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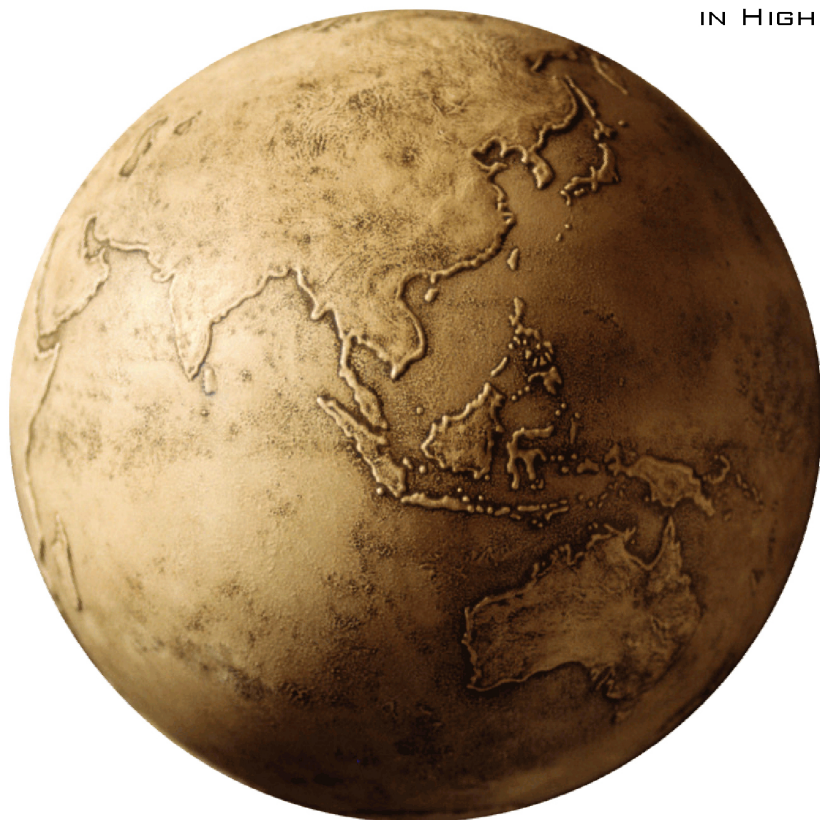
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Purpose

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.

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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.

All submissions to IJTLHE must be made online through the Online Submission Form. In addition, all manuscripts should be submitted in English and in Microsoft Word format. The following Submission Guidelines pertain to all manuscript types, that is, Research Articles, Instructional Articles, and Review Articles. Ultimately, authors should follow the guidelines set forth in the most recent edition of the Publication Manual of the American Psychological Association (APA).

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Review Process

Following a brief editorial review, each manuscript will be blind reviewed by two members of the Review Board. The review process will take approximately 90 days. At the end of the 90-day review process authors will be notified as to the status of their manuscripts - accept, revise and resubmit, or reject - and will receive substantive feedback from the reviewers. Manuscript authors are responsible for obtaining copyright permissions for any copyrighted materials included within manuscripts.

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Research Articles

Instructional Articles

Supervisors' Perceptions of Primary Resources and Challenges of the Doctoral Journey

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The focus of this study was to explore doctoral supervisors' perceptions of the factors contributing to doctoral studies. The study draws on the job demands-resources (JD-R) framework to analyze supervisors' perceptions of core resources and challenges at different levels of doctoral education. The data comprise 15 semi-structured interviews with professors in their roles as supervisors in economics, medicine, natural sciences, engineering, humanities and social sciences at three Finnish universities. The supervisors identified a variety of resources and challenges related to structures, organization of doctoral studies, the scholarly community, supervisory relationships, and individual competence. Slightly more challenges than resources were identified. The challenges described were related to structural elements and embedded in the research community, whereas many of the perceived resources were associated with social aspects of work. The results highlighted the importance of different supervisory resources such as a good supervisor-student relationship, support of the research team, and international contacts, as ingredients of high-quality supervision in the doctoral process. The study also showed that many of the challenges require focusing on and developing the whole community rather than individuals.

Supervision has been shown to be a central determinant of the doctoral experience (Cornér, Pyhältö, & Löfström, 2017; Ives & Rowley, 2005; Pyhältö, Vekkaila, & Keskinen, 2012b; Zhao, Golde, & McCormick, 2005). Researchers have found its contribution to study progress (Gurr, 2001; Hasrati, 2005; Ives & Rowley, 2005), to enculturation (Dysthe, Samara, & Westrheim, 2006; Lee, 2008), to the completion of the doctoral studies (Lovitts, 2001; Peltonen, Vekkaila, Haverinen, Rautio, & Pyhältö, 2017; Pyhältö, Vekkaila, & Keskinen, 2015), and to well-being among doctoral students (Hunter & Divine, 2016; Ives & Rowley, 2005; Lee, 2007; 2008; Pyhältö, Stubb, & Lonka, 2009; Pyhältö et al., 2012b). Constructive feedback, social support, frequent supervision, and a functional relationship with the supervisor facilitate doctoral students' satisfaction with the doctoral program, timely completion of studies, and satisfaction with supervision (Cornér et al., 2017; Gardner, 2007; Golde, 2005; Ives & Rowley, 2005; Peltonen et al., 2017; Pyhältö et al., 2012b; Seagram, Gould, & Pyke, 1998; Stubb, Pyhältö, & Lonka, 2011; Wao & Onwuegbuzie, 2011). Accordingly, there is a strong body of evidence to show that the supervisor plays a central role in the doctoral experience and study progress. Students perceive access to resources provided by supervisors, , and learning opportunities within academia to be of vital importance (Pearson & Brew, 2002). The choices that supervisors make about supervision are influenced by their underlying beliefs about the factors that will enhance doctoral studies, such as supervision or the scholarly community (Åkerlind & McAlpine, 2015). Hence, the perception of supervisors about the main regulators of the doctoral study process—that is, the resources and challenges of the doctoral journey—guide their actions, including the supervision goals set and the activities that they employ with their students.

Previous research has identified several factors that contribute to the successful completion of doctoral studies (Gardner, 2007; Golde, 2005; Ives & Rowley, 2005; Pyhältö et al., 2012b; Stubb et al., 2011). However, there has been less research on how key factors are identified in terms of the resources and challenges that influence the actions of supervisors in the supervisory process. Given the importance of their perceptions of key factors, supervisors also need to identify the location of the key regulators in the structure of doctoral education. The aim of the current study is to gain a broader understanding of doctoral supervision, including the key regulators at the various systemic levels of doctoral education. The objective of the study was to identify the main factors contributing to successful completion of doctoral studies and their manifestation as the resources invested and the challenges recognized in the system, at the level of an individual, a research community, or a structure. As is known from prior research, supervision is a central determinant of the doctoral experience (cf. Cornér, Pyhältö, & Löfström, 2017; Ives & Rowley, 2005; Pyhältö et al., 2012b; Zhao et al., 2005). We have therefore approached the objective from the perspective of the supervisor.

Key Regulators as Resources and Challenges in Doctoral Education

The key regulators of doctoral education comprise a range of factors that either contribute to (in this study referred to as "resources") or hinder (in this study

referred to as "challenges") the doctoral study process (Pyhältö et al, 2012b). Resources and challenges may be different in different surroundings. However, it has been suggested that resources in doctoral education should be identified as both individual factors such as motivation and as environmental factors such as supervision, feedback, and support (Gardner, 2007; Golde, 2005; Hlebec, Kogovšek, & Ferligoj, 2011; Ives & Rowley, 2005; Pyhältö et al., 2012b; Stubb et al., 2011).

This study draws on the Job Demands-Resources Model (JD-R) (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Schaufeli & Bakker, 2004) to explore supervisors' perceptions of key regulators such as the resources required and the challenges of completing doctoral studies. The JD-R model provides an explanation of the relationship between two sets of working conditions: job demands and job resources (Bakker & Demerouti, 2007). The model assumes that there are both demands and resources in a working environment, and it emphasizes the relationship between the demands and resources rather than either one as such (cf. Demerouti et al., 2001). Job demands refer to physical, psychological, social, or organizational aspects of the work that require ongoing psychological or physical efforts or skills (Bakker & Demerouti, 2007; Demerouti et al., 2001; Schaufeli & Bakker, 2004). Accordingly, job demands in terms of supervision in the doctoral process are typically comprised of the challenges doctoral students need to overcome in order to complete their doctoral studies, and for which they need help from their supervisors. Particularly, supervisors have been found to emphasize demands related to the organizational level such as the absence of fixed structures for funding, time allocation, and the organization of doctoral education (Pyhältö et al., 2012b). Job resources, on the other hand, are the physical, psychological, social, or organizational features of the work that are instrumental in achieving goals, reducing work demands (and the physical/psychological demands associated with them), and stimulating growth and development. Job resources can be the opportunity to develop competencies, to contribute to the research in their field, and to receive social support from the scholarly community (Pyhältö et al., 2009; 2015, Vekkaila, 2014; Vekkaila, Virtanen, Taina, & Pyhältö, 2016). Both the challenges of, and the resources applied to, doctoral studies can be situated at different levels of doctoral education. They may range from individual resources to structural challenges. Hence, the system of doctoral education is a multiplex, and it includes the resources and challenges at various levels (Pyhältö, Toom, Stubb, & Lonka, 2012a). In this study we have utilized the JD-R model to describe supervisors' perceptions of the core resources and challenges contributing to the doctoral study process.

Prior research on doctoral supervisors shows that supervisors perceived sufficient funding as one of the more central resources of doctoral studies (Gardner, 2009; Pyhältö et al., 2012b). They also emphasized interactions with other researchers and peers and a cooperative atmosphere in both their own scholarly community and an extended international scholarly community as valuable resources (Pyhältö et al., 2012b; Pyhältö et al., 2015; Vekkaila et al., 2016). Moreover, student competencies have been identified as a central resource by supervisors (Barnes & Austin, 2009). Barnes and Austin (2009), for instance, have proposed that such resources are conceptual understanding, knowledge, and specific research competence (as in key areas of faculty work), as well as interpersonal skills and a professional attitude possessed by doctoral students. In turn, recent research on doctoral supervisors reveals that supervisors perceived financial insecurity as a central challenge of doctoral studies (Jones, 2013; Pyhältö et al., 2012a). Supervisors also underline the bureaucratic aspects of repeatedly applying for funding as a challenge (Pyhältö et al., 2012b) and in orchestrating the research process by themselves (Vehviläinen & Löfström, 2014). In other words, an absence of collegial structures in supervision and other requirements obstruct the provision of the highest quality supervision at all times.

Considering our aim to identify key regulators in the doctoral process and the affordances provided by the analytical framework described above, we set the following research questions:

(1) What key regulators (that is, resources and challenges) do supervisors identify in doctoral studies?
(2) At the systemic level of doctoral studies, where are the key regulators of doctoral studies identified by supervisors located?

Context

Doctoral education in Finland is less structured and is more research and teaching orientated than the more fixed and framed coursework-based model in the USA, for example (Andres et al., 2015). Students need to apply to undertake doctoral education after they have obtained their master's degree. In the Finnish context, doctoral students are engaged in conducting research from the very beginning of their studies. In parallel to writing a doctoral thesis, a doctoral student completes compulsory coursework and takes part in courses, seminars, and conferences (from 40 to 60 units in the European Credit Transfer and Accumulation System, ECTS), depending on discipline. Students need to apply to be accepted to undertake doctoral education and write a research plan of high quality. A doctoral thesis

in Finland can be completed either in the form of a monograph or as a series of three to five peer-reviewed articles that includes a summary (Finland's Council of State, 2004). Currently, the dominant thesis format is the one involving the peer-reviewed articles (Pyhältö, Stubb, & Tuomainen, 2011). The articles are often written with the supervisors or other co-authors, such as senior researchers. The students have at least one supervisor, who is the equivalent level of associate professor in the relevant field, and often the student also has a second supervisor. At many Finnish universities, the policy for doctoral education requires at least two supervisors. A supervision contract on how they will work together is usually co-written by the supervisors and the doctoral student. Templates for the contract are typically provided to ensure that supervisors and doctoral students agree about core responsibilities and practices. The language of the supervision process depends on the native language of the doctoral student, the dominant language of the doctoral program, and status of the student as Finnish or an international. Doctoral education is publicly funded, and there are no tuition fees. Typical funding sources are grants from foundations, project funding, doctoral student posts at the university, and work outside of the university (Pyhältö et al., 2011). A description of doctoral education in Finland is available in Pyhältö, Nummenmaa, Soini, Stubb, and Lonka (2012).

There has been interest nationally in developing supervision in the context of doctoral education. For instance, the Finnish Advisory Board on Research Integrity and Universities Finland (UNIFI), the co-operational organization for Finnish universities, issued guidelines for the supervision of doctoral students and review of their dissertations in Finland with an emphasis on assuring research integrity throughout the process (Finnish Advisory Board on Research Integrity & UNIFI, 2016). While these guidelines are non-binding, it is noteworthy that they address factors in the regulatory framework as well as the supervisory practices embedded in the research community.

Methods

Participants

The empirical data consisted of interviews with 15 PhD supervisors at three Finnish universities. The universities have in common that they cater for the minority Swedish-speaking population in Finland and, more specifically in our case, doctoral students and their supervisors, a group which has not been systematically researched in the Finnish context. The supervisors represent different disciplines, genders, and experience as supervisors. The participants were Swedish-speaking supervisors (eight female and seven

male) working in 15 degree programs in which the major part of the program was in Swedish. They were all full-time professors representing the humanities (1), social sciences (5), economics (2), medicine (3), natural sciences (3), and engineering (1). The length of experience in doctoral supervision ranged from 5 to 25 years. Between them, the supervisors had supervised over 115 doctoral students. On average, the professors were currently supervising eight doctoral students each. The participants were purposefully recruited as they were known to be among the more experienced professors in their respective degree programs and, therefore, could be expected to have a broad overview of doctoral education.

Data Collection

The data were collected between May and August 2013. The choice of including three universities offered an opportunity to look at supervision in a transitional process of the reorganization of doctoral education in both institutional and national contexts, including the introduction of a new funding scheme for doctoral education in Finland. The resources and challenges perceived by supervisors were analyzed from semi-structured interview data (cf. Kvale, 1997). The interview protocol has been reported in Löfström and Pyhältö (2012). The interview instrument was piloted with three supervisors at one university. Only minor modifications were made to the questions, and the pilot interviews were included in the analyses of the study. The interviews consisted of 15 main questions. The interview questions relevant for our purposes drew on the JD-R model, and two questions explicitly addressed the supervisors' perceptions of key regulators in the doctoral study process. Hence, their perceptions of resources and challenges were reflected by their answers to these questions. The questions that were asked were, "Could you give examples of factors that facilitate the studies of doctoral students?" and "Could you give examples of factors that impede or challenge doctoral students in their studies?" No explicit question was asked about the supervisors' perceptions about core resources and challenges at different systemic levels in doctoral education. The systemic location of the key factors emerged in the interviewees' responses about resources and challenges. Further, seven background questions on the working history of the participants, range of supervisory experience, and current number of doctoral students was included.

The participants were invited by email to participate in an interview. Eighteen supervisors were requested to participate, of whom three declined the invitation. The interviews were conducted in Swedish, and each interview lasted 30–50 minutes. The interviews were recorded and transcribed verbatim. Participation in the

Figure 1.
A description of the analysis
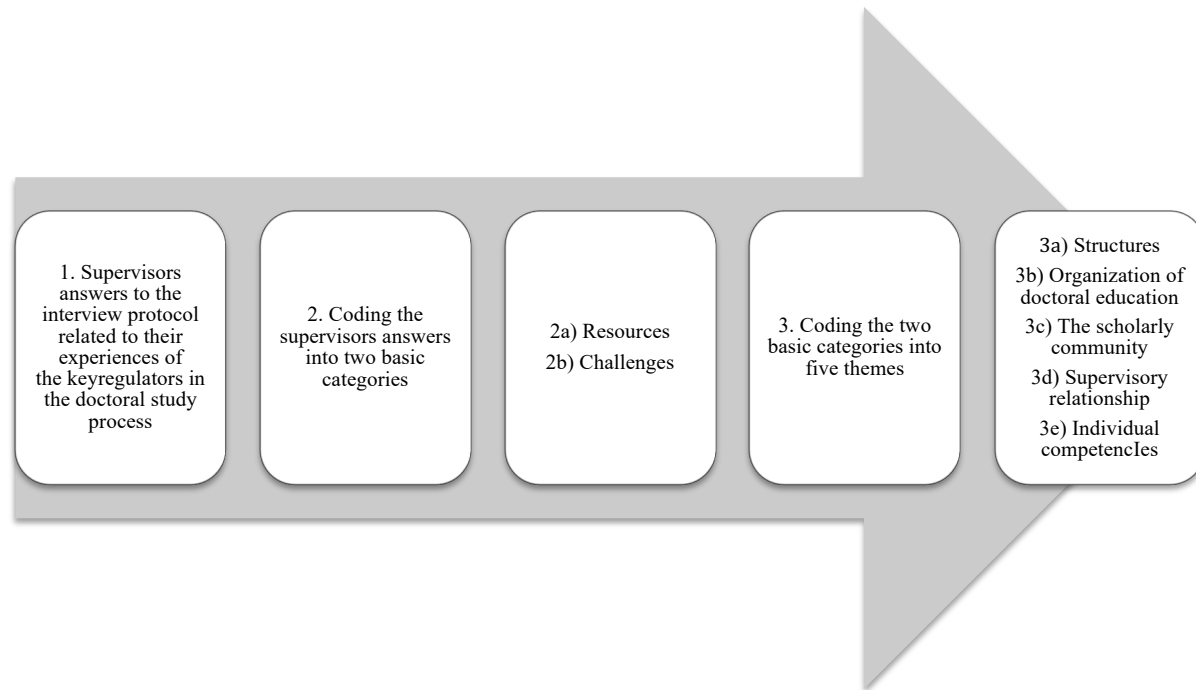
research was voluntary and based on informed consent. No incentives were offered. In order to protect the participants' anonymity, more detailed information about gender or institution has not been provided in this article. The research adhered to the ethical guidelines established by the Finnish Board on Research Integrity (2012). According to the Finnish regulatory framework (Finnish Board on Research Integrity, 2012), the study did not require an ethics review.

Data Analysis

In the data analysis process, we investigated the key factors of the doctoral study process, which supervisors referred to in their answers. Through these experiences, the perceptions of supervisors about the key regulators could be further categorized as resources and challenges in the doctoral study process, and five sub-themes were identified among the resources and challenges.

The data were analyzed through theory-driven content analysis (Marshall & Rossman, 1995). The strategy of the data analysis included both inductive and deductive processes. As shown in Figure 1, initially all the text segments (a unit of analysis was a whole text segment) in which supervisors referred to the primary regulators of the thesis process were coded into the same category by using an inductive strategy (Holyoak & Morrison, 2005). A text segment is defined here as an

extraction from the data describing a full thought or theme and its immediate elaboration. The length of the text segments ranged from one to several sentences. The text segments coined an idea of something that is necessary, important, or useful for doctoral students or something that is the opposite of such aspects. Thus, the text segments contained attributes that the supervisors emphasized as either important or referred to as dissatisfactory. The following text is an example of a text segment coded as a resource and, further, coded as the sub-theme *The scholarly community*: "Well, during the years I have noticed that it is really important that the students have the opportunity to be a part of the research community and, also, not to be too far away from each other". This segment coins the idea of the importance of doctoral students having access to a community. Community is seen as a facilitator of the doctoral process. In the first step, 217 text segments of key regulators were identified. The analyses process is illustrated in Figure 1.

After this initial recognition of the key regulators, the second phase in the analysis process proceeded with a deductive approach (Levin-Rosaliz, 2004; Morgan, 2007). The supervisors' answers were coded into two basic categories: (1) *Resources* and (2) *Challenges* in the doctoral study process. The basic category (1) *Resources* included text segments in which the supervisors described processes on the doctoral journey

Table 1.
Resources and Challenges on the Doctoral Journey: Frequencies and Percentages

Subcategories	Resources f (%)	Challenges f (%)	Total f (%)
Structures	9 (9)	36 (30)	45 (21)
Organization of doctoral education	19 (20)	30 (25)	49 (22)
The scholarly community	28 (29)	11 (9)	39 (18)
Supervisory relationship	22 (23)	15 (13)	37 (17)
Individual competencies	19 (19)	28 (23)	47 (22)
Total	97 (45) 100 %	120 (55) 100 %	217

that worked well, promoted the thesis process, and were perceived positively by the supervisors. The text segments described as resources also contained issues that the supervisors emphasized as important and crucial for succeeding in the thesis process. In addition, the basic category for (2) *Challenges* contained text segments in which the supervisors described processes that present obstacles to the thesis process. The description of challenges also included text segments referring to problems and difficulties, such as lack of support or challenges in other ways, which led the supervisors to express their dissatisfaction. In the second phase, 97 text segments pertaining to the category of Resources and 120 text segments pertaining to Challenges were identified.

Finally, in the third phase, an inductive approach in the analysis process was taken in order to develop a framework of the underlying structure of the perceptions of supervisors about the resources and challenges. In the text segments, we identified a set of descriptions of funding, infrastructure, and physical facilities that the institution offers to doctoral students. We formed a category and named it *Structures*. A second set of excerpts that we identified described human resources and administrative processes, including the recruitment process of doctoral students and training. We named this category *Organization of doctoral education*. Another category we found was *The scholarly community*. In this category we identified explanations related to the participation by students in the scholarly community, in research groups, to the support of the team and to international contacts. We discovered text segments that contained descriptions of the supervisory relationship with the students, the frequency of supervision, different supervising practices and networking, and interactions among supervisors. This category we called *Supervisory relationship*. Finally, we recognized descriptions of both generic and research-specific competencies of doctoral students, and we named the category *Individual competencies*. These five data-driven sub-themes were found among both resources and challenges.

The first author conducted the three phases of the analysis processes. Between the different phases, the

authors discussed the interpretation of the original transcribed interview texts. The authors validated the categories at the end of each stage of the analysis process. The quotations that were chosen to illustrate the basic and the sub-themes were translated into English.

Results

Supervisors' Perceptions of Primary Resources and Challenges in Doctoral Studies

The results show a variation in the perceptions of supervisors of the key regulators in completing a doctoral thesis. The nature of the resources described ranged from the scholarly community, such as support of their own research team and international co-operation, to the supervision process, such as learning with the doctoral students. In turn, the perceived challenges were often connected to structural elements, such as financial resources. Also, the lack of a systematic doctoral education process, including the reorganization of doctoral education, was perceived as a challenge. The resources and challenges encompass *structures*, *organization of doctoral education*, the *scholarly community*, *supervisory relationship*, and *individual competencies.* The percentages in Table 1 refer to all the resources or challenges reported by the supervisors. Descriptive statistics have been reported to provide an overview of the prevalence of resources and challenges comparative to each other.

Supervisors' Perceptions of Primary Resources. The most common resource, almost a third of total resources (29%) mentioned by the supervisors was *the scholarly community*. The importance of a research group, the support of a team, collaboration with colleagues especially in the other Nordic countries, and international cooperation as a whole were identified as key resources within the scholarly community. The existence of shared scholarly practices and opportunities for learning from each other were also much appreciated as resources in the scholarly community. Supervisor F clarified the situation as follows:

But of course, the art of supervising doctoral students develops over the years. You also learn from the students, and…cooperation with other supervisors, yes, that I think is probably the most fruitful way of learning, you know, I mean co-supervising.

