes.

The post-lecture/end of week reflective quiz was a different approach to the usual JiTT cycle, which often has a pre-lecture test (e.g. a quiz) to gauge student knowledge before the lecture. I wanted students to use the lecture modules and the PowerPoint as a preparation for the lecture and then after the lecture do a reflective quiz so that they could test and reflect their new knowledge.

At the end of the course, a survey of students was conducted in order to gather the student experience with this approach of using PowerPoint as part of a JiTT teaching and learning cycle.

The Power of PowerPoint: Findings and Implications for Teaching

The survey with 54 responses from 94 students revealed an overall high satisfaction rate with the JiTT activity and formative assessment of pre-lecture PowerPoint preparation. The majority (67.3%) either strongly (25.5%) or agreed (41.8%) that the pre-lecture PowerPoint presentation was helpful for their understanding of the lecture content, and 60% thought it was overall a valuable and effective learning activity. This is not as high as reported by Gavrin in his JiTT classes (80% replied "yes" to the question whether JiTT exercises help to be well prepared for the lecture (Novak, 2011, p. 71) but was a good result for this approach to JiTT through the use of PowerPoint. The quizzes were the most popular aspect of the blended learning approach and JiTT strategy in the course. 79.6% of surveyed students either "strongly agreed" (22.2%) or "agreed" (57.4%) that the quizzes on the LMS were most valuable for student learning, followed with 64.8% by the lecture learning modules (22.2% and 42.6% respectively). The survey also showed that most students (66.6%) used the lecture modules on a regular basis and that 63% of students thought that the lecture modules were "very helpful for their understanding of the upcoming lecture content" (strongly agreed: 20.4%; agreed: 42.6%).

Here are some typical comments of students who found the JiTT assignment of a PowerPoint presentation in conjunction with the use of material in the lecture module helpful:

> Pre-lecture PowerPoint preparation helped me a lot to study the content of this course.

> The pre-lecture preparation was the best aspect of the LMS Portfolio as it meant I was already thinking about the topics before the lectures and the tutorials, which helped my understanding and connection with the topics better.

> I did find the process very useful and valuable for my learning. I found lectures more engaging after I had had exposure to some of the material already, and I greatly enjoyed reading and watching the material provided in the preparation modules.

> I found the pre-lecture preparation modules to be surprisingly useful and it was good to have videos as well as readings to make the content more engaging.

> The lecture modules were great.

Some comments reflected the students' concern that the exercise, although helpful for their learning, was "difficult and time consuming," which is the same response Gavrin and Novak, the inventers of JiTT, found in student responses (Novak, 2011). A minority (22.3%) either disagreed or strongly disagreed that the exercise was of help for their understanding of course and lecture content and felt that it was "a waste of time" and "pointless" and "taking up too much time." Such views could be contributed to a lack of confidence and a strong affiliation with the traditional lecture style and the belief that lecturers not students should have the responsibility to prepare and present lectures:

> The lecture preparation was the least effective element for my learning. I found it difficult to produce information on a topic which I did not yet understand.
>
> I prefer lectures to be in normal lecture format; I want to hear from the lecturer (with a large knowledge base) rather than student contributions.
>
> Personally I found the pre-lecture preparation daunting and not very useful as many weeks I had no previous knowledge on the topics and I would have preferred to listen and learn about these topics in a lecture setting.

One of the underlying principles of JiTT exercises or "warm ups" is that learning is a process and that students engage with the material based on their current knowledge and re-examine and reconstruct their own knowledge in the process (Novak & Patterson, 2010). But, as the comments above show, many students are pushed outside their comfort zone with that approach and resist self-motivated and self-centered learning and independent knowledge construction. There is, of course, increasing pressure on students with deadlines and commitments in many courses so that tasks outside the normal teaching and learning schedule, like this JiTT activity, are not welcomed by some students.

Surprisingly, what did not work well was the use of students' PowerPoint slides at the beginning of the lecture. Only 36.3% of students either strongly agree or just agreed that the inclusion of student PowerPoints at the beginning of the face-to-face lecture was valuable for their learning, with the majority (41.8%) seeing it as invaluable. Students in the survey commented that other approaches used, e.g., short buzz-groups of two or three students discussing the questions in the lecture, were more effective for their learning. The time taken up for using student PowerPoint slides as examples at the beginning of the lecture is better used for buzz groups where the questions can be further discussed.