The supervisors described how when the doctoral students have the opportunity to work closely together in a research group, as well as through peer interaction, this is an essential form of support for the doctoral students themselves. As an illustration, Supervisor E explained:

I think that one factor that assists the progress of their study process is that they have other doctoral students around them who can serve as good role models.

Or, as Supervisor I described it, it is important for the scholarly community to prevent doctoral students from being isolated or left to their own devices:

In the research group, and we have a big one, we have this feeling of being together. The students receive support from each other, though it is not always me who is around to supervise. No, but there is somebody else to give support, for example, a post doc or a student in the last part of their doctoral study process and so on…and this I think is the most important thing. They should not be left alone with perhaps a feeling of being a burden on the supervisor.

Supervisors also underlined the importance of gaining experience from international research communities for the doctoral students as crucial. The following quotation illustrates the thoughts of one supervisor:

I have to say that it is extremely important to gain international experience. It is not good to stay here (at one's own university). I think that it is absolutely necessary for doctoral students to go abroad, for example on a two-month research experience. It's important because, well, Finland isn't the center of the world, you know. (Supervisor J)

The supervisors underlined the *supervisory relationship* (23%) that is integrated in the thesis process as a major resource. Networking and interaction among supervisors, their own supervising competence and its systematic implementation in the doctoral studies were identified as resources and were of importance in supervision practices. The supervisors also stated that the supervisory relationship inspired them by giving joy and inspiration and that it feels good to share encouragement and support when supervising students. As an example, supervisor H shared her thoughts:

Well, I can tell you that supervision is one of the most enjoyable tasks a professor might have. Yes, when we have our seminars, I sometimes think, "Oh…do I get paid for this too?" I think like this, when the students say that they will go home now to write more or when they say that they see clearer what they have to do now or how they can work more on this…

The responsibility of offering supervision on a frequent and regular basis was often pointed out as a resource in the supervisory relationship. One of the supervisors said:

You have to be sure that the doctoral education is an ongoing process. You have a huge responsibility, and there are many things that contribute to success and many things that can go wrong. You just have to be there. The doctoral students must know that the supervisor is always there for them as in the process. (Supervisor G).

The *Organization of doctoral education* (20% of resources) was further underlined as important in the doctoral process. The supervisors emphasized the importance of a systematic approach in doctoral education, and they reflected on the importance of the university already having strong and structured master's degree education in place. They also emphasized a high level of systematic training and well-organized planning in research groups, and further, the impact that research projects offer, an effective four-year study process, study programs in Swedish, Nordic courses, and the importance of summer schools. Courses that were specifically arranged for doctoral students, and a well-organized and transparent intake into the doctoral program were often considered to be important preconditions for a successful thesis process. Research projects in which the doctoral students took part were also mentioned as facilitating factors. One of the supervisors remarked:

We are cooperating strongly with other Nordic universities. The co-operation with courses has been very important and has been appreciated by the students. The courses run every fourth year in each of Finland, Norway, Sweden and Denmark, and these courses have been very good. (Supervisor L)

Supervisor A also emphasized the importance of organized structures in doctoral education in different research groups and the impact of the research projects the students took part in:

The students gain theoretical knowledge, the so-called subject competence they work with in their doctoral dissertation while doing the research

projects within the research groups. This is a result of the work in the research groups, where you meet every week to report on results and to discuss further planning.

Furthermore, the participants emphasized the students' *Individual competence* and the development of these during the doctoral process. Generic competence (14%), such as pedagogical skills, research ethics competence, and language skills, were emphasized more than research-specific competence (5%). Research-specific competence consisted of domain-specific know-how, methodological skills, and the ability to conceptualize the research process. One supervisor stated:

Well, my doctoral students' language skills are very good. I would like to say that the skills are over the mean for doctoral students. They write well in English. One has been to the States and of course, these students have greater advantages in international cooperation (Supervisor H).

The *Structures* of doctoral education (that is, physical facilities for the doctoral students, infrastructure and funding) were perceived as a resource in the doctoral process to a lesser extent than the other aspects (9% of resources). Recalling that doctoral education is publicly funded and tuition fee-free for the students, the financial resources may be scarce, and this could contribute to supervisors not finding funding as a particular prevalent resource. Nevertheless, they may regard opportunities for external funding as a resource. One supervisor remarked, "When we come to the question of finances, it all depends on the research group. Does the group have money? Is extra money available?" (Supervisor A)

Supervisors' Perceptions of Primary Challenges. The supervisors perceived more challenges than resources, i.e., processes that present difficulties to doctoral studies and the thesis process. All in all, 120 statements were categorized as challenges. The perceived challenges varied from structural matters including unsatisfactory funding to a lack of research-based competence. Physical facilities for the doctoral students, infrastructure, time resources, and funding were perceived as the most common hindrance in the doctoral process, with more than one-third of the statements relating to *structures* (30%). The supervisors further described as an obstacle the shortage of proper work conditions, the lack of full-time study opportunities, and the importance of a secure financial situation. Some of them questioned whether doctoral students should be accepted into doctoral training without existing funding from a research project at the university:

I start to be more and more skeptical about allowing doctoral students to start the doctoral study process if they don´t have at least a three-year paid contract, and not as a grant. Because you can stay motivated for a while, but then if you have to do the research along with another full-time job or the uncertainty with grants, you never know how the future will look. This is the case in my field, where we do a lot of practical research. (Supervisor O).

In addition, supervisors also worried, about the extra bureaucracy that comes with doctoral students' short-term financing, as the following quotation suggests:

The most serious problem is always that the doctoral students who have funding for only a short period run out of money at one point. Then what? The doctoral students have to apply [for funds] from different sources and I have to write a lot of recommendations. And really, a lot of energy is consumed with this … (Supervisor L)

The supervisors also stressed the *organization of doctoral education* (25%) as a barrier in the thesis process. The statements included the concerns supervisors had of a lack of organized courses, especially in the Swedish language. More generally, the supervisors worried about a lack of structure in doctoral education. Some felt that the offered courses for doctoral students are too general and failed to provide knowledge and competencies related to more specific themes. The supervisors also pointed out challenges in the recruitment process for doctoral studies. Because of the strong competition, the supervisors saw a risk that if something fails, there might be a future shortage of doctoral candidates interested in working in academia. The competition especially for salaried doctoral study positions for Swedish speaking doctoral students was described as fierce. The supervisors worried whether there would be sufficient academic regrowth among Swedish-speaking Finns. Therefore, they also expressed concerns about whether an academic career was seen as attractive enough for young promising researchers to choose and stay within academia and whether they would be motivated to pursue their career in Finland. Hence, some of the supervisors expressed worries about the declining number of Swedish-speaking academics. Supervisor J shared his thoughts as follows:

The dilemma of the minority group is that the numbers of students being accepted are so small…Well, this year, two (Swedish-speaking) persons who will complete their studies in my field, but…, then there might be a gap for at least three years before another (Swedish-speaking) person will graduate. This means that the number is

really low, and…if you have chosen the wrong person, we are dealing with a catastrophe.

Therefore, the supervisors emphasized the development of high-quality doctoral education and good supervisory practices that will contribute to the attractiveness of becoming a researcher. If doctoral students perceive an academic career as an unattractive alternative, there is a risk that there will not be enough competent specialists to teach and supervise future doctoral students.

Further investigation revealed that supervisors often identified a lack of *individual competence* (23%) as a challenge that hinders the doctoral process. Supervisors highlighted the need for doctoral students to start the writing process immediately and the task of managing many languages in their academic work. Writing is an essential part of the doctoral study process due to the fact that the product, the doctoral dissertation, is in focus. The supervisors emphasized the necessity of writing competence:

> You could say that it is kind of a tender spot in our field that there are many students who are very good when it comes to substance, but they have difficulties with writing. That's the way it is. It is a competency that is not always that strong. There are some exceptions, but generally it is a challenge, and we see doctoral students with very good writing skills less often. (Supervisor B)

In addition, the supervisors explained that the writing of academic texts is often done in a language that is not the mother tongue of the student. The language of the dissertation can be the second, or even the third language of the student. Accordingly, the demands on both the language and writing skills are high. The supervisors also perceived problems with certain aspects of research, such as methodological and domain-specific knowhow. The supervisors perceived that the need to absorb relevant research literature is more demanding nowadays due to internalization and the rapid expansion of research publication. They explained that it gets much tougher to stay on top of the research, to stand out and to be unique in your own research. However, supervisors identified the skills of doctoral students in statistics both as a resource and a challenge in doctoral training:

> It is quite problematic when I have doctoral students who have excellent big data and they don't understand at all how the statistics should be done. They have to depend on an expert, and I think that it is not good. (Supervisor D)

The supervisors described the *scholarly community* (9%) and the *supervisory relationship* (13%) as a challenge less often. When they did, it was in terms of not belonging to a research group, the internalization process, and the risk of loneliness in doctoral studies. Sometimes the supervisors described the challenges for doctoral students in gaining international experience from international research communities and building their own networks. The cause of this, according to the supervisors, was the students' family situation. One supervisor explained the reality for early career researchers who have their own family:

> We have tried to build international co-operation [*sic*] and networks and to support the students, but in the long run those with a family…well, they have children who are at the age when much happens in their personal lives, and they really do not want to leave, not even for a short time. (Supervisor G)

Descriptions regarding the supervisory relationship included a lack of time resources and an unclear division of work. In addition, the supervisors brought up the challenge of dividing work for one doctoral student between many supervisors and the constraints that can occur between a senior and junior supervisor. As one supervisor said:

> We are becoming more flexible and see that supervising is a part of the process. You will not suddenly become a good supervisor. You need training. We also have some junior supervisors, but you can see that their world is more black and white. They are not that flexible, and they see faults in the text, and this can be a bit problematic. Through experience I have come to the conclusion that there always has to be a senior supervisor in the process. (Supervisor E)

The core challenges illustrated by the supervisors in this study are associated with aspects at the organizational level and with the need for more fixed structures in doctoral education (such as infrastructure, time resources and funding). In addition, another core challenge was the mismatched organizational needs in doctoral education experienced by the participants. Dissatisfaction with the recruitment procedures, the lack of courses in the study process, and the lack of administrative support were examples of this.

To summarize, the supervisors identified a variety of resources and challenges related to structures, organization of doctoral studies, the scholarly community, the supervisory relationship, and individual competence. The results show that the supervisors perceived slightly more than half of the key regulators in terms of challenges or demands, (55%), and slightly less than half of the key regulators in terms of resources

Figure 2.
Resources and challenges in doctoral education as organizational and social aspects as described in the JD-R model.
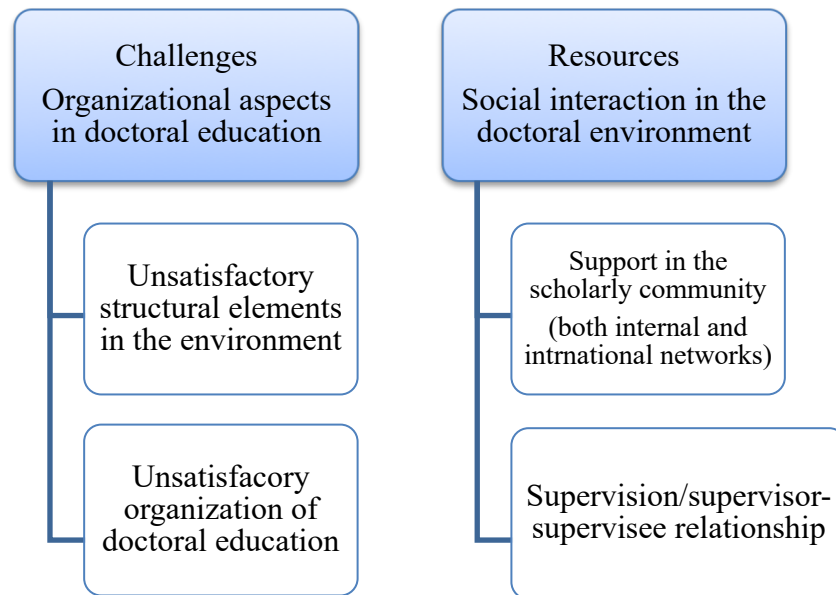
(45%) in the doctoral process. When it comes to the descriptions of the themes among the factors that promoted the thesis process and the factors that were perceived as obstacles or problems, the results indicate different emphases in the various sub-themes. The scholarly community was most frequently perceived as a resource. The scholarly community was perceived less often as a challenge. Structural matters was defined by the supervisors as the most common challenge in the doctoral process, and with the order reversed, structural matters were seldom identified as a resource.

With reference to the JR-D model, it demonstrates that resources may buffer demands. This means that it is important not to rely only on the sum of the challenges *per se*, but also to consider the quantity and quality of resources available to counteract the effect of those challenges. Further, the results highlight the essentiality of different supervisory resources such as a good supervisor-student relationship, the support of the research team, and international contacts as ingredients of high-quality supervision as resources in the doctoral process. The results also showed that many of the challenges need to be focused on and developed for the whole community rather than for individuals. The results also suggest that challenges that emerge in one domain, for instance in competence may be symptomatic of challenges related to the organization offering the doctoral education. For instance, challenges regarding the importance of excellent writing skills can seldom be solely solved by individual supervisors. In

this case, more support in academic writing should be offered to the students at a faculty or institutional level. This challenge at an individual level requires aligned and systematic development work and support by the supervisor, the doctoral program, and the faculty at institutional levels.

The supervisors described structures such as financial insecurity, the burden of bureaucracy because of short-term financing, and a lack of full-time study opportunities as major impediments in the study process. Furthermore, almost a third of the challenges were related to the organization of doctoral education, including doctoral recruitment procedures, changes in doctoral training processes nationally, and the impact of doctoral courses in Swedish. When it comes to the location of the resources perceived by the supervisors, about half of the resources (52%) were associated with the scholarly community and the supervisory relationship, and thus can be described as social aspects in doctoral education. The supervisors typically emphasized the importance of a research group in the thesis process, the support of a team, and international cooperation on the whole. Supervision as a resource was characterized by cooperation with other colleagues and networking options, inspiration that the thesis process offers, and positive emotions that sharing and offering encouragement to the supervisees mean. Figure 2 illustrates the supervisors' descriptions of the resources and challenges at two levels in doctoral education: the social aspects and organizational aspects in doctoral education as described as in the JD-R model.

Discussion

This study mapped key regulators in terms of resources and challenges in the doctoral journey as identified by supervisors. In the context of the JD-R model, there are both challenges and resources in a working environment, and the supervisors reported aspects related to the organizational level as primary challenges. Most of the challenges were connected with the absence of structural forms of support regarding the shortness of time and lack of funding for doctoral students, the experiences of supervisors with the need for more fixed structures in doctoral education, and insufficient opportunities for doctoral students to improve their competency during the doctoral study process.

Moreover, the results showed that the individual competencies of doctoral students were also identified as resources of doctoral success by the supervisors (see also Barnes & Austin, 2009; Jones, 2013). Further, the core resources highlighted by the supervisors were recognized as social aspects in the work environment, meaning that the supervisors underlined the social interaction available and utilized in the doctoral education context. The resources were often related to the scholarly community and the supervisory relationship and were associated with both the form of supervisory support and researcher community support. The supervisors emphasized membership of the researcher community and collaborations as a central resource to cope with the challenges of doctoral studies. This result is in line with earlier research suggesting that both internal and external interaction with other researchers and peers and a cooperative atmosphere are treasured resources (Pyhältö et al., 2012b). The results also corroborate the results of earlier studies showing that more collective supervisory practices offer a broader holistic support network for both the student and the supervisors (Dysthe et al., 2006; Hakkarainen, Hytönen, Makkonen, & Lehtinen, 2016; Stubb, 2012). Recent findings, however, have brought attention to the fact that supervisors do not always recognize the research community as a resource and try to solve many challenges on their own (Vehviläinen & Löfström, 2014), but the supervisors in our study pointed out the importance of support from a larger scholarly community, including interaction with international researcher communities and the relevance of the research group as a core resource.

A greater awareness of the key regulators and their manifestation in the doctoral process can help supervisors to navigate them as resources and challenges. Pinpointing these to different systemic levels in the doctoral education can help to make more efficient use of the resources and to deal with challenges at the appropriate level. In the interpretation of the resources and challenges, it is crucial that they are clarified and explained in the context in which they occur. In one particular context, a perceived resource may perhaps be taken for granted while a resource or challenge in another context may be interpreted quite differently.

The results of our study bring to light the complex structure of doctoral supervision. For the individual supervisor, however, the results of the study indicate the importance of identifying the available resources in order to cope with perceived challenges.

Though the variation of the resources and challenges perceived by supervisors was broad, the perceived key regulators were aligned with regulators identified by the research within the field and located at various systemic levels in doctoral education. There are implications of this result: due to the considerable investment the doctoral student, the supervisor(s), the researcher community, and the institution make in the thesis project, there is a need for augmenting the alignment between the organizational culture and the social structures (Lovitts, 2005). Further, in the light of previous results, it can be shown that a high degree of integration of doctoral students into the research community will increase the likelihood of doctoral degree completion (Cornér et al., 2017; Hermann, Wichmann-Hansen & Jensen 2014; Jairam & Kahl, 2012; Wao & Onwuegbuzie, 2011). It may be important to explain the powerful role the scholarly community can play as a resource in the doctoral process in order to improve the usage of this resource. Understanding how the key regulators operate will allow institutions and their individuals to make the most use of the resources invested while recognizing the implications of challenges in one domain on another domain. This will allow for tackling the challenges to prevent them from transferring from one domain to another.

By collecting data from three institutions we may have avoided some of the problems of single-institution studies in which the results may be a reflection of the institutional context and its specific characteristics rather than the phenomenon at hand. The fact that we were able to identify the same categories in the data from all three institutions suggests that the resources and challenges identified in this study have relevance beyond a single-institutional context (cf. Kvale, 1997). However, the results are not generalizable and were not the intention of this qualitative study. Nevertheless, a survey may provide an indication of the prevalence of the resources identified and challenges in supervision. A limitation of the study is that the categorization in the first phase was done solely by one of the authors. However, once the initial analysis had been done, all authors engaged in the discussion of the categorizations with a focus on ambiguous segments identified by the first author.

In this study the JD-R model allowed us to analyze the supervisors' perceptions of the key regulators in the doctoral study process in terms of challenges and

resources and their localization in the supervisory process. This may be a useful tool for development of doctoral supervision as it allows for analysis of key factors and systemic levels at the same time. Using the JD-R model may be beneficial in bringing forward resources and challenges in other contexts. Hence, the model could also be applied more broadly. To understand how resources and challenges may be similar or different and what the resources and challenges rely upon in various contexts, it is important to provide a detailed description of the particular context.

This study offers a deeper understanding of the PhD context at different systemic levels where linguistic diversity is also a central part of the doctoral journey. Further research is needed on the strategies supervisors use to tackle the perceived challenges. What strategies and actions do supervisors apply in tackling challenges at different systemic levels, and how do those tactics further shape supervision practices in research communities? In this vein, a comparison of local "supervision cultures" would deepen the understanding of the generic and field-specific nature of supervision.

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Faculty Members' Use of Learner-Centered Instruction at Institutions in the United States

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For over two decades, national conversation has focused on the need for learner-centered instruction in postsecondary education. Yet, in light of this conversation, relatively little is known about why faculty utilize these methods. What influences faculty members to employ learner-centered instruction in the classroom? This study utilizes data from the 2013 administration of the HERI Faculty Survey and the Integrated Postsecondary Education Data System (IPEDS) to explore characteristics that influence faculty members' use of learner-centered instructional practices in the college classroom. The findings suggest that individual faculty demographic characteristics, such as age and sex, and work experience characteristics, such as participation in faculty development activities, exert influences on the use of these teaching practices. This research contributes to gaps in the extant literature and expands knowledge about faculty members' use of learner-centered instruction through exploration of a large, national data set.

Since the early 1990s postsecondary education in the United States has experienced an increased level of attention to instructional practices related to student learning and achievement. Boyer (1990) argued for a reconceptualization of the definition of scholarship to include the dissemination of knowledge and the function of teaching, which he referred to as the "scholarship of teaching." Though not the first to suggest a focus on teaching, Boyer's work received national attention and prompted conversation related to these ideas. Scholars argued that students should be the focus of attention in the teaching and learning process, advocating for students to read, write, solve problems, and engage in discussion with the goal of engaging in higher-order thinking (Bonwell & Eison, 1991).

This paradigm challenged the traditional notion of faculty as the center of attention in the teaching and learning process and encouraged faculty to reconsider their roles and to shift the attention to students and engaging them in the learning process (Barr & Tag, 1995; King 1993; Stage, Muller, Kinzie, & Simmons, 1998). This philosophical shift represents an underpinning of learner-centered instruction: students should be at the center of the learning process. As the conversation evolved, authors produced resources for faculty to assist in the implementation of this philosophical shift, including a taxonomy of significant learning advocating for students to be exposed to multiple methods of learning (Fink, 2003), meta-analyses of literature about neuroscience and cognitive psychology to demonstrate pedagogical practices that could be employed in the classroom (Doyle, 2008, 2011), and practical steps to implement these changes within postsecondary classrooms (Blumberg, 2008).

However, promoting action in response to the emphasis on teaching and learning requires an understanding of what compels faculty members to utilize learner-centered pedagogical practices within their courses. Approaches to studying pedagogical practices used by postsecondary faculty have been varied and limited, with much of the extant research focusing on individual teaching techniques, commonly within particular disciplinary, institutional, or course-specific contexts. There exists a paucity of literature related to faculty members' employment of learner-centered instructional approaches, particularly at the national level. With the exception of a few studies utilizing national datasets (Nelson Laird, Garver, & Niskode-Dossett, 2011; Umbach & Wawrzynski, 2005; Webber, 2012), there is limited literature attempting to study faculty members' use of instructional practices. Monographs presenting data from surveys of faculty (Eagan, Stolzenberg, Lozano, Aragon, Suchard, & Hurtado, 2014; Hurtado, Eagan, Pryor, Whang, & Tran, 2012) are helpful in providing up-to-date insight about faculty members, but the sections on pedagogical practice are relatively limited and largely rely on single-variable descriptive analysis.

This study utilizes the 2013 HERI Faculty Survey, a nationally administered instrument, as well as data obtained from Integrated Postsecondary Education Data System (IPEDS), to provide insight into individual demographic characteristics, work experience characteristics, and institutional characteristics that influence faculty members to employ learner-centered instructional techniques in their pedagogy.

Learner-Centered Instruction in Higher Education

The term learner-centered instruction represents a broad philosophy that encourages a focus on the learner when designing instruction, as well as an evolving set of pedagogical practices that foster student learning. Scholars writing about these practices may use terms

such as student-centered learning, student-centered teaching, learner-centered teaching, learner-centered education, and active learning. For the sake of clarity, and efficiency, learner-centered instruction (LCI) will be the term utilized to describe this concept and the associated pedagogical practices within this document.

Not only are there difficulties related to the nomenclature used to label learner-centered instruction, but there are also challenges related to defining the set of practices included within this umbrella term. Learner-centered instruction may include pedagogical practices such as concept mapping, reflective exercises, completing multiple drafts of written work, simulations and role playing, cooperative and collaborative learning, peer-teaching and peer-evaluation, problem-based learning, and discussion and oral presentations. At a rudimentary level, the most common observation involves what learner-centered instruction is not: namely, traditional lecture.

The paradigm in which lecture is the primary form of instruction is the teacher-centered paradigm (Roper, 2003). Freeman, Eddy, McDonough, Smith, Okorafor, Jordt, and Wenderoth (2014) found that students exposed to lecture were one and a half times more likely to fail a course than those taught utilizing active learning techniques. In contrast to lecture, learner-centered instruction requires that students be engaged in the process of discovery. At large, learner-centered instruction seeks to shift the focus of the teaching and learning process from the role of the teacher to emphasize the role of the student. Students should be involved in the "hard, messy work" of learning (Weimer, 2002, p.88). This is not to diminish the importance of faculty members, but rather to better engage students in the act of learning.

Faculty Members in the United States

Faculty members in the United States are an essential component of the instructional labor force at postsecondary institutions. Austin (1990) stated that faculty members have shared cultural values that direct them to "pursue, discover, produce, and disseminate knowledge, truth, and understanding" (p. 62). Essentially, the role of postsecondary faculty members closely mirrors that of most institutions of higher education, that is, to engage in teaching, research, and service. However, snapshots of faculty can be difficult to provide, as these individuals work at over 7,000 postsecondary institutions in the United States (National Center for Education Statistics, 2016) and are a dynamic body that can be difficult to pinpoint. Faculty members work at institutions with varying sizes, missions, and forms of control. Moreover, whereas the bulk of research on the professoriate is conducted on faculty at research-oriented institutions, the vast majority of faculty members do not work at these institutions (Hermanowicz, 2012).

American faculty members are not a static group of individuals. The demographic composition of the professoriate has witnessed a number of changes in the recent past. Although historically outnumbered by men, there are increasing numbers of women represented in the professoriate (Hendrickson, Lane, Harris, & Dorman, 2013; Schuster & Finkelstein, 2006). Women are not the only "new" faces to the professoriate. Racial and ethnic minorities have made substantial gains in recent years, specifically those who identify as African American and Latino (Hendrickson, Lane, Harris, & Dorman, 2013; Schuster & Finkelstein, 2006). In addition to new demographic populations being better represented in the American faculty, there are also those who are staying in their respective roles longer. Essentially, older faculty members, who might have traditionally retired at an earlier age, are staying in their roles, creating an age bulge (Schuster, 2011).

Faculty Roles

The teaching role is one that is often assumed to have primacy for faculty: as content experts within their respective disciplines, faculty members are responsible for producing and assessing learning for their students (Brint, 2011). However, the teaching role is not bound solely to instruction within the classroom. Encompassed within the role of teaching are decisions about curriculum, degree requirement, course construction, prerequisites for graduation, and more (Altbach, 2011).

The research role of faculty involves the notion of discovery and includes an obligation to remain current in one's field and discipline so that relevant knowledge can be transmitted to students via classroom instruction (Geiger, 2011). The research role of faculty is essential in the production of new knowledge, which helps to advance society and can include opportunities for economic development. Research comprises a number of scholarly pursuits including scientific, theoretical, artistic, and creative activities. Research activities of faculty may lead to many different ends, including scholarly or academic journal articles, book publication, or the creation of patents, among others. Additionally, faculty members can be urged to engage in activities that promote economic development or advance the national agenda. This is closely related to the emphasis of research in faculty reward systems (Hermanowicz, 2012; Park, 2011).

As with all faculty expectations, the service role can be defined differently at varying institutions, but it often includes service to faculty members' respective disciplines, campuses, and local communities. Service to the discipline might include serving as a reviewer for academic journals, giving conference presentations, or providing references for promotion and tenure processes (Sullivan, 2011; Ward, 2003). Service to the campus or institution can take the form of departmental and

university committees, as well as engagement in community activities (Myers & Myers, 2015).

Conceptual Framework of the Study

The conceptual framework for this study is guided by the work of Bowen and Schuster (1986), Blackburn and Lawrence (1995), and Lattuca and Stark (2009). These studies focused on individual faculty members' attributes and institutional characteristics as they relate to motivation and performance, with attention to the various roles performed by faculty, including instruction.

Bowen and Schuster (1986) conducted a meta-analysis of over 400 publications, in addition to conducting their own surveys and interviews, resulting in explanation of American faculty members, including a description of personal characteristics such as faculty members' education, work experience, age, rank, tenure, discipline, sex, race, and status. The authors provided a description of the faculty work environment, including a focus on workload, teaching load, use of time, institutional setting, and performance and productivity.

Blackburn and Lawrence (1995) provided a causal model of sociodemographic and career related variables that contribute to faculty members' motivation to perform their various roles. Sociodemographic variables include those characteristics about an individual that are fixed, such as chronological age, sex, and race. Other career-related variables included academic rank, tenure status, career age, academic discipline, highest degree earned, and productivity. Environmental variables related to the context of the setting in which faculty members work, such as the employing institution's financial information, geographic location, composition of the faculty, student characteristics, institutional type, and available resources.

Lattuca and Stark (2009) focused on the teaching role of American faculty members, specifically related to curriculum development. The authors defined curriculum as an academic plan and cited the following variables as influences on course planning and curriculum design: student characteristics, external and internal forces, institutional resources, class size, faculty workload, and promotion and tenure status.

Building on the work of the models proposed by Bowen and Schuster (1986), Blackburn and Lawrence (1995), and Lattuca and Stark (2009), the independent variables in this study are grouped into three categories: personal demographic characteristics, work experience characteristics, and institutional characteristics. Similar to the studies guiding this research, individual personal demographic characteristics include chronological age, sex, race, and nationality. Work experience variables include career age, tenure status, rank, discipline, highest degree earned, full-time/part-time status, principal activity, importance of role, type of courses taught, teaching

activities, professional development, productivity, opinions, and stress. Institutional characteristics include institution size and control, HBCU status, admission characteristics, personnel, revenues, and expenses.

Methodology

The data used in this study come from the 2013 Faculty Survey administered by the Higher Education Research Institute (HERI) housed at the University of California-Los Angeles (UCLA). The 2013 administration of the survey had faculty from 289 institutions participate (Eagan et al., 2014). The data from the Faculty Survey were combined with data from the Integrated Postsecondary Education Data System (IPEDS) managed by the National Center for Education Statistics (NCES) to obtain additional information about institutions. Information from IPEDs is beneficial for this study as unique institutional identifiers can be connected with the data from the HERI Faculty Survey in order to provide a comprehensive view of the faculty experience.

The Faculty Survey instrument includes several questions related to teaching methods, course assignments, course methods, and course technology. Utilizing the literature related to learner-centered instruction as a guide, 32 of these variables were requested as part of the custom HERI Faculty Survey dataset for use in this research. Because of the high number of variables that represent teaching activity in the data set, there was a need to perform data reduction in order to achieve a more manageable number for use in the statistical analysis.

Exploratory factor analysis is useful for model building by highlighting ways in which to cluster items together (Acock, 2014); this can inform how best to reduce or combine the variables in order to create a new dependent variable, in this case one related to learner-centered instruction. The decision was made to perform exploratory factor analysis utilizing only those 15 variables that aligned with learner-centered practices in the literature. The results yielded little support for multiple factors and suggested that 12 of the 15 variables hung together as a single factor. A new dependent variable (LCICALE) was created by combining the 12 variables. While not inclusive of all pedagogical practices that might fall into this group, this scale provides a reasonable representation of the use of LCI practices by postsecondary faculty in the United States. The new variable consisted of a 36-point scale representing American faculty members' use of learner-centered instructional methods.

Data Imputation

Missing observations accounted for less than 16% of the total observations in the dataset. Due to the

adequate number of valid observations, hot deck imputation was selected to fill in the missing observations in the dataset. A duplicated set of variables was created, and the two datasets were merged, with the imputed data filling in those observations that were missing from the original data.

Analysis

Ordinal logistic regression was utilized to analyze the dataset. Ordinal logistic regression can handle variables utilizing various measurement scales as independent variables in the model and is intended for dependent variables comprised of multiple categories that can be ranked from low to high (Gujarati, 2003; Long, 1997). Additionally, the model can provide the odds ratio of the outcomes, which is an exponentiation of the β coefficient. Odds ratios are generally easier to interpret, as they designate how often something occurs relative to how often it does not (Gujarati, 2003; Long, 1997).

The structural model of this method is:

$$\gamma^* = \beta_1 x + \varepsilon_i$$

The ordinal logistic regression analysis was performed utilizing nested models, or those models in which one model represents a subset of another model (Gujarati, 2003). The following models serve as an example:

Model 1: $\gamma^* = \beta_1 x + \beta_2 x + \beta_3 x + \varepsilon_i$
Model 3: γ^*
$= \beta_1 x + \beta_2 x + \beta_3 x + \beta_4 x + \beta_5 x + \beta_6 x + \beta_7 x + \varepsilon_i$
Model 2: γ^*
$= \beta_1 x + \beta_2 x + \beta_3 x$
$+ \beta_4 x + \beta_5 x + \varepsilon_i$

Appendix A provides the names and descriptions of all variables used in the model.

Ordinal logistic regression analysis is beneficial because the log likelihoods of the various fitted models can be compared. The goal of a fitted model is to maximize the log likelihood; higher values indicates a better fit. The unconstrained model containing the full set of independent variables had the highest log likelihood value. The unrestrained model is represented by the following equation:

LCISCALE = β_0 + Personal Demographic Variables + Work Experience Characteristics + Institutional Characteristics + ε_i

Results and Discussion

The results of the unrestricted ordinal logistic regression model are shown in Table 1, which displays both odds ratios and coefficients. Both odds ratios and the coefficients indicate how a change in an independent variable affects the dependent variable, holding all other variables constant.

Faculty Member's Use of Learner-Centered Pedagogical Practices

In general, faculty members seem to have embraced LCI practices to some degree. The results of the model suggested that the likelihood of faculty members using LCI methods increases as faculty members' chronological age increases; for a four-year increase in age, the odds of increasing a scale point on the LCISCALE are about 4% greater, significant at the .001 level. This may support Jones' (2008) suggestion that younger faculty members, who are likely new to the profession, have had less exposure to the theory and practice of teaching and may consequently be less inclined to use new or innovative teaching methods. Additionally, faculty members may give more attention to teaching, and pedagogical techniques, as they grow older (Stark et al., 1990). However, this is counter to previous findings reported by Bowen and Schuster (1986) who suggested that older faculty members were more traditional in their academic work than younger peers. The older faculty members represented by the data in this study may have had more exposure to the national conversation about enhancing pedagogy and learner-centered instruction than their younger peers.

For faculty members identifying as female, the odds of increasing a scale point on the LCISCALE are 51% greater than those who identify as male, significant at the .001 level. This supports previous research suggesting that male faculty members rely most heavily on lecture as a pedagogical practice (Lammers & Murphy, 2002) and female faculty utilize learner-centered practices more frequently (Hurtado et al., 2012; Webber, 2012). Additionally, female faculty members have reported greater time spent on teaching than have their male peers (Blackburn, Lawrence, Bieber, & Trautvetter, 1991; Finkelstein, Conley, & Schuster, 2016), which may lead to seeking out teaching practices, such as LCI, that facilitate more robust learning for students. It has been posited that female faculty members may be more nurturing as part of their teaching practice (Stark et al., 1990), a trait that may align with, and lead to, the constructivist foundation upon which many LCI methods are based.

Serving as a full-time faculty member appeared to have a negative effect, significant at the .001 level, while the odds of increasing a scale point on the LCISCALE are nearly 23% lower than part-time faculty. This finding is in contrast to previous findings that full-time faculty use active learning techniques more than part-time faculty (Umbach, 2008; Webber, 2012). Serving as an adjunct

Table 1
Faculty Use of LCI Methods, Ordinal Logistic Regression Unrestricted Model

LCISCALE	Odds Ratio	Coef.	Std. Err.	z	P>z	
AGE	1.045	0.044	0.007	6.020	0.000	***
SEX	1.513	0.414	0.025	16.710	0.000	***
WHITECAUC	0.787	-0.240	0.075	-3.200	0.001	**
AFAMBLACK	1.083	0.079	0.102	0.780	0.437	
AMINALSNAT	1.195	0.178	0.121	1.470	0.141	
ASNAMASN	0.998	-0.002	0.091	-0.020	0.985	
NATHAWPACIS	1.330	0.285	0.246	1.160	0.245	
MEXAMCHIC	1.109	0.104	0.130	0.800	0.423	
PUERTRIC	1.084	0.080	0.200	0.400	0.688	
OTHERLTNO	0.985	-0.016	0.102	-0.150	0.879	
OTHERRACE	1.097	0.093	0.078	1.190	0.235	
USCTZN	1.014	0.014	0.063	0.220	0.829	
NCHILD1	1.013	0.013	0.013	0.980	0.330	
NCHILD2	0.997	-0.003	0.011	-0.250	0.806	
YR1STAPPOINT	1.000	0.000	0.002	-0.020	0.985	
YRAPPOINT	1.013	0.013	0.002	7.290	0.000	***
ACADRANK	1.002	0.002	0.014	0.140	0.886	
ADJUNCT	1.032	0.031	0.042	0.750	0.455	
TENURE	0.992	-0.008	0.018	-0.440	0.659	
YRTENURE	1.001	0.001	0.001	1.190	0.235	
DEGEARN	0.977	-0.023	0.019	-1.210	0.224	
FULLSTAT	0.774	-0.256	0.066	-3.890	0.000	***
STEM	0.634	-0.455	0.027	-16.740	0.000	***
FTUGFAC	1.107	0.102	0.073	1.390	0.164	
FTADMIN	1.148	0.138	0.031	4.400	0.000	***
GRADONLYFAC	1.480	0.392	0.073	5.350	0.000	***
OTHERSTAFF	1.242	0.216	0.069	3.140	0.002	**
SALARYBASE	1.009	0.009	0.022	0.410	0.684	
PRINTEACH	1.077	0.075	0.036	2.100	0.036	*
COURSENUM	1.006	0.006	0.010	0.590	0.558	
PRIMARYTEACH	1.002	0.002	0.027	0.080	0.937	
HPW01	1.010	0.010	0.012	0.840	0.399	
HPW02	1.061	0.059	0.008	7.090	0.000	***
HPW06	1.043	0.042	0.008	5.100	0.000	***
PUBLISH01	0.923	-0.080	0.009	-9.150	0.000	***
PUBLISH02	1.084	0.081	0.013	6.130	0.000	***
PUBLISH03	1.134	0.126	0.016	7.810	0.000	***
PUBLISH04	1.064	0.062	0.016	3.900	0.000	***
DEVELOP01	1.230	0.207	0.029	7.130	0.000	***
DEVELOP06	1.378	0.321	0.031	10.460	0.000	***
DEVELOP07	1.210	0.191	0.029	6.630	0.000	***
TCHAWRD	1.186	0.170	0.024	6.990	0.000	***
TCHACT06	1.767	0.569	0.026	21.470	0.000	***
IMPTTCH	1.241	0.216	0.025	8.670	0.000	***
TCHOPN01	0.861	-0.149	0.017	-8.590	0.000	***
TCHOPN09	0.841	-0.174	0.015	-11.280	0.000	***
INSTOPN03	1.114	0.108	0.018	6.030	0.000	***
INSTOPN10	0.986	-0.014	0.017	-0.840	0.401	
SATIS01	0.910	-0.094	0.014	-6.860	0.000	***
SATIS05	0.965	-0.035	0.015	-2.430	0.015	*
SATIS06	1.122	0.115	0.017	6.710	0.000	***
SATIS11	0.972	-0.028	0.013	-2.120	0.034	*

SATIS13	1.006	0.006	0.019	0.340	0.731	
SATIS14	1.033	0.033	0.018	1.860	0.062	
SATIS16	1.003	0.003	0.011	0.270	0.785	
STRESS13	0.981	-0.019	0.023	-0.830	0.406	
SATIS_WORKPLACE	1.003	0.003	0.003	0.810	0.416	
STRESS	1.009	0.009	0.003	2.680	0.007	**
SATIS_WORKPLACE_GRP	0.953	-0.048	0.038	-1.280	0.202	
STRESS_GRP	1.070	0.068	0.035	1.960	0.051	
HBCU	1.396	0.334	0.150	2.230	0.026	*
CONTROL	1.022	0.022	0.037	0.590	0.556	
HRTOTLT	1.000	0.000	0.000	-0.680	0.498	
SFTETOTL	1.000	0.000	0.000	-0.660	0.510	
INSTSIZE	0.972	-0.029	0.027	-1.060	0.290	
PCTADMIT	0.999	-0.001	0.001	-0.910	0.361	
PCTUGFT	1.004	0.004	0.001	3.180	0.001	**
PCTGRADFT	0.999	-0.001	0.001	-2.540	0.011	*
ENRTOT	1.000	0.000	0.000	1.100	0.272	
TUITANDFEES	1.000	0.000	0.000	1.600	0.110	
EXPENDTOT	1.000	0.000	0.000	0.540	0.586	
PCTEXPINSTRCT	1.005	0.005	0.002	2.210	0.027	*
ENDOWVALUE	1.000	0.000	0.000	-1.100	0.272	
/cut1		26.248	3.575			
/cut2		26.972	3.573			
/cut3		27.750	3.572			
/cut4		28.314	3.572			
/cut5		28.881	3.572			
/cut6		29.304	3.572			
/cut7		29.748	3.572			
/cut8		30.074	3.572			
/cut9		30.437	3.572			
/cut10		30.727	3.572			
/cut11		31.037	3.572			
/cut12		31.354	3.572			
/cut13		31.671	3.572			
/cut14		31.986	3.573			
/cut15		32.293	3.573			
/cut16		32.604	3.573			
/cut17		32.931	3.573			
/cut18		33.257	3.573			
/cut19		33.615	3.573			
/cut20		34.011	3.573			
/cut21		34.435	3.573			
/cut22		34.940	3.573			
/cut23		35.605	3.574			
/cut24		36.532	3.574			

Notes:
Number of obs = 22,638
Log likelihood = -65073.399
LR chi2(71) = 3767.41
Prob > chi2 = 0.0000; Pseudo R2 = 0.0281
Significance levels: * $p<0.05$, ** $p<0.01$, *** $p<0.001$

faculty member did not demonstrate a statistically significant relationship with the use of learner-centered instructional methods. While not statistically significant, this finding aligns with previous research suggesting adjunct faculty members are more likely to rely on traditional teaching methods, such as lecture, than their full-time peers are (Caruth & Caruth, 2013).

For faculty teaching in a STEM-associated discipline, the odds of increasing a scale point on the LCISCALE are approximately 36.6% lower than those who do not teach in STEM-related fields. These findings appear to be consistent with those previous studies that suggested soft fields reported greater use of deep learning approaches than hard fields (Nelson Laird, Shoup, Kuh, & Schwarz, 2008; Webber & Tschepikow, 2012). This suggests that institutional leaders may wish to specific target faculty in hard fields if they wish to increase the use of learner-centered instruction in those disciplines.

Unsurprisingly, faculty members who take advantage of professional development opportunities related to teaching and learning appear to be more inclined to utilize LCI methods. Participation in professional development including incentives to develop new courses (DEVELOP06) suggested the odds of increasing a scale point on the LCISCALE are nearly 38% greater than those faculty who do not participate. These findings are not surprising: through opportunities to engage in conversations around teaching and pedagogy, there are opportunities for faculty members to learn (Reder, 2007). Faculty development initiatives have been identified as an important component of faculty members improving their pedagogical practice and utilizing learner-centered instructional approaches (Blumberg, 2015).Faculty who are willing to engage in faculty development related to enhancing pedagogical practice would likely be willing to try new and different pedagogical approaches.

For faculty members who have won a teaching award, the odds of increasing a scale point on the LCISCALE are approximately 18% higher, significant at the .001 level. Intuitively, this finding makes sense. Faculty members who are willing to engage in faculty development related to enhancing their teaching practice would likely be willing to try new and different pedagogical approaches and thus might receive awards for doing so. The odds of increasing a point on the LCISCALE are nearly 77% higher for those who participate in organized activities around enhancing pedagogy (TCHACT06) compared to those who do not participate in these activities.

While institutional characteristics demonstrated effects on the use of LCI methods, these effects had lower levels of statistical significance than individual demographics and work experience characteristics. However, the results suggest faculty members who teach at historically black colleges and universities (HBCU) appear to be more likely to employ LCI methods in their classroom teaching practice than peers at non-HBCUs. This aligns with Rovai, Gallien, and Wighting's (2005) assertion that faculty members at HBCUs may be more likely to utilize learner-centered instructional practices, which may serve as a better match of learning style for Black students. Additionally, Blackburn and Lawrence

(1995) suggested that faculty members at HBCUs place significant value on their roles as teachers, which may imply a willingness to learn about, and employ, pedagogical practices, such as learner-centered instructional methods, that foster and promote deep learning for their students.

Implications for Practice

One of the primary implications of this study is to assist faculty members and administrators in understanding those characteristics associated with the use of learner-centered instructional techniques in the classroom. The findings of this study are important for two of the three primary groups necessary to develop and institutionalize innovative pedagogy, which include administrators, faculty members, and students (Hainline, Gaines, Feather, Padilla, & Terry, 2010). This information is essential if institutions wish to "move the needle" and promote greater learning for students. However, continuing to encourage the use of leaner-centered instruction requires more than data. Previous studies have demonstrated the efficacy of these methods in promoting student learning, yet somehow this evidence has not been convincing enough to make significant, sustainable changes to teaching practice (Weimer, 2017).

Understanding the factors and characteristics that contribute to the use of learner-centered instructional practices can allow higher education administrators to increase the use of these practices on their respective campuses by appropriately targeting areas for improvement. Furthermore, much of the conversation on LCI has centered on thought pieces and outcomes of specific techniques, as opposed to pragmatic ways through which to change behavior. The results of this research help to illuminate some ways through which to prompt such change.

The findings of this research suggest that age and sex influence faculty members' use of learner-centered instructional practices in the classroom. This information should prove beneficial for academic leaders as they consider the composition of the faculty within their respective institutions and departments. However, not only can institutional decision-makers seek out individual faculty members who may be more inclined to utilize these methods, they can also devise strategies to encourage the use of these methods from faculty members belonging to demographic groups less inclined to utilize learner-centered instruction.

This study also has implications for socialization to the academic profession through graduate school preparation. As the results of this study suggest that workshops focused on teaching, participation in organized activities around enhancing pedagogy, and incentives to integrate new technology into the classroom all contribute to increased odds of using learner-centered instructional practices, graduate

programs may wish to consider the addition, or even requirement, of courses focused on teaching as part of the curriculum. The criticism that faculty are trained as researchers in a specific discipline, and not as teachers, is both common and longstanding. New faculty members will need the knowledge and competence to facilitate learning through multiple pedagogical methods (Austin, 2002), including learner-centered instructional practices. The curricula in graduate preparation programs primarily focus on disciplinary knowledge and research, but they should also include an emphasis on pedagogical practice (Robinson & Hope, 2013). A change of this nature would not only address this criticism, but also encourage the study of pedagogical techniques within a disciplinary context, allowing for both a nuanced and pragmatic approach to the use of learner-centered instructional techniques.