The combination of pre-lecture PowerPoint preparation by students with the help of lecture modules and then interactive lectures has been positively received by the students and seen as positive for their learning. This supports other findings about the use of PowerPoint and lectures (e.g. Lancaster University, 2012) which states: "Students' perceptions of how much they are learning, how effective and confident they are as learners, and the clarity/comprehensiveness of their notes, were all seen by students as being greater when PowerPoint was used." Instructors who are interested in using this teaching approach should be aware about some of the limitations. There is considerable time involved to set up the lecture module and PowerPoint slides for each lecture. It is important to provide open ended questions which encourage critical thinking of the students (Brown & Keeley, 2012; Rose, 2004). Another limitation is the fact that without compulsory attendance at lectures, which is against the policy of the University where the innovative teaching method was applied and against my own teaching philosophy, the crucial link in the JiTT learning loop—the lecture—can be undermined by non-attendance of students. Students might not attend the upcoming lecture after they had done the pre-lecture preparation. One student referred to this in her/his comment in the survey, "I felt that when students did the preparation they were less likely to attend the lecture, as they felt they had already researched the content." The fact that the course has no end-of-semester exam does not help as this usually stimulates lecture attendance. As a student said in a comment, "There was little incentive to attend lectures as the material was not directly examined due to the requirements for the course." So other instructors are encouraged to stimulate lecture attendance by such assessment strategies as a reflective journal of course content and end- or middle-of-the-year exams.

It could be seen as a major shortcoming of the JiTT pedagogical strategy that it relies on lecture attendance for its outside-inside classroom loop of learning but lecture attendance is not necessarily stimulated or ensured by the JiTT activity. It is not a given that "students respond to the warm-up questions and go to class with genuine interest and desire to learn the answers" (Novak, 2011, p. 64). The "interest and desire to learn" needs to be stimulated by how the JiTT exercises are designed and implemented. For instance, if students perceive the online assignment as an additional task which is not used and discussed in the classroom, they will resist the JiTT activities and hence will not benefit from them (Camp, Middendorf, & Sullivan, 2010). The link between pre-lecture activities and lecture attendance, somehow treated as a given in JiTT literature, demands urgent research.

Despite those limitations, the JiTT pedagogy in this pilot study can be rated as a success. It helped me as lecturer to gauge current student knowledge on the topics and adjust my lecturers accordingly. On many occasions I could reverse common misconceptions in the class. For example, it became clear from the student PowerPoint that there was a misunderstanding about corporate governance for sustainability and corporate social responsibility, crucial for understanding the role of the private sector in sustainable development, which I could dispel during the lecture.

Conclusion

The main conclusion from this study is that students value student engagement and active learning. This is in line with other research that has shown that an active learning activity during a traditional face-to-face lecture is highly valued by students (Cavanagh, 2011; Huxham, 2005). JiTT pedadogy has an advantage here as it includes student engagement and active learning not just in the lecture, but *before* each classroom/lecture. PowerPoint pedagogy, as described in this article, as part of JiTT activites was successful for student *engagement* with the content/lecture material. It was about student engagement *through* PowerPoint in contrast to making an engaging PowerPoint presentation and seeing "the PowerPoint presentation as engagement" (Mahin, 2004, p. 221). Since JiTT is flexible and adaptable to a wide variety of disciplines in higher education (Simkins & Maier, 2010), this instructional approach of JiTT based on PowerPoint has validity and use for instructors and courses in other disciplines.

The PowerPoint-based JiTT approach in this pilot study can be varied and in some ways improved for teaching and learning in higher education. For instance, students suggested in the survey that a link to the online discussion board should be added so that students can follow up and discuss what is still unclear about the topic *after* the JiTT exercise and lecture. Another possible approach would be to make the PowerPoint presentation a group-based exercise and thus enhance more peer-assisted learning in the preparation of the PowerPoint. As it was, the lecture modules and PowerPoint questions for the slides done by the students were developed by the lecturer, but this could be handed over to students such that they find the relevant material to make a PowerPoint and develop their own questions which are answered as a peer-assisted group learning exercise. The use of technology only works if students can see the benefits for their own learning and time management and do not feel that their time is wasted; otherwise they resent it and disengage from the learning process.

PowerPoint, as the study has shown, can be an effective educational tool for deeper student engagement and active learning in higher education if lecturers use it not just as a presentation tool during the lectures, but also as a learning tool before and after lectures. Of the use of PowerPoint has clear advantages: it is familiar to students, and its simplicity and brevity allows students to present their knowledge in short, clearly laid out and structured form. The use of PowerPoint in JiTT activities, most importantly, is about giving power to students to be involved and shape lecture content and interactivity according to their knowledge and needs. Students, in other words, become empowered as active agents of their own learning. Student engagement and active learning does not have to die with the use of PowerPoint—the famous "death through PowerPoint" phrase associated with traditional, non-interactive lecture presentations—but can rather be enhanced through the use of PowerPoint as an instructional tool for pre-lecture just-in-time learning activities.

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