Directions for Future Research

While providing new insight into individual demographic, work experience, and institutional characteristics that influence contemporary American faculty members to employ learner-centered instructional techniques in their pedagogical practice, this study additionally provides possibilities for a future research agenda with the potential for continued discovery and understanding. The findings of this study shed light on the effects of sex and age on the use of learner-centered instructional methods. Future research may explore these phenomena more deeply, especially as these two demographic characteristics interact with one another or with other variables. Academic rank and discipline may be other variables worth exploring in relationship with gender and age. Similarly, it may be worth exploring the interaction with race as well.

Continued research should explore individual learner-centered instructional methods from a national perspective. Doing this will provide greater understanding of factors that influence the use of specific instructional practices, either aggregated, such as a grouping collaborative, cooperative, and team-oriented learning techniques, or individually, such as producing multiple drafts of written work.

While this research highlights that faculty members who engage in faculty development activities are more likely to utilize learner-centered instruction, questions still exist regarding what specific types of faculty development activities are most beneficial. Continued research may explore if there is a difference between faculty development activities hosted by an institution's center for teaching and learning as opposed to activities hosted by a professional organization.

The current study looked at American postsecondary faculty holistically; future studies may wish to treat disciplines as the specific unit of analysis in order to understand the use of learner-centered instructional practices within disciplines. Additionally, future studies may wish to continue to explore the influence of institutional characteristics on faculty teaching activities.

Conclusion

Understanding the factors and characteristics that contribute to the use of learner-centered instructional practices can allow higher education administrators to increase the use of these practices on their respective campuses by appropriately targeting areas for improvement. This information is essential if postsecondary institutions wish to "move the needle" and promote greater learning for students. The findings resulting from this study shed some light on contemporary faculty teaching activities as they relate to the use of learner-centered instructional practices. Not only do the characteristics of individual faculty members, such as sex and age, appear to demonstrate an effect on the use of learner-centered instructional methods, but so too does participation in faculty development activities related to enhancing teaching and learning practices, which appears to exert a strong influence on the use of these pedagogical practices. Additionally, institutional characteristics appear to be less influential, although future research may continue to explore these variables.

Taken together, these findings provide important information about factors that influence the methods faculty members utilize when teaching. While faculty members should continue to enjoy academic freedom, including their pedagogical choices, perhaps these findings can provide institutional leaders with actionable information to foster and promote continued commitment to the use of these practices to facilitate greater learning for students. By finding new ways to support and encourage the use of learner-centered instruction, higher education leaders can address the questions and criticism surrounding American postsecondary education, principally as they relate to student learning and achievement.

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Appendix A

Table 2
Variables Names and Descriptions

Variable Name	Variable Description
Personal Demographic Variables	
AGE	Chronological age
SEX	Sex (male/female)
WHITECAUC	White/Caucasian
AFAMBLACK	African American/Black
AMINALSNAT	American Indian/Alaska Native
ASNAMASN	Asian American/Asian
NATHAWPACIS	Native Hawaiian/Pacific Islander
MEXAMCHIC	Mexican American/Chicano
PUERTRIC	Puerto Rican
OTHERLTNO	Other Latino
OTHERRACE	Other Race
USCTZN	U.S. Citizen
NCHILD1	# children < 18 years
NCHILD2	# children ≥ 18 years
Work Experience Variables	
YR1STAPPOINT	Year of 1st academic appointment
YRAPPOINT	Year of appointment at present institution
ACADRANK	Academic rank
ADJUNCT	Adjunct faculty member
TENURE	Tenure status
YRTENURE	Year tenure was granted
DEGEARN	Highest degree earned
FULLSTAT	Full-time employee
STEM	Works in STEM department
FTUGFAC	Full-time undergraduate faculty
FTADMIN	Full-time administrator
GRADONLYFAC	Graduate-only faculty
OTHERSTAFF	Other staff
SALARYBASE	Base institutional salary
PRINTEACH	Teaching is principal activity
COURSENUM	# of courses taught
PRIMARYTEACH	Types of courses primarily taught
HPW01	Hours/ week: Scheduled teaching
HPW02	Hours/week: Preparing for teaching
HPW06	Hours/week: Advising students
PUBLISH01	Publish: In academic or professional journals
PUBLISH02	Publish: Chapters in edited volumes
PUBLISH03	Publish: Books, manuals, or monographs
PUBLISH04	Publish: Other
DEVELOP01	Prof develop: Paid workshops outside institution
DEVELOP06	Prof develop: Incentives to develop new courses
DEVELOP07	Prof develop: Incentives to integrate new technology
TCHAWRD	Received an award for outstanding teaching
TCHACT06	Teaching activity: Organized activities around pedagogy
IMPTTCH	Importance: Teaching
TCHOPN01	Opinion: Up to individual students whether they succeed
TCHOPN09	Opinion: Students learn best doing assignments on their own
INSTOPN03	Opinion: Most students are well-prepared academically
INSTOPN10	Opinion: My teaching is valued by faculty in my department

SATIS01	Satisfaction: Salary
SATIS05	Satisfaction: Teaching load
SATIS06	Satisfaction: Quality of students
SATIS11	Satisfaction: Job security
SATIS13	Satisfaction: Course assignments
SATIS14	Satisfaction: Freedom to determine course content
SATIS16	Satisfaction: Prospects for career advancement
STRESS13	Stress: Teaching load
SATIS_WORKPLACE	Workplace Satisfaction
STRESS	Career related stress
SATIS_WORKPLACE_GRP	Workplace satisfaction: Combined
STRESS_GRP	Career related stress: Combined
Institutional Variables	
HBCU	Historically Black College or University
CONTROL	Control: Public
HRTOTLT	Grand total: All instructional staff
SFTETOTL	Total FTE staff
INSTSIZE	Institution size category
PCTADMIT	% admitted - total
PCTUGFT	% of enrolled students - undergraduates
PCTGRADFT	% of enrolled students - graduate students
ENRTOT	Total enrollment
TUITANDFEES	Total tuition and fees
EXPENDTOT	Total institutional expenditure
PCTEXPINSTRCT	% of expenditure used for instruction
ENDOWVALUE	Total endowment value

Examining Teaching Approaches, Academic Culture, and Self-Efficacy Beliefs of Instructors at a Palestinian University

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Only a few studies have examined work cultures, teaching approaches and self-efficacy beliefs of academic teachers outside Europe, North America, and Asia. This mixed-method study investigated the following research questions: 1) What kinds of approaches to teaching and self-efficacy beliefs can be identified among academics in the selected Palestinian university?, 2) Are there disciplinary or career-stage differences in the teachers' approaches to teaching or concerning their self-efficacy beliefs?, 3) What features of academic and teaching culture can be identified among these academics? and 4), Which factors affect teaching and learning in this institution. Quantitative data were collected from 119 teaching staff through an online, self-reported questionnaire. Qualitative data consisted of four focus group interviews with 18 teaching staff. The results showed that teaching staff reported high self-efficacy beliefs, whereas the teacher-centered approach was slightly more dominant than the student-centered approach. In qualitative data, the social and religious mission of teaching was highlighted; universities should primarily educate ethically conscious people who would serve their communities and society. The academic culture encompassed many features of contrived collegiality in which collaboration relies mainly on formal practices and is based less on informal, voluntary collaboration among teachers.

There is a growing interest in examining teaching approaches of higher education instructors in Europe, North America, and Asia (Goh, Wong, & Hamzah, 2014; Hanbury, Prosser, & Rickinson, 2008; Kemp, 2013) as well as teachers' self-efficacy beliefs (Postareff, Lindblom-Ylänne, & Nevgi, 2008). However, only a few studies have examined teaching approaches in the Middle East. Studies on teaching practices at Palestinian universities (Centre for Development Studies, 2010; Cristillo, 2009; Ramahi, 2015) revealed that a teacher-centered approach in teaching prevails in these institutions, traditional rote-based teaching promotes passive learning, and the education does not provide students with skills needed during their school years and after graduation (e.g., critical thinking, problem solving, and collaboration in teams). A study on the perceptions of graduates of a Palestinian university (Al-Holy & Abou-Dagga, 2004) showed that graduates in general were satisfied with the teaching they received although they identified problems, for example, with feedback. To our knowledge, no studies have investigated teachers' self-efficacy beliefs or academic cultures in Palestine. This study aims to fill this gap and thus enhance our understanding of higher education outside established research environments.

In this mixed-methods study, we examined teaching approaches and self-efficacy beliefs of Palestinian academics and their relationships to local academic and teaching culture. By combining findings regarding self-efficacy beliefs and cultural approaches, our general purpose is to widen the understanding of the current academic practice in Palestine. The Finnish-Palestinian research team also explored factors affecting teaching and learning in the Palestinian context based on focus group interview accounts of academics at the selected institution, the Islamic University of Gaza (IUG). Research on teaching and learning is gradually expanding to new environments. This research aims to provide insights into which factors affect development of teaching in higher education outside traditional arenas.

Approaches to Teaching

A large number of studies have examined teachers' conceptions of teaching and teachers' approaches to teaching. The Approaches to Teaching Inventory (ATI) developed by Trigwell and Prosser (1996, 2004) relied on the results of a phenomenographic study that identified five qualitatively different approaches to teaching. The ATI focuses on two extreme categories: (a) a teacher-focused strategy with the intention of transmitting information to students, and (b) a student-focused strategy that aims to support students to change their conceptions. In the teacher-focused approach, the teacher aims to transmit facts and skills to students, and students are passive recipients, in contrast to the student-focused approach in which students actively participate in the learning process and reconstruct their knowledge (Trigwell & Prosser, 2004).

Gibbs and Coffey (2004) demonstrated that when teachers benefited from pedagogical training and adopted a student-centered approach in teaching, their students adopted fewer surface learning approaches. However, student performance does not depend only on teachers' pedagogical competence. Other factors can also affect students' performance, such as socioeconomic background, institutional resources, language skills, and the number of students per classroom or teacher (Liakopoulou, 2011).

The results of previous studies (Kemp, 2013; Lindblom-Ylänne, Trigwell, Nevgi, & Ashwin, 2006) showed that academics in hard disciplines, such as mathematics and medicine, were more likely to report a teacher-focused approach to teaching than those working in soft disciplines, such as history, art and philosophy. Teachers adopt a variety of teaching strategies depending on environmental factors (e.g., the size of the classroom), student groups, topics, and teachers' own preferences (Gregory & Jones, 2009; Sadler, 2012). Studies on teaching approaches have seldom scrutinized the impact of national and local settings on such approaches. Moreover, scholars have not examined how academic cultures among faculties influence teaching approaches in higher education.

Despite the popularity and wide implementation of the ATI, however, it along with its close variants have been subjected to important criticism. The critique focuses on two main areas: the conceptual and psychometric inaccuracy of the ATI and its ability to describe the complexity of teaching conceptions by using mainly the two extreme categories: student-focused and teacher-focused strategies. As the ATI was originally formulated in the cultural context of natural sciences, this instrument does not, despite its recent development, necessarily capture all the nuances of teaching approaches in other disciplinary cultures (Meyer & Eley, 2006). To overcome these issues, we examined ATI-related statistical data, along with other scales, and compared the findings with culturally and contextually sensitive qualitative data.

Teachers' Self-Efficacy Beliefs

Generally, self-efficacy beliefs refer to the human capability to evaluate and regulate thinking, emotions, and actions in challenging situations (Bandura, 2006). Teachers' self-efficacy beliefs have been examined at schools (Alrajhi, Aldhafri, Alkharusi, Albusaidi, Alkharusi, Ambusaidi, & Alhosni, 2017; Caprara, Barbaranelli, Steca, & Malone, 2006) and in higher education (Christiansen, Østerberg Rump, Trigwell, & Sørensen, in press; Postareff et al., 2008). Teachers' self-efficacy beliefs influence students' achievement, and teachers with high self-efficacy beliefs are more likely to implement active teaching methods (Caprara et al., 2006).

University teachers' self-efficacy beliefs (SEBs) were examined with the ATI (Postareff et al., 2008). This study showed self-efficacy beliefs were connected to ATI's conceptual change/student-focused teaching approach (CCSF). Interestingly, Postareff et al. (2008) showed that those who had obtained extensive pedagogical training scored lower on the CCSF and self-efficacy scales than after having completed a short course. This could be related to their increased ability to analyze critically their teaching approach. In

Christiansen et al.'s (in press) study, the majority of teachers with initial high self-efficacy beliefs and low student focus developed more student focus without a significant drop in self-efficacy.

In the present study we used the measurement of teachers' self-efficacy beliefs (TEBS-Self) developed by Dellinger, Bobbett, Olivier, and Ellett (2008). Dellinger et al. (2008) tested the instrument with elementary school teachers in the American context. Dellinger et al. (2008) emphasized that self-efficacy beliefs are task and situation specific, a learned system of beliefs in a particular setting. These beliefs may vary in strength (the intensity of the teacher's ability to do a certain task) and level (degree of difficulty of tasks) and across activities.

Academic and Teaching Cultures

Teaching culture refers to conventional cultural assumptions in an educational community. Often cited is Schein's (2010) definition that focuses on the core beliefs that are shared by community members and often affect invisibly how activities are implemented. Teaching and learning in higher education occur in specialized disciplinary settings that often have unique practices (Kreber, 2009). Yet one can distinguish cross-disciplinary shared features that define how teaching and learning are implemented in higher education (Korhonen, 2007).

Hargreaves (1994) defined five basic types of teaching cultures in educational communities that characterize teaching and the nature of teachers' cooperation. This framework has been applied to examine teaching and collaboration in higher education communities (Korhonen, 2007). The first type is individualistic culture in which autonomy and isolation are common (Hargreaves, 1994, 2003). Teachers act alone in lecture halls and prepare their teaching independently. Knowledge and practices are not shared; instead, the academic culture is competitive. Individualism and competition among scholars have often been considered typical of academe (Kennelly & McCormack, 2015). The opposite is collaborative culture (Hargreaves, 1994, 2003) in which teachers choose voluntarily to cooperate in teaching, planning, and assessment. Cooperation is based on collegial support and an appreciative atmosphere. Korhonen (2007) labeled this type of academic work culture "collegial culture". Hargreaves (2003, p. 147) called this culture "a professional learning community that transforms knowledge and learning among community members and promotes shared inquiry." This community provides potential for collaborative reflective practice in teaching (Kennelly & McCormack, 2015).

In academic culture, variations between individualistic and collegial work cultures can be

identified. Various political, structural, and symbolic dimensions in the cultural web of higher education institutions (HEIs) influence teaching and learning activities (Kennelly & McCormack, 2015). Contrived collegiality (Hargreaves 1994, 2003) describes a situation in which teachers seem to have collaborative relationships, although in practice they are compulsorily imposed, with fixed times and places set for collaboration. Balkanization describes a situation in which academics are strongly divided into different camps; in a "moving mosaic", separate groups are evolving and integrated into different development efforts or projects (Hargreaves, 1994). The latter has features of a collegial culture and support (Korhonen, 2007) and can strengthen the elements of collaboration and sharing in teaching (Loughran, 2014). Hargreave's model has been empirically tested especially in the elementary/secondary school context (see Thomson & Holloway, 1997) while Tynan and Garbett (2007) and Kennelly and McCormack (2015) reported similar findings in relation to academic cultures in higher education.

Thus far, academic and teaching cultures have not been scrutinized in relation to academic instructors' teaching approaches. In this study, a new instrument was developed and tested to assess academic and teaching culture in higher education and potential connections to teaching approaches.

Purpose of the Study

This research aimed to examine teaching approaches and self-efficacy beliefs of academics and common features of academic and teaching culture in a Palestinian higher education institution. The results provide insights to develop training for academics that takes into account the factors affecting teaching and learning in the institution, teachers' pedagogical competences and self-efficacy beliefs, and the teaching culture. The study can also enhance understanding of the factors that affect the development of teaching in less examined higher education environments, such as Palestine.

The following research questions are examined:

- **Research question 1.** What kinds of approaches to teaching and self-efficacy beliefs can be identified among academics in the selected Palestinian university? (a) How are the information transmission/teacher-centered and conceptual change/student-centered teaching approaches balanced? (b) How are the scales of teacher self-efficacy beliefs related to approaches to teaching?
- **Research question 2.** Are there disciplinary (hard vs. soft) or career-stage differences in the teachers' approaches to teaching or concerning their self-efficacy beliefs?

- **Research question 3.** What features of academic and teaching culture can be identified among these academics? (a) How are the collegial and individual work cultures balanced, and what is the level of collaboration in teaching? (b) What is the relationship between teaching approaches and the dimensions of the academic and teaching culture?
- **Research question 4.** Which factors affect teaching and learning in this institution?

The Setting

Higher education plays a key role in the social and economic development of Palestine. Higher education is perceived to be the population's main wealth in the absence of natural resources (Abouzir, 2010). In 2016, there were 49 HEIs in Palestinian territories: governmental, public (established by nongovernmental organizations), and private institutions. These institutions included 14 traditional universities, 16 university colleges, 18 community colleges, and one open education university with 22 branches in the West Bank and Gaza. Insufficient funding creates difficulties for many institutions; and the majority of budget funds comes from tuition fees that are not regularly paid (European Commission, 2017). Other challenges are related to the increasing student/teacher ratio, lack of resources, the heavy workload of faculty members, and meagre research activity (Hashweh, Hashweh, & Berryman, 2003). The current strategic plan of the Ministry of Education and Higher Education (MOEHE) stresses the importance of developing teaching by moving from the "instructional and memorization approach to a student-centered approach" in Palestinian HEIs (Ministry of Education and Higher Education [MOEHE], 2017, p. 6).

The Gaza Strip has 28 HEIs: eight universities, 10 university colleges, eight community colleges, one polytechnic, and one higher studies academy (MOEHE, 2018). The institution investigated, the IUG, is a multidisciplinary university with 17,500 students enrolled in 11 departments: Medicine, Engineering, Information Technology, Nursing, Science, Health Science, Education, Arts, Sharia & Law, Theology (Osoul Eddin), and Commerce. This study relates to the eTraining FinPal project (https://research.uta.fi/finpal/) conducted between the IUG and the University of Tampere, Finland. The three-year project (2017–2020) aims to improve the pedagogical competencies of the IUG's academics, establish a pedagogy unit at the IUG, and offer a study program on academic teaching to other Palestinian universities. During the first phase of the project, the current state of pedagogical approaches and the training needs of local academics were examined through the survey and focus group interviews.

Methods

This mixed-methods study combined quantitative and qualitative research approaches. All teaching staff at the IUG were invited to participate in the study via email. Participation was voluntary and confidentiality assured.

Quantitative Data and Analysis

Quantitative data were collected through a 64-item, online self-reported questionnaire. The questionnaire was translated into Arabic by native Arabic speakers and piloted on a sample of 24 participants. Out of 399 teaching staff members, 221 responded to the questionnaire, yielding a response rate of 55%. Political unrest and power outages in Palestine in December 2017 may have negatively affected the quantity of data gathered.

Data screening reduced the usable questionnaires to 119. Of these, 104 respondents were male (87%), and 15 were female (13%) which represented the male-female percentage at the IUG. The participants were 46 years old, on average ($SD = 10.399$) and reported an average of 15 years ($SD = 8.352$) of work experience in higher education. The sample was distributed according to Biglan's (1973) classification into two academic disciplines: soft (55%, $n = 66$) and hard (45%, $n = 53$). In terms of academic position, 23% were full professors, 18% associate professors, 35% assistant professors, 13% lecturers, and 11% teacher assistants.

The staff's approaches to teaching were measured using a 16-item questionnaire adapted from the ATI (Trigwell & Prosser, 2004). The adapted instrument asked the participants to focus on their teaching in general. The inventory consisted of two subscales: a student-centered approach (eight items, e.g., "In my interactions with students, I try to develop a conversation with them about the topics we are studying.") and a teacher-centered approach (eight items, e.g., "I design my teaching with the assumption that most of the students have very little useful knowledge of the topics to be covered."). A 5-point Likert scale was used, ranging from 1 (*rarely*) to 5 (*always*).

Staff's self-efficacy beliefs were measured using 11 items adapted from the TEBS-Self instrument (Dellinger et al., 2008) that was originally developed in the context of elementary school. Since our study focuses on higher education, we chose and adapted 11 items that we considered pertinent in this context. Four items measured self-efficacy beliefs related to classroom management and maintaining a positive classroom climate (e.g., "maintain high levels of student engagement in learning tasks"). Three items measured self-efficacy beliefs related to students' motivation (e.g., "provide a positive influence on the academic development of students"), and four items measured self-efficacy beliefs related to developing higher-order thinking skills (e.g., "actively involve students in developing concepts"). Self-efficacy beliefs were rated using a 5-point Likert scale ranging from 1 (*weak beliefs*) to 5 (*very strong beliefs*).

The staff's perceptions of the academic culture in their departments were measured with the Academic Culture scale, developed and based on theoretical framework devised by Hargreaves (1994, 2003) and Korhonen (2007). The scale is comprised of two subscales: collegial work culture (five items, e.g., "share often work-related information and create new knowledge together") and individual work culture (five items, e.g., "work mainly independently to attain the objectives set up by the management"). The 5-point Likert scale used ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). Staff's self-assessment of how often they collaborate in teaching was measured with eight items adapted from the Organisation for Economic Co-operation and Development's (OECD, 2013) Teaching and Learning International Survey (TALIS). An example item is, "I teach jointly as a team in the same course." The following six-point Likert scale was used: 1 = *Never*, 2 = *Once a year or less*, 3 = *2–4 times a year*, 4 = *5–10 times a year*, 5 = *1–3 times a month*, and 6 = *Once a week or more*.

Data analysis was conducted using the SPSS 22.0 statistical package. The analysis included calculating the mean and standard deviation, two independent-samples t-test, one-way analysis of variance (ANOVA), and zero-order Pearson correlations. As the constructs investigated in this study have not been previously examined in the Palestinian context, factor analysis was conducted to verify the underlying structure of the data.

Qualitative Data and Analysis

Qualitative data were collected through four focus group interviews with teaching staff. The voluntary participants (18) were selected in such a way that they represented teaching staff in all faculties, different career levels, and both genders. Two focus group interviews were conducted in Arabic and two in English. The thematic interviews dealt with teachers' understanding of students' learning; factors that enhance and support learning; the aims of teaching; the combining of research and teaching, assessment, and feedback; and pedagogical and curriculum development in the departments.

Interview data were transcribed verbatim, and the two interviews conducted in Arabic were translated into English. The qualitative content analysis was conducted inductively (Elo & Kyngäs, 2008) by systematically coding with the assistance of the Atlas.ti program all parts that related to the factors affecting teaching and learning at this institution (research question 4). The codes referring to similar themes were grouped together

Table 1
Five-Factor Solution of the Measured Dimensions in the Teacher Questionnaire

Items	Factor loadings					Communality
	F1	F2	F3	F4	F5	
TEBS_CMPCC_01	.63					.50
TEBS_CMPCC_02	.77					.54
TEBS_CMPCC_03	.77					.65
TEBS_CMPCC_04	.73					.63
TEBS_HOTS_01	.63					.42
TEBS_HOTS_02	.64					.49
TEBS_HOTS_04	.68					.59
TEBS_MOT_01	.79					.62
TEBS_MOT_02	.81					.56
TEBS_MOT_03	.48					.34
WRC_COL_01		.74				.55
WRC_COL_02		.75				.58
WRC_COL_03		.79				.64
WRC_COL_04		.83				.67
WRC_COL_05		.79				.63
WRC_IND_02		.84				.66
WRC_IND_03		.59				.44
WRC_IND_04		.60				.50
WRC_IND_05		.66				.42
TALIS_CT_01			.59			.38
TALIS_CT_02			.63			.48
TALIS_CT_03			.59			.44
TALIS_CT_04			.73			.48
TALIS_CT_05			.58			.44
TALIS_CT_06			.60			.51
TALIS_CT_07			.79			.63
TALIS_CT_08			.79			.57
ATI_tchr_03				.72		.63
ATI_tchr_04				.44		.25
ATI_tchr_06				.55		.37
ATI_tchr_08				.44		.23
ATI_std_03					.65	.42
ATI_std_05					.57	.35
ATI_std_06					.54	.63
ATI_std_08					.47	.28
Eigenvalues	7.10	5.74	2.36	1.32	1.02	
Explained variance (%)	20.28	16.39	6.75	3.78	2.91	

Note. TEBS = Teachers' Efficacy Beliefs System; CMMPCC = Classroom Management and Maintaining a Positive Classroom Climate; HOTS = Higher Order Thinking Skills; MOS = Motivation of Students; AWC = Academic Work Culture; COL = Collegial; IND = Individual; TALIS = Teaching and Learning International Survey; CT = Collaboration in Teaching; ATI = Approaches to Teaching Inventory; TCA = Teacher-Centered Approach; SCA = Student-Centered Approach.

into key themes that were analytically connected to other research questions, particularly teaching approaches. Next, the analysis was conducted with a directed approach (Hsieh & Shannon, 2005) through analyzing the data particularly in light of Trigwell and Prosser's (2004) theoretical framework in relation to the teaching approaches. Two researchers performed the analysis simultaneously and compared their results to enhance the validity of the analysis. Qualitative data and its analysis provided deeper insights into the lived reality of Palestinian academics in Gaza and their own accounts of the factors that affect teaching and learning at their institution.

Results

Factor Analysis Results

Factor analysis was performed on all items of the measures using principal axis factoring (PAF) as the extraction method and oblique (i.e., promax) as the rotation method. PAF is recommended when the data violate the multivariate normality condition as in our case (Costello & Osborne, 2005) while the promax rotation method was used because the constructs were expected to correlate with each other. The results of the Kaiser-Meyer-Olkin test (> .80) and Bartlett's test of sphericity (χ^2 = 2241.29, p < .001) showed the data were adequate for the factor analysis. We followed the rule of thumb recommended by Tabachnick and Fidell (2001) and used .32 as the cut-off value of the minimum loading of an item on any factor. Items that loaded on two or more factors with a value higher than the cut-off were considered cross-loaded items. Items with communalities lower than .20 (Child, 2006; Yong & Pearce, 2013) loaded lower than .40 on their corresponding factor or cross-loaded on more than one factor were discarded. As Table 1 shows, a five-factor solution explained 50.12% of the variance.

The factor analysis revealed mixed results that both supported and contradicted the literature. In contrast to previous findings (Dellinger et al., 2008; Olivier, 2001), self-efficacy beliefs (TEBS) emerged as one factor instead of three factors. Work culture (WRC) emerged as one factor instead of two factors as proposed by Hargreaves (2003) and Korhonen (2007) in their theoretical framework. Cooperation in teaching (TALIS-CT) was shown to be one factor, and the ATI was also confirmed to be two factors in accordance with the literature (Postareff et al., 2008; Trigwell & Prosser, 2004). The estimates of internal consistency for each of the factors were calculated utilizing Cronbach coefficient alpha. The reliability coefficients were .905 (Teacher self-efficacy beliefs), .913 (Work culture), .866 (Collaboration in teaching), .675 (Teacher-centered approach), and .651 (Student-centered approach). Although Cronbach's α coefficients are generally recommended at .70 or higher, a minimum value of .60 is also accepted considering the sample size, the number of scale items, and the exploratory nature of the research (Hair, Black, Babin, & Anderson, 2010).

Descriptive Statistics and Correlations

As the data deviated from the normal distribution, we applied a two-step normalizing transformation technique to transform the data (Templeton, 2011). The means, standard deviations, and zero-order Pearson correlations among the study variables are presented in Table 2.

As shown in Table 2, the teaching staff reported high teaching self-efficacy beliefs (M = 4.22, SD = .518) on a scale of 1–5. Both teaching approaches were reported. The teacher-centered approach (M = 3.84, SD = .675) was slightly more dominant than the student-centered approach (M = 3.51, SD = .669). Although the mean score for the work culture (including the individual and collegial features) was above the average (M = 3.39, SD = .679), the mean score for collaboration in teaching was below the average (M = 2.86, SD = .738).

In terms of correlation, Table 2 shows a statistically significant medium positive correlation between teacher self-efficacy beliefs and the teacher-centered approach (r = .326, p < .01) as well as the student-centered approach (r = .373, p < .01). The findings also show a statistically significant small (r = .259, p < .01) and medium (r = .429, p < .01) positive correlation between the work culture on one side and the teacher-centered approach and collaboration in teaching on the other side.

Differences in Staff's Self-Efficacy Beliefs and Approaches to Teaching Regarding Their Disciplines and Career Stages

To examine whether there is a statistically significant difference in academic teachers' self-efficacy beliefs attributed to their disciplines, an independent samples t-test was conducted to compare between the mean scores of the self-efficacy beliefs of staff members working in hard and soft disciplines. The results showed that no statistically significant difference existed. Furthermore, we categorized the work experience continuous variable into four categories based on the mean and standard deviation as follows: (a) 19 participants (less than 7 years), (b) 40 participants (7 to less than 16 years), (c) 41 participants (16 to less than 23 years), and (d) 19 participants (23 years or more). One-way ANOVA was conducted to compare mean differences in self-efficacy beliefs among staff with different career stages. No statistically significant differences were detected.

For approaches to teaching, the independent samples t-test (t $_{(117)}$ = –2.04, p = .043) revealed that staff working in soft disciplines reported a higher tendency for the student-centered teaching approach (M = 3.62, SD = .629) than their counterparts in hard disciplines (M = 3.37, SD = .697). However, no statistically significant differences were found between the two groups in the tendency for the teacher-centered teaching approach. Moreover, results of one-way ANOVA showed that there were no statistically significant differences among staff at different career stages in their approaches to teaching.

Work Culture in Relation to Collaboration in Teaching and Approaches to Teaching

The result of the factor analysis of the work culture showed individual and collegial features exist at the same

Table 2
Connections between Approaches to Teaching (ATI), Teacher Self-Efficacy Beliefs, and Perceptions of the Academic Culture in the Teaching Units

	1	2	3	4	5
1. Teacher self-efficacy beliefs	1				
2. Work culture	.144	1			
3. Collaboration in teaching	−.111	.429**	1		
4. Teacher-centered approach	.326**	.259**	.153	1	
5. Student-centered approach	.373**	.001	.036	.263**	1
Mean (*M*)	4.22	3.39	2.86	3.84	3.51
Standard Deviation (*SD*)	.518	.679	.738	.675	.669
Scale	1–5	1–5	1–6	1–5	1–5

** $p < .01$.

time. However, this result does not show whether the collaboration occurs in divided subgroups (Balkanized culture in Hargreaves' (1994) theory) or only in formal planning meetings (contrived collegiality in Hargreaves' (1994) theory). To elaborate on this question more, an analysis was conducted on the original items of the work culture measure and by separating the two dimensions. The results showed that teaching staff perceived their work culture as individualistic ($M = 3.47$, $SD = 0.579$) slightly more than collegial ($M = 3.32$, $SD = 0.769$). Further, we examined the correlation between the two dimensions, the work culture and the collaboration in teaching and approaches to teaching scales. Collegial ($r = .418$, $p < .01$) and individual ($r = .354$, $p < .01$) work cultures were found to be moderately correlated with collaboration in teaching. Interestingly, both dimensions of the work culture were shown to be moderately correlated with the teacher-centered approach (collegial $r = .225$, $p < .05$; individual $r = .266$, $p < .01$) but not with the student-centered approach.

Results of the Qualitative Study

External Factors Shaping Teaching and Learning

Based on the analysis of the focus group interviews, we identified the following key themes as influencing teaching and learning opportunities at the IUG: external factors (lack of resources, restricted mobility, and insecurity), institutional policies and practices, and individual factors (teachers' approaches, teachers' conceptions of teaching and knowledge, and challenges with student motivation and behavior). Due to several wars and the siege, Gaza has suffered from high unemployment, economic problems, and insecurity. The participants reported that lack of equipment, materials, and finances narrowed possibilities for offering up-to-date education. Lack of electricity shortened the time available for studying, conducting experiments, and preparing lessons. Lack of research facilities created problems for

the research-teaching nexus, particularly in scientific-technical studies in which students could not conduct all experiments. Teachers and students could not access expensive databases or journals which limited the sources of information available. Despite the siege and challenges with mobility, the interview accounts revealed that staff members had adopted ideas and practices from foreign universities (during their studies abroad or when searching for international models to develop a curriculum).

The Social and Religious Mission of Teaching

Many participants emphasized the social mission of teaching: universities should primarily educate ethically conscious people who would serve their communities and society. These ideas were connected to broader Islamic principles that highlight the significance of learning, individual development, and conveyance of wisdom to younger generations. The IUG's institutional mission coincides with these principles: The university aims to develop society in a framework of Islamic and universal values. The religious tradition also affected the ways in which teachers' and students' roles in the learning process were understood. The following extract reveals how, in the Islamic tradition, it is perceived that students should adopt knowledge conveyed by the teacher while teachers also understand the need to activate students in learning processes:

> We have two kinds of teachers: inactive and active teacher. The active teacher tries to combine between giving the lecture in the Talkeen way [spoon feeding teaching] because our Islamic knowledge is Talkeen science. In some courses, as in the Interpretation of Quran, there is no role for the student. The student comes to listen and to receive the knowledge from the teacher. (Interviewee 15, Faculty of Sharia & Law)

Institutional Policies and Practices

Institutional policies and practices seemed to have an influential role in affecting teaching processes. In relation to teacher collaboration, the results showed that teachers rarely cooperated in planning their teaching although curriculum development was organized together, often in formal curriculum committees. According to the interview data, curriculum guidelines were seen as official regulations that also directed the basic elements of the teaching practice. For example, the official preference for one textbook for a course may be related to students' ability to develop critical reasoning and their understanding of disciplinary knowledge (see, for example, Wheelahan, 2010). At the IUG, pedagogical assessment of academics gives special weight to students' opinions of their teachers' performance. Participants criticized in particular how students misused their opportunity for a strong influence on teachers' performance rating. The following extract shows how some students aimed to reduce their workload through exerting pressure on their teachers:

> We get confused about the feedback from students, the feedback from the distinguished students who want and agree to achieve the goals and the feedback from most of the students who are probably more than the half of the students and who don't agree. Those students want the teacher who simplifies their duties: simplify, simplify, simplify, so we evaluate you good on the Teacher Evaluation Questionnaire. We are now between those [two types]. (Interviewee 12, Faculty of Science)

Diversity of Teaching Approaches

Participants described diversity of teaching approaches among the academics at the institution. There were accounts of student- and teacher-centered approaches to teaching and learning. The following extract shows an example of a teacher-focused strategy (Trigwell & Prosser, 2004) with the intention of transmitting information to students without taking into account students' prior knowledge:

> Yes, I think most of the system here is simply traditional learning. I mean the teacher or the professor make maybe 95% of the lecture. Only very few questions for the students, but in general, it is a lecture learning, we make the lecture, of course, using, most of us use PowerPoint slides, the discussion is not too much, simply because we teach principle courses, and students, they don't have an idea about our subject. (Interviewee 6, Faculty of Science)

The accounts related to teaching strategies aiming to activate students to develop their conceptions (Trigwell & Prosser, 2004) were in some cases combined with a static conception of knowledge, as the following shows:

> I teach with the American books. These are American textbooks with full of knowledge, this is education, this is knowledge, this is the main body of understanding that the students should understand. I give them [students] all the time assignment [sic], I try to give them quizzes, I try to push hard on them because I want to train them, train them to work by themselves for trying to understand the concepts and how they can analyze it [sic]. (Interviewee 1, Faculty of Commerce)

Several participants expressed the need to include student discussions and dialogue in lectures. This approach could be labeled a teacher/student interaction strategy (Trigwell & Prosser, 2004) with the aim of supporting students to acquire the concepts of the discipline but not necessarily with the intention to change or develop their conceptions. A stronger student-centered approach was visible in the accounts of a few participants who had provided individual and collaborative research assignments for students, aiming to activate them in the learning process (Trigwell & Prosser, 2004), and often applying the problem-based learning approach:

> I feel after a period of 12 years in teaching at the IUG that the best way for students to learn is to integrate students into research projects and not in the traditional way of transferring information. The students are directed to identify one of the society's problems and to search for a solution for it as groups (Interviewee 17, Faculty of Education).

Challenges with Student Motivation and Behavior

When discussing the education process, the interviewees explained some of the challenges they encounter, such as a large number of students in the courses. The teachers perceived that these challenges negatively influenced the motivation of some students to engage with their education, leading to attempts to minimize the workload, plagiarism, and misbehavior. Behavioral problems could also reflect challenges with academic socialization and generational divides. Moreover, high graduate unemployment and a lack of vision negatively affected students' motivation to study.

Discussion and Conclusion

Quantitative and qualitative results showed that features of student- and teacher-centered teaching

could be identified from the data. The traditional transmission perspective was more dominant than the student-centered approach, particularly in light of the qualitative data. In addition, the importance of student–teacher interaction was highlighted in focus group interviews. The participants emphasized the pedagogical significance of the ethical and religious basis of their teaching. Previous research on teaching approaches (Kemp, 2013; Lindblom-Ylänne et al., 2006; Trigwell & Prosser, 2004) did not scrutinize the impact of religious traditions, institutional policies, or broader socioeconomic factors affecting teaching, while this study draws attention to the importance of examining these perspectives. Similarly to the findings of Lindblom-Ylänne et al. (2006) and Kemp (2013), this study showed that teachers working in soft disciplines scored higher on the conceptual change/student-focused approach than those working in hard disciplines, although no statistically significant differences were found in relation to the teacher-centered approach.

Strong self-efficacy beliefs were prevalent among respondents and were connected to both teaching approaches. It has been argued that teachers with higher levels of self-efficacy beliefs are more prepared to engage in difficult tasks and set up manageable goals for their productive teaching activities (Gordon & Debus, 2002; Postareff et al., 2008). Similarly, the results could indicate the highly developed capability of the teaching staff in managing their teaching tasks in the current situation and applying teaching approaches that are functional under the current conditions. The interview data showed that the local institutional policy and practices supported a strong assessment culture in which teachers are constantly subjected to evaluation by various actors, such as students. This probably contributed to the formation of the respondents' self-efficacy beliefs.

Based on the analysis of quantitative and qualitative data, the work culture demonstrated features of individual and collegial cultures and showed some connections to the teacher-centered approach and teacher collaboration. The qualitative analysis showed that collaboration in teaching was quite rare, and collaboration between teachers was organized mostly in official, formal meetings, such as in curriculum planning committees. Therefore, the prevailing academic culture encompassed many features of contrived collegiality (Kennelly & McCormack, 2015; Korhonen, 2007), thus illustrating that the regulator of activities was the institution's administration guidelines and instructions and less the teachers' own initiatives or spontaneous collaboration.

The IUG institutional policies stress the importance of applying Islamic perspectives in teaching. Therefore, one can examine to what extent the academics' teaching approaches reflected various Islamic traditions of education. Although memorization and oral transmission have prevailed in Islamic teaching to ensure the embodiment of knowledge, more active didactic approaches have been applied, such as promoting dialogue (Al-Khalediy, 2011; Sabani, Hardaker, Sabki, & Salleh, 2016). However, Halstead (2004) suggested that enhancing student autonomy and critical thinking do not necessarily coincide with traditional Islamic understanding of education. Kemp (2013) highlighted that the constructivist, student-centered teaching approach requires a profound shift in teachers' thinking about knowledge. Future research could examine in more detail the relationship between teachers' conceptions of knowledge and their teaching approaches.

A limitation of the study was that it focused only on one Palestinian university. Future research could examine other higher education institutions in Palestine. Gathering data from other Palestinian HEIs could provide opportunities for examining differences between institutions in the same national setting. Moreover, these results do not necessarily reflect how teaching is conducted in practice or how students experience and evaluate teaching. To examine this topic, the data could be supplemented with studies focusing, for example, on students or peer observations.

The survey presented in this study requires additional testing with large samples and in different kinds of settings. It could then provide a useful tool for measuring prevailing teaching approaches, self-efficacy beliefs, and academic cultures and provide insights for the development of pedagogical programs at specific HEIs. Our aim is to reexamine these perspectives and potential changes after having conducted a pedagogical program for almost half of the academic staff at the IUG. Moreover, we plan to conduct similar studies in Brazil and Thailand in which pedagogical programs are also provided. Cross-national comparisons could provide useful information for examining the impact of transnational pedagogical programs in different kinds of cultural environments and the ways in which academic cultures may influence developmental efforts.

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Acknowledgements

Explicit Conditional Reasoning Performance: An Examination of Educational Past, Processing Load, and Self-Efficacy

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The main aim of the present investigation was to examine conditional reasoning skills in college students whose educational past had emphasized verbatim learning. A successive independent-samples design was utilized to explore the effects of instruction that explicitly targeted critical thinking principles in either freshman students or sophomores. Conditional reasoning scores of freshman students were not higher than those of sophomores, even when the impact of either GPA or self-efficacy was statistically controlled. Furthermore, the students in our sample performed as well as students with a similar educational past, whereas both scored below students whose education had deemphasized verbatim learning. In addition to past educational practices, differences in performance arose from processing load. Not surprisingly, self-efficacy and processing load (as determined by a test read in the second language), but not GPA, predicted conditional reasoning scores. We conclude that demanding cognitive computations, such as those of a conditional reasoning test taken in a second language, not only reflect the test-taker's knowledge, but also are sensitive to processing load, and past educational practices, as well as self-efficacy since confidence in one's abilities translates into effort and persistence.

It has been said, perhaps too many times, that one of the striking characteristics of formal education in the Arab world is its reliance on rote learning, including memorization and recitation (Rugh, 2002). This pedagogy emerges from the oral tradition of early communities for whom memorization and recitation were means to preserve scriptures and remember the past, as well as activities contributing to knowledge acquisition, understanding, self-discipline, and reasoning (Douglass & Shaikh, 2004). Since learners are envisioned as passive knowledge recipients, even in problem-solving situations, they are expected to retain, rather than generate, answers to fairly fixed questions. As a result, calls to develop instructional practices whose goal is to nurture critical thinking capacities have become louder, but have not translated into unequivocally effective interventions (see Lehman & Nisbett, 1990; Tirunch, Verburgh, & Elen, 2014). Not surprisingly, different viewpoints have emerged not only about the most effective form of instruction, but also about the mere definition of critical thinking above and beyond its generic characterization as "reasonable and reflective thinking focused on what to believe or do" (Ennis, 2011; p. 1). Namely, the term critical thinking is used to refer to "good strategies" (Nickerson, Perkins, & Smith, 1985), cognitive skills and dispositions which are conducive to effective decision making and problem solving in different situations (Ennis, 1987; Halpern, 1998).

Rationale of the present Investigation

There are different types of critical thinking (Ennis, 1964; Pascarella & Terenzini, 2005). In the present investigation, we focus on conditional reasoning, a form of information processing requiring that a conclusion be drawn from premises. *Modus ponens* is an example of a conditional argument that possesses two related premises of the form, "If p, then q," and "p" (p is the antecedent and q is the consequent), as well as a conclusion of the form "Therefore, q".

In essence, conditional reasoning entails drawing inferences (conclusions) about situations in which the occurrence of one event is conditional or contingent upon the occurrence or non-occurrence of another event (premises). It is thus an essential mode of thinking in daily life whose study has mostly focused on cognitive and attentional factors as the primary sources of individual differences (Barrouillet & Lecas, 1999; Cummins, Lubart, Alksnis, & Rist, 1991). The present research takes a slightly different approach. It begins with the recognition that the nurturing of critical thinking, including conditional reasoning, is a prominent goal of university education (see Pithers & Soden, 2000) and that good strategies can be taught and measured objectively. It is a field research that examines the extent to which knowledge of principles of conditional reasoning, explicitly taught in a course, is possessed by a particular kind of students at two points of the undergraduate curriculum (freshman and sophomore years). Its targets are college students whose past educational experiences have put a premium on rote learning. In college, these students are asked to adapt to a mode of instruction that includes analysis, inference, evaluation, explanation, and interpretation of information and that relies heavily on self-regulation. A standard test of conditional reasoning, the Cornell Conditional-Reasoning, CCR, test-Form X (Ennis et al., 1964), which assesses students' formal knowledge of conditional reasoning principles, is used to measure the extent to which students have interiorized this initially foreign mode of information processing. The argument

that human information processing is shaped by the experiences of one's society and culture—which may create habits, dispositions, and skills—is not novel. It has propelled accounts of test performance differences between Westerners and other cultural/social collectives, such as East Asians (Nisbett, Peng, Choi, & Norenzayan, 2001), albeit evidence has not always been supportive (Lun, Fischer, & Ward, 2010). The test is written in the students' second language (English), which places an additional burden on the cognitive resources of the test-takers due to their concurrent use of a mode of processing yet to become a habit. The questions and the ensuing predictions that guide our investigation are as follows:

A. Will freshmen's knowledge of conditional reasoning principles, which was explicitly taught in a general education class, differ from that of sophomores? To answer this question, the CCR test-Form X (Ennis et al., 1964) is used to assess the status of students' formal knowledge of conditional reasoning principles (i.e., stability, improvement, or decline) at two points of the university curriculum (i.e., freshman and sophomore years). A successive independent-samples design with two groups is used: freshmen who are about to complete a course where conditional reasoning principles have been formally taught (formal instruction condition serving as baseline) and sophomores who have completed the class approximately a year earlier (post-instruction condition to measure status of possessed knowledge as a function of the passage of time). Performance feedback (e.g., class discussion of test performance) is likely to generate carry-over effects on re-testing, thereby preventing the use of a longitudinal design. Because the successive independent-samples design permits feedback to closely follow the test-taking experience, it is selected to ensure that the experience of taking a conditional reasoning test is educational rather than merely an opportunity for research. It is predicted that since most university classes taken concurrently and after the baseline class tend to emphasize the relevance of critical thinking (defined as "reasonable and reflective thinking focused on deciding what to believe and do"; (Ennis, 2011; p. 1) in everyday life and explore generic applications, knowledge of conditional reasoning principles may remain active (see Nisbett, 2013) and even be improved by practice. Alternatively, knowledge of conditional reasoning principles may degrade if practice does not draw attention to the link between applications and formal knowledge (Ausubel, 2012; Nisbett, Fong, Lehman, & Cheng, 1987).

B. Is the conditional reasoning performance of students whose past educational experiences emphasize rote learning different from that of students who underwent an education deemphasizing such learning? Rote learning is the main feature of an instructor-centered education, whereby instruction and instructional resources are not to be contradicted or criticized because they are the artifacts of experts whose job description is to impart knowledge (Oettingen, 1995; Stipek, 1991). Students' ability to reiterate study and lecture materials verbatim is often mistakenly assumed to be a sign of mastery. Verbatim learning becomes a disposition that has been shaped and reinforced by a pedagogy, widespread in schools of the Arab world, which emphasizes the practice of memorization and recitation (Douglass & Shaikh, 2004). This practice promotes rapid, but short-lived acquisition of knowledge and is largely inadequate to the demands of learning in college which entail, in addition to remembering and understanding, application, analysis, evaluation, and generation of knowledge. In contrast, one of the main features of a learner-centered education is that learning depends mostly on personal choices and is an active endeavor whereby knowledge can be manipulated to address issues, solve problems, and create solutions (Oettingen, 1995; Stipek, 1991).

For undergraduate students whose past scholastic experiences have been shaped by an instructor-centered education, practical knowledge of test and class demands may be an especially potent agent of change. Moreover, explicit conditional reasoning instruction may become a welcome opportunity to develop and practice reasoning skills whose utility encompasses many of the classes students take to complete their degree. On the other hand, resistance to change may also be a potent force even in the face of unavoidable class demands. Thus, the breadth of the impact of explicit conditional reasoning instruction may not go beyond the course taken. The existing literature is vague as to the impact of such instruction, particularly in the case of recipients whose educational background is instructor-centered (Al-Ghamdi & Deraney, 2013; Al-Wehaibi, 2012; Tirunch et al., 2014). For instance, in a study using a longitudinal design, normatively poor pre- and post-test performance was reported for students from the Kingdom of Saudi Arabia (KSA), even though moderate gains were detected at post-test (Al-Ghamdi & Deraney, 2013), whereas in a comparable study, gains were observed (Al-Wehaibi, 2012).

C. What are some of the factors that account for knowledge of conditional reasoning principles as measured by the CCR Test-Form X (Ennis et al., 1964) in students with an instructor-centered educational past? We consider self-efficacy (illustrating confidence in one's abilities), GPA (serving as a generic index of effort, persistence, and capabilities), and processing load.

Evidence exists that general self-efficacy, an optimistic sense of personal competence, is positively correlated with task completion rates (Eden, 1984, 1988;

Pajares, 1996), persistence (Bandura, 1977; Pajares, 1997), and motivation and engagement (Bandura, 1989; Bandura & Schunk, 1981). Tests of conditional reasoning, such as the CCR TestForm X (Ennis et al., 1964), are demonstrably challenging for college students (see McLellan, 2012). Thus, the allocation of cognitive resources to organize and energize challenging computations to solve conditional reasoning riddles is expected to reflect students' confidence in their competence (Pajares, 1996). A similar prediction is made for GPA, treated as a rough index of achievement motivation. However, evidence regarding the correlation between GPA and conditional reasoning performance is mixed. For instance, McLellan (2012), and Lehman and Nisbett (1990) failed to find a correlation, whereas Johnson and Posner (1971) reported a moderate one.

Important to note though is that a conditional reasoning test, such as the CCR test-Form X (Ennis et al., 1964), not only may demand a great deal of computational resources, but also is written in English. Evidence exists that performance is better if an assessment tool is written in the first language of the test-takers (Campbell, Adams, & Davis, 2007; Campbell, Dollaghan, Needleman, & Janosky, 1997) and that the lower performance of second-language test-takers may be related to the cognitive demands of second language processing as well as to the culturally biased content of test items, making reading comprehension more effortful or even problematic (Hambleton, Merenda, & Spielberger, 2004). Thus, it is not surprising that students who have English as their second language perform less well on the CCR test-Form X (Ennis et al., 1964) than native English speakers (McLellan, 2012; Nolan & Brandon, 1984), as second language processing may place a burden on an already overloaded cognitive system (Campbell et al., 2007; Paas, Renkl, & Sweller, 2003). If the sustained processing load, which arises from reading-comprehension of a test written in the second language of the test-takers (Takano & Noda, 1993), unfairly depresses performance, using items that assess a reduced number of conditional reasoning principles, rephrasing a few culturally opaque items or even translating the test in the first language of the test-takers may counteract such an effect. Yet, a student's educational past may be the critical factor that curbs the benefits of processing load reductions.

Questions a-c and corresponding predictions define the scope of our investigation. The methodology described below illustrates how predictions were tested.

Method of Study 1

Participants

The participants were 467 undergraduate students from a private university located in the Eastern Province of KSA. They were Arabic-English bilingual speakers whose age ranged from 18 to 25. For university admission, students had demonstrated English language competence through standardized English proficiency tests (i.e., IELTS, Aptis, or TOEFL). Answers to queries based on Weimer's dimensions differentiating educational approaches (2002) were used to classify participants as possessing an instructor-centered educational past.

Procedure and Materials

Students were enrolled in one of two mandatory, sequentially arranged classes of the general education curriculum: critical thinking (n = 111) and learning outcome assessment (n = 356). Critical thinking is a course that explicitly teaches freshmen the formal principles of reasoning and offers practice in their application to real-life contexts. Instead, assessment, usually taken by sophomores, entails a review of the general properties of reasoning (e.g., clarity, precision, accuracy, relevance, significance, completeness, logicalness, fairness, depth, and breadth; Paul & Elder, 2014) as they apply to self-assessment. Although references to conditional reasoning are interspersed across the entire critical thinking course, one of the four units explicitly focuses instruction on conditional reasoning principles and fallacies. The two courses are completed either a semester or two apart, depending on the academic program. Since no effects of academic program or time separating courses were found in the analyses described below, this factor was not considered further. Through convenience sampling, four sections of critical thinking out of 6 (67% of the available classes) and 18 sections of assessment out of 27 were selected (67% of the available classes) during the fall semester. Sampling relied on assent of the instructor and equitable distribution of morning and afternoon classes.

Towards the end of the fall semester, students in the sampled classes were asked to complete the New General Self-Efficacy (NGSE) scale (Chen, Gully, & Eden, 2001), and the CCR test-Form X (Ennis et al., 1964). The NGSE scale contains eight statements of general confidence in one's abilities, each measured on a scale from 1 (strongly disagree) to 5 (strongly agree). The NGSE inventory was selected over other instruments for (a) its desirable psychometric properties, including unidimensionality, construct validity, and reliability (Chen et al., 2001), (b) brevity, (c) clarity for the selected population (as assessed by pilot work), and (d) ability to capture students' underlying confidence to perform well across diverse tasks and situations, which is a motivational trait (Chen, Gully, Whiteman, & Kilcullen, 2000) that is positively related to other motivational traits, including need for achievement and conscientiousness (Chen et al., 2001). The CCR test-Form X is designed to measure 12 conditioning reasoning principles (see Table 1). The

Table 1
The Principles of Reasoning Tested by the CCR test-Form X

	Premise	Premise	Conclusion
1	If p, then q	P	Therefore q
2	If p, then q	Not p	Therefore not q
3	If p, then q	Q	Therefore p
4	If p, then q	Not q	Therefore not p
5	If p, then q	If q, then r	Therefore if p, then r
6	If p, then q		Therefore if not q, then not p
7	If p, then q		Therefore if q then p
8	p only if q	Not q	Therefore not p
9	p only if q	P	Therefore q
10	p if and only if q	Not p	Therefore not q
11	p only if q	Q	Therefore p
12	p only if q	Not p	Therefore not q

test contains 72 statements, 6 statements per principle. Each statement asks the reader to assume certain information (premise), and then decide whether a proposed statement is true (i.e., follows the premise), is false (i.e., contradicts the premise), or is indeterminable because there is not enough information to establish whether it is true or false (i.e., maybe). Instructions required participants not to guess, as well as to use only the information in each statement to select true, false, or maybe.

McLellan (2012) found that some questions of the CCR test-Form X referred to culturally unfamiliar content for United Arab Emirates (UAE) students. Pilot work with KSA students supported his findings. Thus, the content of statements 52, 66 (principle 5), and 62 (principle 10) was slightly modified to avoid unfamiliar terms and thus facilitate reading comprehension processes. Specifically, in statement 52, the unfamiliar terms (i.e., league pennant and hit a homer) of the baseball scenario were changed to those of a football scenario (i.e., prize and score a goal). In statement 66, the term "jumping rope" was changed to "running". Lastly, in statement 62, "marker" was used instead of "chalk". The alteration of linguistically and culturally opaque items had the desired effect of clarifying meaning since no questions arose regarding the modified items during administration. Although pilot work indicated adequate comprehension of test materials, students were instructed to seek clarification through the instructor or the translator function of their cell phones or laptops if an unfamiliar term was encountered. Questions rarely arose.

To ensure adequate time for in-class completion at the end of the semester, as well as minimize cognitive fatigue (a likely outcome of prolonged sustained attention), principles were randomly organized into four sets of three principles for a total of 18 statements (A, B, C, and D) per test-taker. McLellan (2012) reported that the average amount of time taken by UAE students to complete the whole test was 53 minutes. No measure of variability was reported. Our pilot work partially replicated McLellan's estimate with a range between 50 minutes and 70 minutes for whole-test completion. The option of breaking up testing time into separate periods of 20 to 30 minutes was considered as an alternative to segmentation of the test into smaller units. Because it was judged unfeasible by instructors, test segmentation was adopted to minimize disruption of ordinary class activities.

Each student completed a set. Random assignment was used to allocate sets to individual students. Each set was preceded by the practice questions included in the original test written by Ennis et al. (1964). Approximately a week later, students received feedback regarding their answers, and they were given the opportunity to discuss their choices with instructors.

Design

The study entailed a successive independent-samples design with condition as the between-subjects factor (baseline/formal instruction condition populated by freshmen versus post-instruction condition populated by sophomores). The key dependent measure was conditional reasoning performance. Self-efficacy scores, as well as GPA values, were factors whose potential contribution to performance was examined. A successive independent-samples design was chosen over a longitudinal design to avoid practice effects and to ensure timely delivery of performance feedback so that the test-taking activity could be treated as a learning exercise.

Results of Study 1

All results discussed in this section were considered significant if $p < .05$. Conditional reasoning scores were analyzed to answer each of the following questions:

Table 2
Mean Percentage Score of Each Principle of Reasoning Tested by the CCR test-Form X as a Function of Past Education Emphasizing Verbatim Learning (UAE and KSA) or De-emphasizing it (USA).

Principles	UAE Whole Test English	KSA Partial Test English	USA Whole Test English	KSA Whole Test English	KSA Whole Test Arabic
1	65.50	69.53	78.33	60.83	63.61
2	28.00	24.11	36.67	27.78	56.94
3	28.67	24.55	33.33	31.94	35.28
4	51.33	54.35	65.00	48.89	49.44
5	64.17	61.24	75.00	55.56	52.50
6	51.00	49.02	60.00	49.72	52.78
7	29.00	32.12	43.33	30.28	57.50
8	73.50	77.11	86.67	56.39	58.06
9	74.17	79.53	86.67	53.89	59.72
10	59.00	61.15	75.00	41.11	47.22
11	58.33	58.80	65.00	45.83	48.61
12	21.50	24.84	21.67	25.28	45.83
Mean	50.35	51.37	60.56	43.96	52.29
SEM	5.50	5.89	6.31	3.57	2.21

Note. Data of UAE students are from McLellan (2012), whereas those of USA students are from Ennis and Paulus (1965).

Does Knowledge of Conditional Reasoning Principles Differ Between Freshman and Sophomore KSA Students?

Overall performance (i.e., mean percentage correct scores collapsed across principles) of freshmen exposed to targeted critical thinking instruction were not significantly different from those of sophomores who, after exposure to such instruction, later attended an outcome assessment class where more generic and motivational critical thinking instruction was offered (M = 52.59% and M = 50.14%, respectively), F = 2.13, ns. The use of either GPA (M = 3.03, SEM = .06, and M = 3.10, SEM = .03), or self-efficacy (M = 3.76, SEM = .06, and M = 3.13, SEM = .05) as a covariate did not change this outcome, Fs ≤ 2.23, ns. Thus, evidence of stability of conditional reasoning knowledge (as measured by overall performance) from the freshman to the sophomore years, rather than loss or gain, was obtained.

Is Knowledge of Conditional Reasoning Principles Possessed by KSA Students Different from That Possessed by Other Students?

Performance pertaining to the 12 conditional reasoning principles was examined in an item analysis with sample as the factor and performance as the dependent variable. Samples, which included our students, UAE students (as reported by McLellan, 2012), and USA students (as collected by Ennis & Paulus, 1965), were intended to signify past educational

experiences that emphasized verbatim learning (UAE and KSA) or deemphasized it (USA). It is important to note that performance (i.e., mean percentage correct on each principle) of the UAE sample included 361 Arabic-English bilingual college students majoring in business (ages 18-21), whereas the USA sample included 78 monolingual English-speaking high school students (age 17). These samples' data were used for comparison purposes as they constitute normative performance for the CCR Test-Form X. Table 2 reports descriptive statistics. Item analysis illustrated that at least one sample differed from another, $F(2, 22)$ = 43.00, MSE = 8.66, p <.001, η_p^2= .796. LSD pairwise comparisons indicated that the USA sample differed from the UAE and KSA samples, whereas the UAE and KSA samples did not differ from each other.

A complementary set of performance data involving mastery of principles was also utilized. Namely, the percentage of students who entirely (at least 5 or 6 items correct out of 6) or partially (at least 4 items correct out of 6) mastered each principle of reasoning. Table 3 reports descriptive statistics. This item analysis with sample as the factor and mastery as the dependent variable indicated that at least one sample differed from another, $F(2, 22)$ = 36.29, MSE = 23.16, p <.001, η_p^2= .767. Consistent with the earlier finding, LSD pairwise comparisons indicated that the USA sample differed from the UAE and KSA samples, whereas the UAE and KSA samples did not differ from each other. Thus, conditional reasoning scores of students whose earlier educational experiences

Table 3
Percentage of Students Who Partially or Entirely Mastered Each Principle of Reasoning Tested by the CCR test-Form X (at Least 4, 5 or 6 Items Correct out of 6) as a Function of Past Education Emphasizing Verbatim Learning (UAE and KSA) or Deemphasizing it (USA)

Principles	UAE Whole Test English	KSA Partial Test English	USA Whole Test English	KSA Whole Test English	KSA Whole Test Arabic
1	63	64	78	60	65
2	10	11	27	08	37
3	12	11	16	05	32
4	36	43	60	30	27
5	62	60	68	43	30
6	40	34	53	37	40
7	17	12	32	12	47
8	75	70	91	52	52
9	80	73	95	45	55
10	54	53	77	27	35
11	54	44	66	25	37
12	8	6	5	12	32
Mean	43	40	56	30	41

Note. Data of UAE students are from McLellan (2012), whereas those of USA students are from Ennis and Paulus (1965).

emphasized verbatim learning (UAE and KSA) were lower than those of students whose earlier educational experiences deemphasized verbatim learning (USA). The equivalent performance of UAE and KSA students could be interpreted as illustrating the negligible impact of cognitive fatigue caused by reading-comprehension processes engaged by a long test in a second language. The role of cognitive fatigue was further investigated in Study 2 in which we asked whether the same outcome could be reported in KSA students given the entire test.

What Does Contribute to Conditional Reasoning Performance of KSA Students?

A linear regression analysis was conducted to determine the relative contribution of condition, self-efficacy, and GPA to overall conditional reasoning performance. The only significant contribution to performance was made by self-efficacy (see Table 4). Since confidence in one's abilities translates into effort and persistence, it is not surprising that demanding cognitive operations, such as those of a conditional reasoning test, rely not only on test-takers' knowledge of key principles, but also on their self-efficacy.

Study 2

The results of Study 1 left open the possibility that students' cognitive overload, due to their using English in a challenging task, might depress performance.

Reliance on a second language has been shown to negatively affect performance in other challenging tasks such as mathematical problems (Campbell et al., 2007) or calculations (Takano & Noda, 1993). According to Paas et al. (2003), working memory is limited in the amount of information that it can process. Thus, could students' overloaded working memory have prevented them from adequately processing the critical information of the items of the conditional reasoning test? Would taking the whole test magnify the hypothesized students' processing overload?

Method of Study 2

To investigate potential test language and length effects, 120 students in the post-instruction condition were given the whole test to complete within a timeframe of 2 hours with breaks initiated by students. Mean completion time was 1 hour. We selected 6 sections of learning outcome assessment out of 27 through convenience sampling (22% of the available classes). Random assignment determined for each student the language in which the test was written (60 students for language). Thus, Study 2 involved a cross-sectional design with language (Arabic and English) as the factor. Upon completion, participants were given feedback regarding their performance. Their self-efficacy score (Chen et al., 2001) gathered earlier was $M = 3.17$ ($SEM = .11$). Students' mean GPA was 3.09 ($SEM = .04$).

Three independent translators familiar with critical thinking constructs and instruments were recruited to

Table 4
Results of Regression Analysis of Conditional Reasoning Scores

Factors	B	SE B	ß	t
Study 1				
Condition	.40	1.66	.01	< 1
Self-Efficacy	3.23	.74	.21	4.37 *
GPA	1.08	1.21	.04	<1
Study 2				
Test Language	7.09	1.97	.31	3.59 *
Self-Efficacy	2.66	.86	.26	3.09 *
GPA	-0.39	2.04	-.016	< 1

Note. Study 1: R^2 = .045. Study 2: R^2 = .189. * Significant contribution to conditional reasoning performance.

ensure a culturally appropriate, native, and accurate Arabic translation. Dynamic equivalence, whose goal is naturalness of expression (Nida, 2004), was achieved through a consensus model (Scholz, Gutiérrez Doña, Sud, & Schwarzer, 2002), including back-translations, group discussions, and feedback from monolingual individuals (Sperber, 2004).

Results of Study 2

Is Performance Regarding Conditional Reasoning Principles Sensitive to the Language or Length of the Test?

To assess whether there was an effect of length or language of the test on the scores linked to the 12 conditional reasoning principles, an item analysis was conducted on the mean percentage correct scores of the 12 principles with sample as the factor. The samples considered were KSA students who had been given segments of the test (Study 1), as well as KSA students (Study 2) and USA students (Ennis & Paulus, 1965) who had completed the whole test (see Table 2). Following a significant effect of sample, $F(3, 33) = 6.24$, $MSE = 88.68$, $p =.002$, $\eta_p^2= .362$, LSD pairwise comparisons indicated that when the language of the test was English, KSA students who took the whole test performed less well than those who took separate segments. KSA students taking the whole test in English also performed less well than USA students. Interestingly, KSA students who took the Arabic translation of the whole test performed better than KSA students who took the whole test in English, but less well than USA students.

An item analysis with sample as a factor was also conducted on scores involving mastery of principles to

assess whether there was an effect of the test's language or length on the percentage of students who partially or entirely mastered the 12 conditional reasoning principles (see Table 3). Following a significant effect of sample, $F(3, 33) = 9.11$, $MSE = 150.76$, $p <.001$, $\eta_p^2= .453$, LSD pairwise comparisons replicated with one exception in the patterns uncovered in the item analysis of mean percentage correct scores. The difference in mastery between KSA students taking the test in their first language (i.e., Arabic) and USA students was no longer significant, albeit in the expected direction.

These results indicated that completing a demanding test in one's first language or a shorter version of it focused on a few principles could considerably aid performance. Yet, language and length adjustments did not appear to be able to entirely compensate for past educational experiences (as illustrated by the higher performance of USA students).

What Does Contribute to Conditional Reasoning Performance of KSA Students Taking the Whole Test?

A linear regression analysis was conducted to determine the relative contribution of language, self-efficacy, and GPA to overall performance (mean percentage correct scores collapsed across all principles) of KSA students taking the whole test. The analysis indicated that the only significant contribution to performance was made by self-efficacy and language (see Table 4). In agreement with this analysis, taking the test in the second language was found to significantly lower performance compared with taking the same test in the first language, $F(1, 118) = 16.38$, $MSE = 120.23$,

$p <.001$, $\eta_p{}^2 = .122$ (see last two columns of Table 2 for descriptive statistics). As per Study 1, GPA and self-efficacy treated as covariates did not eliminate this performance difference.

Discussion

The results of our investigation can be summarized in three key points: First, if test performance was measured as a difference between freshmen and sophomores, conditional reasoning knowledge remained largely stable as students' academic experience increased. Second, test-takers' self-efficacy beliefs and processing load (as determined by the need to sustain attention to the contents of a long test written in a second language) contributed to performance. Third, differences between USA and KSA students appeared to result from not only first versus second language processing and test length, but also past educational practices shaping the approach that students expressed towards the contents of the test.

The undergraduate curriculum to which our participants have been exposed promotes applications of critical thinking and highlights its utility. If the curriculum, as a whole, nurtures knowledge of critical thinking principles and shapes information processing accordingly, past educational experiences reinforcing verbatim learning may decrease in relevance and, to a certain degree, fade into disuse. In fact, students are expected to develop habits that are adaptive ways of coping with the demands of their lives. However, in KSA and UAE, college students tend to openly express a firm disposition towards verbatim learning as either a preference for veridical replication of information or aversion for alternative modes of information processing. Observations made by instructors at our university and others (Fareh, 2010; McLellan, 2012) support the idea of verbatim learning, both as a preference and as a habit that coexists with critical thinking. A disposition towards the former has been shaped and reinforced by a type of pedagogy widespread in schools of the Arab world which emphasizes the practice of memorization and recitation. Namely, students are expected to commit large portions of text to memory and are praised when they are able to reproduce encoded materials precisely (Iqbal & Ahmad, 2015). How can two contradictory approaches, one favoring verbatim learning and the other promoting active learning, coexist in our students? There are three aspects of habits that need to be considered if coexistence is to be understood: (a) the association between habits and preferences, (b) the utility of habits, and (c) the relationship between habits and norms (Lindbladh & Lyttkens, 2002). Verbatim learning is familiar and thus tends to be preferred over modes of active learning (as indicated by debriefing and pilot work data). In addition, in a few classes, such as Islamic Studies (I-IV) and oral communication (all courses of the general education curriculum at the university), memorization and recitation are considered key to performance, whereas in most other classes, norms, in the form of instructional requirements, render verbatim learning much less valuable. Thus, the habit of verbatim learning is not entirely discouraged in college and continues to exist in a few separate pockets of the academic curriculum.

The lower performance of UAE and KSA students relative to that of USA students highlights the relative importance of different cognitive factors. Namely, it brings to the forefront not only dispositions towards knowledge acquisition (as driven by students' educational past), but also sustained cognitive load (as illustrated by the need to maintain attention to the materials of a long test written in a second language). Pilot work alerted us to the relevance of test length. Although the original test instructions described the whole test as taking approximately 40 minutes, we found that students taking the test in their second language needed more time. For instance, in pilot work, mean completion time for the whole test was approximately 1 hour (without counting breaks). Students required pauses which lengthened individual test sessions. In McLellan's study (2012), mean completion time was 53 minutes. Significant performance differences of KSA students taking the whole versus the partial test in English were found in the analyses of Study 2. Clearly, segmental administration is less time consuming and burdensome to students. Thus, if group performance is of interest and available class time is limited, suitable administration may consist of portions of the test or the whole test translated in the first language of the test-takers.

Although the test items that McLellan described as difficult for UAE students and USA students (e.g., invalid statements) were also difficult for KSA students, performance was overall lower for UAE and KSA students, both of whom read test items written in English, their second language. In the Arabic version of the test, performance was more uniform. Second language processing is known to be cognitively demanding (Perani, & Abutalebi, 2005). Thus, to a certain extent, the lower performance of UAE and KSA students may be attributed to second language processing adding to the burden of a computationally demanding test (see Barrouillet & Lecas, 1999). Important to note here is that in both our research and that of McLellan (2012), students' English proficiency had been verified through standardized tests. Furthermore, at the time of testing students could clarify the meaning of unfamiliar terms through instantaneous translations. Of course, the fact that comprehension of statements can be quickly resolved through translation may not matter much if the act of

translating is distracting, further overloading available resources, and thus contributing to extra processing and fatigue. In support of the notion that second language processing may depress performance, McLellan (2012) found that UAE students perform more poorly than USA students, but similarly to students from the West Indies of similar age (Nolan & Brandon, 1984). Again, lower performance was associated with students whose first language was different from English (Arabic for UAE and Jamaican Creole for students from the West Indies; see Craig, 1980). Yet, one may argue that the comparison with USA normative data collected some time ago by Ennis and Paulus (1965) involves not only students with a different first language from that of KSA and UAE students, but also students who belong to a different generation. At the present time, the factors that may contribute to generational differences (e.g., basic knowledge, motivation, etc.) remain the realm of speculation. If such factors can be identified in future research, their impact may be either additive or multiplicative to the effects of linguistic factors.

The present study has several limitations that we hope to address in future research. For instance, the successive-independent design was selected over a longitudinal design to ensure prompt delivery of performance feedback to students and to satisfy instructors' demands for minimal disruption of class activities. The selected design did not allow us to assess the pre-intervention level of individual students' knowledge. However, a modest improvement of test performance from pre- (midsemester) to post-intervention (end of semester) was reported by Al-Ghamdi and Deraney (2013) in a longitudinal study conducted on the same population of students exposed to the same critical thinking curriculum and instruction but given a generic critical thinking test. The authors decided not to administer the pre-test at the start of the semester because freshmen's formal knowledge of critical thinking principles and terminology had yet to develop. By extrapolation, we can assume that our baseline students, whose knowledge was assessed at the end the semester, had acquired some formal understanding of conditional reasoning principles from the same critical thinking course and that such knowledge was preserved approximately a year later. Our pilot work supports this conclusion by showing weak formal knowledge of conditional reasoning principles in freshmen prior to their taking the critical thinking course of the general education curriculum. Because low test performance might lead to discouragement, frustration, and anxiety, all of which are detrimental to students' motivation in the critical thinking course in which they are about to enroll, the pre-testing of baseline freshmen was not entertained on a wide scale. Another limitation of the study is that only female students participated due to gender-segregation

rules that prevented access to a male sample. Although McLellan (2012) found no evidence of gender differences in UAE students, Ennis and Paulus (1965) reported a minor difference favoring females in USA students. Thus, a further exploration of this issue may be warranted with samples of KSA students. Lastly, it is to be determined whether the experience of taking a conditional reasoning test, facing challenges, and receiving helpful feedback, if adequately conveyed and reinforced through class assignments and tests across the curriculum, may propel substantial changes in students' overreliance on verbatim learning. Successful habit formation in this area requires nurturing of alternative modes of thinking that are effortful and unfamiliar, but ultimately useful to students seeking to develop competence in the field of their choosing.

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Toward a More Inclusive Picture of Incivility in the College Classroom: Data from Different Types of Institutions and Academic Majors

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The focus of classroom incivility research thus far has been at the individual discipline and large public or specialty institution level, which limits the generalizability of findings. Surveying undergraduates (N = 150) at different types of schools (2-year public, 4-year public and 4-year private) and majors on their perceptions of incivility in college classrooms found that older students and students planning on attending graduate school rate uncivil behaviors as more serious, and white students who are not gun owners are more likely to report seeing such behaviors more frequently. Suggestions for future research and novel methods to reduce incivility are discussed.

Incivility in the college classroom has been a long-standing topic of research. Boice's (1996) work on this topic is seen as a call to action for the field, and, indeed, there has been a consistent stream of research on incivility since that time. Notwithstanding the longevity of the concept, it is characterized as an area that is under-researched within the literature (Ausbrooks, Jones & Tijerina, 2011; Black, Wygonik & Frey, 2011) despite claims of increasing instances of incivility in the classroom (Alberts, Hazen & Theobald, 2010; Ausbrooks et al., 2011; Lashley & DeMeneses, 2001).

Classroom incivility is defined as classroom disruption that is disrespectful or undesirable in nature (Alberts et al., 2010; Clark & Springer, 2007b; Nordstrom, Bartles, & Bucy, 2009). Factor analysis of uncivil behaviors typically yields two factors based on a continuum of active to passive expression of the incivility. Caboni, Hirschy, and Best (2004), for example, factor analyzed uncivil behaviors into categories of "disrespectful disruption" and "insolent inattention" (active to passive expression of the incivility, respectively). Similarly, Meyers, Bender, Hill, and Thomas (2006) confirmed the two-factor active/passive categorization. The first type of student incivility, "inattentive conflict," is characterized as generally passive in nature, such as absence from class, lateness to class, or lack of attentiveness in class. While Meyers et al. (2006) did not specifically determine the prevalence of such behaviors in their sample, other research (Ausbrooks et al., 2011; Bjorklund & Rehling, 2010; Lashley & DeMeneses, 2001) indicates that the most common incivility incidents fall within this type. The second type of student incivility, "hostile conflict," is more active and vocal on the part of the student, such as complaining about assignments or arguing with the instructor. Some researchers (Clark & Springer, 2007a; Lashley & DeMeneses, 2001) also note increasingly aggressive and potentially violent acts such as verbal and physical altercations, which would certainly fall within the "hostile conflict" type. While this subset of "hostile conflict" behaviors is not necessarily rare, it is the least common of the uncivil behaviors by frequency. Faculty in Lashley and DeMeneses' (2001) research, for example, reported these behaviors as problematic but least frequent in their sample, occurring 24.8 to 65.8% of the time compared to "inattentive conflict" behaviors which were reported 84.4 to 100% of the time; Ausbrooks et al. (2011) similarly reported that verbal and physical attacks and threats were among the least frequent uncivil behaviors. In her review of the incivility literature, Knepp (2012) reiterates the two-type categorization in discussing the behaviors into more and less serious categories. Although untested, in their review of the incivility literature, Burke, Karl, Peluchette, and Evans (2014) proposed a different typology that included factors of intensity and disruption that range along a continuum from high to low as a way to conceptualize all the ways that incivility can manifest.

The research on incivility in the college classroom has also identified a variety of factors related to incivility (see Burke et al., 2014 and Knepp, 2012 for overviews). One contributing factor could be considered to be societal in nature and has included discussion on generational shifts that foster increased entitlement (Alberts et al., 2010; Kopp & Finney, 2013; Lippmann, Bulanda, & Bagenaar, 2009; Nordstrom et al., 2009) and narcissism (Lippmann et al., 2009; Nordstrom et al., 2009). Burke et al. (2014) and Knepp (2012) also discuss the uses of technology as additional societal and generational differences that may explain incivility in the classroom. Yet another contributing factor in this category has included discussion on the greater societal acceptance of incivility in general (Lippmann et al., 2009). Lawrence (2017) discussed how in this era of campus protests, careful consideration of incivility is necessary as institutions grapple with issues of free speech and student protests, which are often misunderstood by both students (Goldberg, 2018) and administrators (Lawrence, 2017) faced with such issues on campus. Adding to the complexity of this issue, Ben-Porath (2017) asserts that principles of academic

freedom must also be considered when specifically considering civility in the classroom. Greater societal acceptance of incivility as a potential driver for classroom—or, more broadly, campus—incivility has led both to related discussions on the appropriate institutional responses to such incivility on campus (e.g., Ben-Porath, 2017; Lawrence, 2017) and actions on the part of institutions of higher education to address such behaviors. Fordham University, for example, has a ban on using email to mock or insult others (Campbell & Manning, 2014), and New York University bans mocking others in the classroom (Lukianoff, 2014). The multitude of potential factors in this arena make it clear that while incivility in the classroom is an institutional phenomenon, it is also impacted by forces outside the educational environment.

Another factor to incivility in the classroom, however, focuses more closely on the education environment itself.   Discussion has included the increasing consumerism of education (Lippmann et al., 2009; Nordstrom et al., 2009), the increasing rates of students with psychiatric issues (Burke et al., 2014; Knepp, 2012), the impact of class size (Alberts et al., 2010; Hirschy & Braxton, 2004; Indiana University Center of Survey Research, 2000; Lashley & De Meneses, 2001), teaching formats (Meyers et al., 2006), and the educational level of the students as a proxy for investment in the education (Meyers et al,, 2006; Nordstrom et al, 2009) as causative factors in this realm.

Finally, a third factor focuses on demographic aspects of both students who engage in uncivil behavior and faculty who are targets of incivility. In terms of students, males in general (Caboni et al.,2004; Indiana University Center of Survey Research, 2000; Nordstrom et al, 2009) and, more specifically, males with Greek life involvement (Caboni et al., 2004) have been identified as more likely to behave in uncivil ways. The intersection of gender and political affiliation has also been explored. Verrecchia and Hendrix (2018) examined how college students feel about their fellow students and faculty members carrying concealed firearms on campus. Using a sample of over 1,000 students (n=1,126) at one college and one university in the eastern United States, they found that the majority of students (52.5%) felt that qualified students and faculty members should not be allowed to carry concealed firearms on campus, and most (53.5%) would feel unsafe under those conditions, making it a potential incivility since perceptions of safety can negatively impact the learning environment. Those who support concealed carry on campus tended to be politically conservative white males who are gun owners (Verrecchia & Hendrix, 2018). In terms of faculty who experience incivility, the literature is mixed. Burke et al. (2014), for example, argues that faculty behaviors, not demographics, are the causative

factors in incivility, but Knepp's (2012) review of the literature counters this claim.

The harmful impacts of incivility on students has also been examined. The harmful impacts on the learning process range from distraction and annoyance (Ausbrooks et al., 2011) to students' belief about their academic achievement (Hirschy & Braxton, 2004). It appears that incivilities by other students may also lead to other students also behaving in an uncivil manner (Ausbrooks et al., 2011). Impacts of incivility may also reach far beyond the specific classroom environment or relationship with a single faculty member. Although not experimentally tested, Hirschy and Braxton (2004) propose that student incivility may affect the retention of students at the institution where the incivilities take place. While no data was provided with which to understand if and to what extent this might impact retention rates, a significant portion of the discussion sections of the incivility literature (e.g., Ausbrooks et al., 2011; Braxton & Bayer, 2004; Caboni et al., 2004; Hirschy & Braxton, 2004; Lippmann et al., 2009) is devoted to strategies that faculty (and institutions) should implement to reduce incivilities in the classroom.

While there is general agreement on definition, type, factors, and potential harm to students related to incivility, the literature has diverged in terms of how to study incivility. Since Boice's 1996 article, some research (e.g., Ausbrooks et al., 2011; Clark & Springer, 2007a; Clark & Springer, 2007b; Rowland & Srisukho, 2009) has focused on both student and faculty perceptions of incivility, albeit in specific disciplines (social work, nursing, and dental programs, respectively). While faculty and student perceptions are not always compared (e.g., Clark & Springer, 2007a; Clark & Springer, 2007b), when the two groups are compared (e.g., Aubrooks, et al., 2011; Rowland & Srisukho, 2009), results indicate that students tend to rate incivility as both more serious and frequent than faculty. Rather than comparing students and faculty, however, more researchers have focused separately on either faculty (e.g., Alberts et al., 2010; Black, et al, 2011; Indiana University Center for Survey Research, 2000; Lampman, Phelps, Bancroft, & Beneke, 2009; Lashley & DeMeneses, 2001; Meyers, et al., 2006; Shepherd, Shepherd, & True, 2008; Swinney, Elder, & Seaton, 2010) or students (e.g., Bjorklund & Rehling, 2010; Caboni et al., 2004; Nordstrom et al., 2009; Paik & Broedel-Zaugg, 2006). Regardless of which group (faculty or students) is the target of the research, the majority of the researchers have focused primarily on gauging the seriousness and/or the frequency of uncivil behaviors.

Review of the Literature on Student Perceptions of Incivility

Clark and Springer (2007a) used the Incivility in Nursing Education (INE) survey to determine what

behaviors nursing students perceived as uncivil and to what extent these behaviors were seen as problematic. They surveyed 324 nursing students and 36 nursing faculty at a public university in the Northwestern United States. Using a Likert scale from 1 (always) to 4 (never), respondents were asked to rate behaviors in terms of severity of incivility and then to rank the frequency of the uncivil behaviors on a Likert scale from 1 (often) to 4 (never). "Cheating on examinations or quizzes" was ranked as the most severe uncivil behavior, with 82.4% of the sample saying that it was always uncivil. "Arriving to class late" was seen as the most frequently occurring uncivil behavior with 31.1% percent of the sample saying that it happens often. The most uncivil behavior, ("Cheating on examinations or quizzes," ranked number 1 out of 16 uncivil behaviors) was the second most infrequent (ranked 15 out of 16). Meanwhile, the most frequent uncivil behavior, "Arriving to class late," was ranked toward the bottom (12 out of 16) in terms of seriousness.

Ausbrooks et al. (2011) had 28 social work students from a public university in the Southwestern United States rank uncivil classrooms behaviors in terms of seriousness and frequency, as well as provide a list of the three most troublesome and frequent behaviors and students' preferences on how to address the incivility. Students rated 25 behaviors using a 4- point Likert scale for seriousness and frequency, with higher numbers corresponding to more problematic and frequent behaviors. Verbal attacks on other students were rated as the most serious behavior (M = 3.4), and eating was rated as the most frequent behavior (M = 3.6). Students identified "texting," "computer use," and "talking to other students at inappropriate times" (Ausbrooks et al., 2011, p. 265) as the most problematic behaviors, and they indicated the largest preference for addressing the issue to be discussing the issue in private with the offending student.

Bjorklund and Rehling (2010) surveyed 3,616 students at a Midwestern public university to determine what behaviors are considered uncivil and how frequently these behaviors occurred. The participants were asked to rank 25 student behaviors using a Likert scale from 1 (not uncivil) to 5 (extremely uncivil) and then to rate how frequently they observed these behaviors from 1 (never) to 5 (frequently). Respondents reported that a student talking after being asked by a professor to stop was perceived by students as the most severe uncivil behavior (M = 4.5), and students using their cell phones to text message was the most frequent uncivil behavior (M = 4.0). Interestingly, text messaging in class was ranked 10th on the list of severity, which supports previous research (Lashley & DeMeneses, 2001) which indicates that generally lower-level incivilities are most frequently experienced in the classroom.

Nordstrom et al. (2009) surveyed 593 undergraduate students from a large Midwestern university and asked them to rate appropriateness and frequency of uncivil behaviors in the classroom using Likert scales from 1 (very inappropriate) to 7 (very appropriate) and 1 (never) to 7 (often) respectively. The group level data for these ratings were not reported but were instead used to predict whether ratings of incivility appropriateness predicted uncivil behavior. Analyses indicated that attitudes toward incivility, as well as measures of consumerism and narcissism were highly predictive of engaging in uncivil behavior, accounting for 34, 4, and 1% of the variance in the stepwise regression analysis respectively.

Paik and Broedel-Zaugg (2006) surveyed over 130 pharmacy school students at three different points over the course of a four-year period in a six-year program. In general, the same pattern of high-frequency behaviors being typically low-level incivilities was supported in this research. This research provided new information to the literature as well, however, as it is the only study that has followed students over time. Here, students found cheating, sarcastic remarks/gestures, and eating and drinking to be less uncivil than what they perceived them to be in their first year, but conversely, they found shuffling papers/packing up and dominating class discussions to be more uncivil than they did in their first year.

Rowland and Srisukho (2009) surveyed 127 third and fourth-year dental students. Males were more likely than females to endorse items related to challenging a faculty member and consumerism. Interestingly, males were more likely to endorse sleeping in class as more uncivil than females.

Taking a slightly different approach, Caboni et al., (2004) surveyed 214 students from a Research I Carnegie classification university to determine students' perceptions of the appropriateness of uncivil behaviors and therefore their belief of whether such behaviors should be addressed. Participants were asked to rank the inappropriateness of behaviors belonging to either the 'disrespectful disruption' or 'insolent inattention' category using a Likert scale from 1 (very inappropriate) to 9 (very appropriate) with a cutoff of 3.5 set as the point at which inappropriate behavior should not be ignored. Interestingly, students rated the more passive "insolent attention" category, but *not* the more active "disrespectful disruption" category as deserving of attention when such behaviors occur.

At the current time, the literature on student perceptions of incivility is fragmented by focus (frequency, severity, predictive ability, and student perceptions of faculty management of incivility), scope (discipline-specific or general), and range (up to this point, all students have come from either large public education or very specific settings (e.g., dental and pharmacy schools). The interest in understanding

Table 1
Participant Demographics (N = 148)

Demographic	Type of School		
	2-year (n=82)	4-year public (n=24)	4-year private (n=44)
Sex			
Male	23	7	3
Female	59	17	41
Race			
Asian	2	0	0
Black	5	2	0
Latino/a	3	1	0
Native Hawaiian or other Pacific Islander	1	0	1
White	69	18	42
Other	2	3	1
Year in School			
Freshman	36	4	5
Sophomore	42	7	10
Junior	3	4	12
Senior	0	9	15
Graduate Student	1	0	2
Academic Major			
Natural Sciences	7	1	6
Social Sciences	20	13	11
Humanities	3	0	1
Engineering	3	0	1
Business	7	1	5
Other	42	9	20
Student Status			
Full time	58	21	40
Part time	24	3	4
Planning on Graduate School			
Strongly Disagree	6	2	2
Disagree	10	1	8
Neither Agree nor Disagree	24	6	8
Agree	22	6	10
Strongly Agree	20	9	16
Work Status			
31+ hours per week	21	7	4
10-30 hours per week	38	4	18
Less than 10 hours per week	8	0	10
Do not work	15	3	12
Greek Involvement			
Fraternity Member	1	0	1
Sorority Member	0	1	3
None	81	23	40
Typical Class Size			
Under 20 students	24	6	26
Over 20 students	58	18	18
Own a Gun			
Yes	11	2	7
No	71	22	37

Note: Difference from reported *N* are due to incomplete data

incivility is international in scope (e.g., Aliakbari & Hajizadeh, 2018), and yet only certain types of students in the United States, where a majority of the incivility research has been conducted, have been included in the research. The complete absence of community college students from the incivility research is puzzling given the prominence that community colleges now play in the educational landscape. Cohen, Brawer, and Kisker (2013), for example, report that community colleges account for 40% of all students enrolled in higher education, and recent governmental statistics (US Department of Education, 2017) report that 29% of all undergraduates attended community colleges in the 2015-16 academic year. The review by Burke et al. (2014) highlighted the need to understand the prevalence of incivility by discipline and also to consider both personal and situational factors that are important predictors of incivility.

This study is designed to address those specific calls for research. We surveyed students from a variety of disciplines and institutions to gauge their thoughts about the prevalence and seriousness of classroom incivilities. As such, the current study will be the first to examine student perceptions about academic incivility across both discipline and institution types while also attending to important contributing demographic factors that have been identified in the literature. It was hypothesized that ratings of frequency and severity of incivility would be similar to previous research. While this data will confirm the narrative about academic incivility that is in the literature, the analyses of students from different types of institutions and majors are the true addition to the existing literature, as neither of these aspects has been studied up to this point. There is no guiding literature on these variables; the three studies that surveyed students from potentially more than one major (Bjorklund & Rehling, 2010; Caboni et al, 2004; Nordstrom et al., 2009) neither reported nor included academic major as a variable in their analyses, and to our knowledge, no published research of incivility includes community college students in its sample. As such, the inclusion of both these variables is exploratory in nature.

Method

Participants

One hundred and eighty students from three institutions (4-year Pennsylvania private, 4-year Pennsylvania public, and 2-year Maryland public) in the mid-Atlantic region completed surveys, but 32 participants demonstrated inconsistent responding to two embedded validity checks and were removed from further analysis. The average age of our sample was 22.72 (SD=7.2). Most of our sample (23.6%) were 19 years of age, and our sample ranged from 18 years of age to 61 years of age. Our sample was overwhelmingly White (86%) and female (77%). Table 1 provides data related to common areas of interest about participant demographics within the classroom civility literature by institution type.

Materials

We obtained permission to use two commonly cited surveys (i.e., the *Classroom Civility and Teaching Practices* survey, Black et al., 2011, and the *Incivility Survey,* Indiana University Center for Survey Research, 2000) for use in the research. We took 17 items from these surveys and three additional items from others' (e.g., Ausbrooks et al., 2011; Bjorklund & Rehling, 2010; Swinney et al., 2010) work on incivility. Based on research (Verrecchia & Hendrix, 2018) that indicated gun owners favor carrying a concealed firearm on college campuses, we added one additional item that queried about perceptions of carrying guns on campus as it relates to incivility. These items asked students to rate uncivil behaviors on a Likert scale for seriousness (1= Not at all serious to 7 Very serious) and frequency (1 = Infrequently (once a semester or less) to 4 = Frequently (at least once a week. Two validity check items were also embedded in the survey to counter inconsistent responding, and one open-ended question was included at the end of the survey to allow students to enter additional uncivil behaviors that had not been included, resulting in a 24-item survey (see Table 2).

Procedure

Students were recruited electronically at their respective institutions. Requests for participation were sent from each campus's electronic communication system with a link to the survey, which used the *Qualtrics* survey platform. Students from both 4-year institutions were recruited in the first two weeks of the spring semester. Due to the timing of IRB approval and limitations for data collection placed on us by the 2-year institution, however, only students enrolled in courses from the Behavioral and Social Sciences division, which encompasses courses from 11 different disciplines, were approved to participate in the research at the 2-year institution, and recruitment took place in mid-March. The order of question presentation for the 23 Likert-response items was randomized. All data were analyzed using *SPSS.*

Table 2
Classroom Incivility Survey

Instructions: The following items relate to behaviors that may be seen in a college setting. While most of these items are related to behaviors that take place during class, please also consider the time in the classroom immediately before and after class and office hours.

On a scale of 1-7, how serious would you consider the following student behaviors? On a scale of 1-4, how often do you observe the following student behaviors?

1. Sleeping during class [1,2]
2. Using a computer for tasks unrelated to class period [1,2]
3. Arriving late or leaving early or stopping work ('packing up' before class is over) [1,2]
4. Getting up during class (can include leaving and returning to class, discarding trash, etc.) [3]
5. Dominating class discussions [1,2]
6. Using vulgarity/cursing [1,2]
7. Challenging faculty position (this can include questioning faculty knowledge or the value of an assignment/activity or other challenges, such as reluctance/refusal to answer direct questions) [1,2]
8. Verbally harassing/making offensive/disrespectful comments to faculty or other students (this can include groans/sighs, sarcastic comments, etc.) [1,2]
9. Physically attacking faulty or other students [2]
10. Sending inappropriate emails to faculty [1,2]
11. Making threats to faculty or other students [1,2]
12. For validation purposes, please choose '3'
13. Phone use (ringing, talking, texting, using apps, etc.) during class [1,2]
14. Talking/fideting that distracts other students or faculty [1,2]
15. Engaging in non-class related activity such as reading the newspaper, doing homework/studying/reading for other classes during class [2]
16. Coming to class under the influence of drugs or alcohol [3]
17. For validation purposes, please choose '5'
18. Not paying attention/taking notes/acting bored/apathetic [1]
19. Joking inappropriately [4]
20. Cutting class [1]
21. Plagiarism/cheating on assignments, exams or quizzes [1]
22. Demanding make-up exams, extensions, grade changes, or special treatment [1]
23. Carrying a gun on campus
24. Other: Open response

Note: Question presentation for the 23 Likert-response items was randomized. 1 = item from the *Incivility Survey* (Indiana University Center for Survey Research, 2000); 2 = item from *Classroom Civility and Teaching Practices* survey (Black et al., 2011); 3 = item from both Bjorklund & Rehling, 2010 and Swinney et al., 2010; 4 = item from Ausbrooks et al., 2011.

Results

Table 3 presents data for students' perceptions of the seriousness and frequency of various classroom behaviors. Over half of our sample rated the following behaviors as very serious: physically attacking faculty or other students (82.4%); making threats to faculty or other students (79.7%); carrying a gun on campus (67.6%); plagiarism/cheating on assignments, exams or quizzes (57.4%); sending inappropriate emails to faculty (56.8%); verbally harassing/ making offensive/disrespectful comments to faculty or other students (54.7%); and coming to class under the influence of drugs or alcohol (52.7%).

Using our demographic data as independent variables, we then combined these results into a seriousness index to use as one of our dependent variables. The index would range from a low of 22 (each behavior was not serious at all) to a high of 154 (every behavior was very serious). The mean score on the serious index was 98.52 (*SD*=26.36). The Cronbach's alpha for this index was a robust .931.

Our survey also asked respondents to rate the same 22 behaviors on how often they occurred in a college classroom. Over a quarter of our sample observed the following behaviors occurring frequently: phone use (ringing, talking, texting, using apps, etc…, 41.2%) and getting up during class (leaving and returning, discarding class, 25.7%). Similar to past research, the serious uncivil behaviors listed above were also the least frequent. The most serious behaviors (physically attacking faculty or

Table 3
Student Perceptions of Classroom Incivility Ranked by Seriousness and Frequency

Behavior	Seriousness		Frequency	
	M	(SD)	M	(SD)
Physically attacking faculty/students	6.10	(2.07)	1.11	(0.44)
Making threats to faculty/students	6.10	(2.03)	1.13	(0.39)
Plagiarism/cheating	5.80	(1.86)	1.65	(0.78)
Sending inappropriate emails	5.79	(2.00)	1.11	(0.33)
Carrying a gun on campus	5.68	(2.27)	1.11	(0.37)
Coming to class under the influence	5.62	(1.98)	1.48	(0.77)
Verbally harassing/offensive/disrespectful comments	5.61	(2.09)	1.41	(0.74)
Challenging faculty position	4.65	(2.05)	1.53	(0.74)
Demanding make-up exams	4.53	(1.97)	1.63	(0.84)
Joking inappropriately	4.21	(1.95)	1.81	(0.84)
Sleeping during class	4.09	(2.00)	1.72	(0.79)
Talking/fidgeting that distracts others	4.00	(1.80)	2.22	(1.05)
Phone use	3.94	(1.83)	2.93	(1.07)
Cutting class	3.84	(2.06)	2.31	(1.00)
Engaging in non-class related activities	3.64	(1.73)	2.34	(0.95)
Using vulgarity/cursing	3.60	(1.96)	2.29	(1.11)
Arriving late or leaving early	3.59	(1.87)	2.63	(0.99)
Not paying attention	3.49	(1.71)	2.64	(1.02)
Using a computer for tasks unrelated to class	3.47	(1.71)	2.42	(1.06)
Dominating class discussions	3.19	(1.60)	2.05	(0.96)
Getting up during class	2.43	(1.58)	2.65	(1.05)

students and making threats to faculty or students) were the least frequent (93.2 and 89.2% ranked these behaviors as infrequent, respectively).

We combined these results into a frequency index to use as our other dependent variable. The index would range from a low of 22 (once a semester or less or each behavior) to a high of 88 (at least once a week). The mean score was 43.13 (*SD*=10.71). The Cronbach's alpha for this index was a robust .903.

We then dichotomized our dependent variables in order to run logistic regression models because our goal is to predict the probability of membership in one of two groups for each index. These behaviors are seen as either serious or not, and these behaviors occur infrequently or frequently. Logistic regression does not require stringent assumptions about the distribution of the predictor variables (Tabachnick & Fidell, 2007), and we wanted to learn what combinations of our twelve independent variables would accurately predict the probability of perceiving the seriousness and frequency of these uncivil behaviors in a college classroom.

A logistic regression model was created to determine which independent variables were predictors of perceptions of the seriousness of uncivil behaviors in a college classroom.

Regression results for the first model indicate that the overall model was not statistically reliable (Model $\chi2(12)=13.916$, p > .05). The model for our first dependent variable correctly predicted 61.5% of the responses. This first model revealed that older students were more likely to see these behaviors as serious ($\beta=.338$, p < .05), and they were almost one and a half times more likely to see these behaviors as serious than younger students (Exp(B)=1.403). Additionally, students who are planning on attending graduate school were more likely to see these behaviors as serious than students who are not planning on attending graduate school ($\beta=.261$, p < .05), and they were almost over one and a quarter times more likely to see these behaviors as serious (Exp(B)=1.298) The results of the first model can be found in Table 4.

A second logistic regression model was created to determine which independent variables were predictors of perceptions of the frequency of uncivil behaviors in a college classroom.

Regression results for the first model indicate that the overall model was statistically reliable (Model $\chi2(12)=22.412$, p < .05). The model for our second dependent variable correctly predicted 63.5% of the responses. This second model revealed that white students were more likely to see these behaviors

Table 4
Logistic Regression Results for Seriousness of Uncivil Behaviors

Variable	B	S.E.	Wald	df	Sig.	Exp(B)
Race	-.140	.207	.459	1	.575	.869
Age	-.004	.027	.020	1	.767	.996
Sex	.254	.446	.324	1	.228	1.289
Major	.146	.094	2.398	1	.443	1.157
Year in School*	.338	.208	2.647	1	.045	1.403
Graduate School*	.261	.147	3.148	1	.049	1.298
Type of School	.062	.262	.056	1	.112	1.064
Student Status	.263	.465	.321	1	.974	1.301
Work Status	.040	.176	.053	1	.986	1.041
Greek Involvement	-.307	.646	.225	1	.514	.736
Class Size	-.194	.375	.269	1	.203	.823
Own a Gun	.780	.569	.725	1	.189	2.183
Constant	-2.655	3.117	.725	1	.394	.070
Model Chi-Square	13.916					
Negelkerke R^2.120						

*Note: * p < .05*

frequently (β=.563, p < .05), and they were almost two times more likely to see these behaviors as occurring frequently than students of color (Exp(B)=1.755). Students who are not gun owners were more likely to see these behaviors as occurring more frequently than gun owners (β=1.321, p < .05) and they were almost over four times more likely to see these behaviors as occurring frequently (Exp(B)=3.746). It is noteworthy that the two variables that were significant in our first model approached significance in the second model, year in school (β=.408, p = .066) and planning on attending graduate school (β=.300, p = .05), and in the same direction. The results of the second model can be found in Table 5.

Discussion

This is the first study to heed Burke et al.'s (2014) recommendation to investigate classroom incivility across different disciplines and institutions for significant predictors of seriousness and frequency of uncivil classroom behaviors. It was hypothesized that ratings of frequency and severity of incivility would be similar to previous research, and, indeed, our findings are similar to previous research about *which* uncivil behaviors are considered the most serious (e.g., Ausbrooks et al., 2011) and frequent (e.g., Clark & Springer, 2007a) in the college/university setting. Our results also reiterate the general finding that while incivility in the college/university is not uncommon, the typical demonstration of incivility is made up of behaviors that are rated as low in seriousness.

The inclusion of institution type and academic major variables were novel additions to the incivility research based on the complete lack of data on these variables and the field's (e.g., Burke et al., 2014) recommendation to actively consider these variables in relation to incivility. This is the first research on student incivility to report on either of these factors beyond a single discipline, and the recommendation in the literature (Burke et al., 2014) to include institution type and academic major is pertinent given the wide range of institutions and types of students engaging in higher education. Because no prior research exists on either academic major or type of institution, the inclusion of the variables was exploratory, and no specific hypotheses were made. Neither institutional type nor academic major were significant predictors in our models for either seriousness or frequency of uncivil behaviors. These results provide preliminary data pursuant to the call for specific research by discipline and academic major and would seem to suggest that issues surrounding incivility are of similar concern at every level and discipline within the college/university setting.

This study is also unique in that it is the first one to combine items from commonly used measures into a student incivility survey for common use. To date, a fair portion of the research on classroom civility has been disseminated in discipline-specific pedagogical journals, which limits the potential reach of the research. There is clear interest in the literature for a standard scale, based on the use and modification of both the *Classroom Civility and Teaching Practices* survey (Black et al., 2011), and the *Incivility Survey,*

Table 5
Logistic Regression Results for Frequency of Uncivil Behaviors

Variable	B	S.E.	Wald	df	Sig.	Exp(B)
Race*	.563	.265	4.50	1	.034	1.755
Age	-.042	.034	1.497	1	.221	.959
Sex	.029	.469	.004	1	.951	1.029
Major	-.052	.094	.304	1	.581	.950
Year in School[A]	.408	.222	3.379	1	.066	1.504
Graduate School[A]	.300	.153	3.849	1	.050	1.350
Type of School	-.451	.285	2.496	1	.114	.637
Student Status	.194	.472	.168	1	.681	1.214
Work Status	.175	.189	.849	1	.357	1.191
Greek Involvement	-.499	.675	.546	1	.460	.607
Class Size	.108	.394	.075	1	.784	1.114
Own a Gun*	1.321	.667	3.919	1	.048	3.746
Constant	-5.407	3.583	2.278	1	.131	.004
Model Chi-Square	22.412					
Negelkerke R^2	.188					

Note: *$p < .05$;[A] $p < .10$

(Indiana University Center for Survey Research, 2000) in the literature. There is overlap between the two scales (11 common items across the scales), so efforts to combine them would be useful. Our research combined the common items from these two oft-cited scales and added other items that had been used in previous research or might be of interest in studying incivility. The indexes we created using items from these surveys yielded very strong alpha coefficients (.931 for seriousness and .903 for frequency, respectively), which further validates these items for use in examining classroom incivility. By publishing the survey in a more general pedagogical journal, it is our hope that it can be used as a tool to collect data that can be compared across disciplines.

While results in relation to academic major and type of institution were not significant, our first model measuring the seriousness of classroom behavior found that both older students and students who are planning on attending graduate school rated the behaviors listed in the survey as more serious instances of incivility when compared to younger students and students who do not intend to attend graduate school. These findings are similar to research (Nordstrom et al., 2009) that found that graduate school-oriented students were less likely to view uncivil behaviors as appropriate, but are contrary to the results of Paik and Broedel-Zaugg (2006), which found that fourth-year students were less likely to view behaviors of cheating, sarcastic remarks/gestures, and eating and drinking as uncivil as compared to when those same students were in their first year. In their discussion, Paik and Broedel-Zaugg (2006) opined that perhaps the students were more comfortable in the setting and knew what actions would

be tolerated by the faculty. Our results, on the other hand, suggest that perhaps older students take their education a little more seriously and are more attuned to behavior that would distract from the learning process. Another possible reason for this finding is that older students should be better socialized to behavior that is both expected and appropriate in a college classroom than younger students who are newly arrived. The findings of our research indicate that factors related to age and investment in education are ripe for further exploration.

In our second model related to the frequency of incivility, only race and owning a gun were significant predictors, with white students and non-gun owners endorsing higher frequencies of perceived uncivil behavior than their comparison groups. In both cases these findings could be due to the skewness of both of those variables; future research should explore the effect of these two variables on the perception of classroom incivility frequency.

This is an exploratory study with methodological limitations. We used a convenience sample with 150 participants; one method to increase response rate in the future would be to incentivize participants. In addition to issues with response rate, our first logistic regression model was not significant, so while we found two predictors of the seriousness of uncivil behavior in a college classroom, our combination of independent variables was not reliable. Other methodological drawbacks include that our sample was heavily skewed towards whites and females and was not representative of the student populations at their respective schools.

In addition to reporting data about the occurrence of incivility in the classroom, the incivility literature is

replete with suggestions for how to reduce incivility. Boice's (1996) seminal article implored faculty to engage in behaviors that convey "warmth, friendliness, and liking" (p. 458), particularly at the beginning of the semester. In their reviews of the literature, both Burke et al. (2014) and Knepp (2012) discuss strategies to combat incivility and reiterate the importance of directly addressing incivility early in the semester, such as through the syllabus. While the importance of clearly stating expectations of student behavior in syllabi is universally accepted, we also know that not all students read the course syllabus and that no single method to reduce incivility will be enough. Our findings related to older and graduate-school bound students provides another method by which incivility can be addressed. Older students and students planning to attend graduate school can be recruited to socialize younger students on appropriate classroom behavior in order to reduce classroom incivility. As an example, inviting older, more serious students to talk to new students about proper classroom behavior in an orientation session where faculty are not present would present civil behavior, not so much as a rule, but as a norm. Based on our results, finding ways to actively involve students might be beneficial and should be explored directly and empirically. To date, the suggestions for addressing incivility have not been empirically investigated to determine whether application of one or more of these suggestions produces a measurable change in either seriousness or frequency of incivility. Clear empirical attention to the numerous suggestions within the literature could clarify best practices so that faculty and institutions could use time and resources wisely.

The growing body of literature points to classroom incivility as not only a serious issue but one that is increasing in its frequency. This research was the first to provide data on students within different academic majors and types of institutions and indicates that perceptions of incivility are generally universal regardless of academic major or type of institution attended. It has provided the field with a survey created from common items used in the literature and has identified potential student factors to harness in order to reduce incivility. Future research on incivility should continue to collect data from students attending different types of schools and majoring in diverse disciplines to best understand this phenomenon.

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The Impact of Teacher Self-Disclosure on Student Participation in the University English Language Classroom

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Previous studies have implemented a quantitative method to explore the relationship between teacher self-disclosure and student participation in the educational context, particularly in communication courses. In this study, a qualitative method in data collection and analysis is used to fill this methodological gap to observe whether teachers' use of self-disclosures to explain the course content encourages student participation during the teaching-learning process in the university English language classroom in Morocco. Four teachers of English agreed to support this study by planning to include relevant self-disclosures in class. The research method for data collection is direct observations of undergraduate students in six English language courses in the department of English studies. Based on the results, this study suggests that teachers' use of self-disclosures to explain the course material served as an effective instructional practice, without using questioning techniques or cold-calling, to motivate the learners to self-select turns to interact with their teacher and reciprocate their personal information while engaging in occasional laughter.

Many university instructors have had the experience of teaching classes where they struggle to engage their students in active classroom participation (Rocca, 2010). Instructional communication researchers have considered teacher self-disclosure – that is, teachers' sharing of personal information to explain the course content in the classroom – a way to foster various aspects of student participation (Cayanus, Martin, & Weber, 2003; Cayanus & Martin, 2004; Cayanus & Martin, 2008; Cayanus, Martin, & Myers, 2008; Cayanus, Martin, & Goodboy, 2009; Goldstein & Benassi, 1994).

Although these studies have contributed to the understanding of the effects of different dimensions of teacher self-disclosure on classroom outcomes, focus has been on the quantitative analysis of teacher self-disclosure and student participation rather than on conducting a qualitative analysis of the two variables. Moreover, all these studies took place in communication courses at American universities. Thus, one reason that motivates this study is to fill the current methodological gap in the literature by implementing a qualitative methodology to examine the impact of teacher self-disclosure on student participation. The dearth of what types of teachers' self-disclosures students may respond to in previous studies justifies the need for using a qualitative approach in data collection and analysis. As such, this article will identify the types of self-disclosures that teachers use and show whether they are essential to student participation by extending research on the two variables to the university English language classroom in Morocco.

The purpose of the present study is to observe whether teacher self-disclosure encourages student participation during the teaching-learning process in the university English language classroom in Morocco.

Determining whether teacher self-disclosure is effective in affecting student participation would be significant not only by furthering understanding of teacher self-disclosure as an instructional practice in the classroom context, but also by establishing new research venues on teacher self-disclosure as an important communication behavior in language teaching.

Results from this manuscript will redound to the benefit of university teachers who consider student participation a sign of effective learning. The demand for creating enough opportunities to engage language learners in the course material at the university level justifies the need for more effective teaching practices. Thus, teachers who are open to adopt the implications derived from this study might better promote learners' oral performance during the educational process. This study will further help researchers uncover interesting areas of inquiry that previous researchers have not recognized in the educational context, thereby contributing to the development of a new theory on the implementation of teacher self-disclosure in classroom teaching.

Literature Review

Teacher Self-Disclosure

Self-disclosure was first a subject of research in interpersonal relationships in psychology and communication studies respectively. In psychology, Jourard described self-disclosure as "the act of revealing personal information to others" (Jourard, 1971, p. 2), maintaining that sharing personal information with people is an underlying criterion of a healthy personality. In communication studies, Wheeless and Grotz (1976) introduced research on self-disclosure in the teaching-learning context, defining the construct as "any message about the self that a person communicates to another" (p.

338). Given that self-disclosure by teachers has been a subject of research in the educational context since the 1970s, new operational definitions of the concept have emerged. For example, Sorensen (1989) referred to teacher self-disclosure as "teacher statements in the classroom about self that may or may not be related to subject content but reveal information about the teacher that students are unlikely to learn from other sources" (p. 260). Goldstein and Benassi (1994) added the dimension of profession by defining teacher self-disclosure as "a teacher's sharing of personal and professional information about himself or herself in a believable away" (p. 212). When teachers involve in self-disclosure in the classroom, they can share their learning and work experiences, personal problems, values, opinions, beliefs (Fusani, 1994), information about their families, personal feelings, daily outside activities, and personal histories (McBride & Wahl, 2005).

Different dimensions govern the process of teacher self-disclosure in the classroom. These include amount, depth, positivity, negativity, relevance, and appropriateness. Amount pertains to the number of personal issues shared during interaction, like using five disclosures in one course. Depth is concerned with the intimacy of one's personal information (West & Turner, 2010), where more depth is considered socially undesirable with both classmates and teachers (Myers, 1998). Positivity entails disclosing "good" aspects of one's life like getting an A at the university. Negativity pertains to "bad" aspects of one's experience in the classroom, such as drug addiction. Relevance involves sharing disclosures related to the course content (Cayanus et al., 2009). For instance, an instructor can share an experience of collecting data when he/she was a student while teaching research methodology. Appropriateness is concerned with the content (i.e., topics) of teachers' personal disclosures in the classroom; in this regard, teachers' personal experiences/stories, information related to their family, relatives and friends, personal opinions, and personal interests or hobbies were found to be appropriate topics in the classroom context (Zhang, Shi, Tonelson, & Robinson, 2009). Alternatively, students reported self-disclosures about sex, religion, and politics to be inappropriate in class (Cayanus & Heisler, 2013).

Although instructional communication researchers have considered different dimensions of teacher self-disclosure when measuring the construct, the operational definition used for inclusion in this study is teacher self-disclosure, which involves a verbal communication of personal information to explain the course content (relevance) in the classroom. This definition puts emphasis on the function of personal information when it is relevant to the course material because past research recommended that teacher self-disclosure be used to clarify the course materials

presented for students (Cayanus & Martin, 2008; Downs, Javidi, & Nussbaum, 1988; Wambach & Brothen, 1997). More importantly, teacher self-disclosures that are not related to course content may be considered inappropriate in the educational context (Lannutti & Strauman, 2006).

Student Participation

Burchfield and Sappington (1999) referred to student participation as "the number of unsolicited responses volunteered" (p. 290). It can come in different forms, including students' questions, comments (Fassinger, 2000), and self-disclosures (Goldstein & Benassi, 1994). We addressed these three forms of student participation in this manuscript. Several studies have stressed the benefits of student in-class participation in higher education (Weaver & Qi, 2005). When students contribute to class discussions, they engage in higher levels of critical thinking, including analysis and synthesis (Smith, 1977); improve communication skills (Dancer & Kamvounias, 2005); earn higher grades (Handelsman, Briggs, Sullivan, & Towler, 2005); and learn the target language (Abebe & Deneke, 2015).

Research has provided evidence that the instructor's communication behaviors are essential to promote higher levels of student participation (Fritschner, 2000; Myers, Martin, & Mottet, 2002). One of these communication behaviors is teacher self-disclosure. Ebersole, McFall, and Brandt (1977) studied the reciprocity of self-disclosure and found that students who had previous classes with a teacher responded to him/her with more self-disclosure than students who did not have previous classes. Approximately two decades later, Goldstein and Benassi (1994) agreed that the reciprocity effect is in existence, indicating that teacher self-disclosure creates an interpersonal atmosphere in the classroom and decreases the power differential between teachers and students. In a follow-up study, Wambach and Brothen (1997) reported no relationship between observed teacher self-disclosure and student participation. The reason why the authors found no association between the two variables may be linked to the study's sample which involved a mix of soft and hard disciplines or the types of self-disclosures used by teachers in classroom teaching. Soon other studies confirmed that the amount of teacher self-disclosure is positively correlated with students' participation (Cayanus et al., 2003) and communication for relational, excuse making, and sycophancy motives in the classroom (Cayanus & Martin, 2004a). Further, the amount and relevance of teacher self-disclosure motivate students to communicate for functional and participatory motives (Cayanus & Martin, 2008), ask questions about the

course materials and assignments (Cayanus, et al., 2009), and use active information-seeking strategies to clarify their understanding of the course content (Cayanus et al., 2008). Based on these results, this study extends research to the university English language classroom to examine the impact of relevant teacher self-disclosure on student participation.

Method

Research Problem

The purpose of this study was to observe whether teacher self-disclosure encouraged student participation in the English language classroom at the university level in Morocco. More specifically, the objective was to assess if teachers' use of self-disclosure to explain the course content would have an immediate effect on the following three forms of student participation: asking questions, making comments, and reciprocating self-disclosures. To address this issue, the following research question was formulated:

RQ1: Does teachers' use of self-disclosure to explain the course content encourage student participation in the English language classroom?

Setting and Participants

This study was limited to undergraduate courses in the department of English studies at the Faculty of Arts and Human Sciences, Dhar El Mahraz at Sidi Mohamed Ben Abdallah University in Fez, Morocco during the academic year 2016-2017. The study took place in six English language courses, namely Spoken English, Guided Reading, Introduction to Media Studies, Public Speaking and Debate, Applied Linguistics, and Pragmatics. The rationale for choosing these courses was that they aimed at creating a communicative atmosphere in the educational process. The six courses were held entirely in English and were taught by four non-native speakers of English. Two of them were professors, and the two others were student teachers with at least twelve and two years of teaching experience respectively:

Spoken English—A male student teacher
Guided Reading—A female student teacher
Introduction to Media Studies—A female student teacher
Public Speaking and Debate—A male assistant professor
Applied Linguistics and Pragmatics—A female senior professor

As for Spoken English and Guided Reading, they are first-year courses and had between 90 and 110 male and female students in each course. Regarding Introduction to Media Studies and Public Speaking and Debate, they are second-year courses and had between 50 and 70 male and female students in each course. Concerning Applied Linguistics and Pragmatics, they are third-year courses and had between 24 and 40 male and female students in each course. The students' ages ranged from 17 to 25. It is essential to note that attendance is not mandatory in the Department of English in the city of Fez, and hence teachers never check student absenteeism. Also, students often leave or enter the class while teachers are running sessions; therefore, providing the exact number of students and their gender in each course was an elusive task.

Instrument and Procedures

Given that verbal teacher self-disclosure and student participation are phenomena occurring in class during the teaching-learning process, the effective way to investigate the interplay between the two variables is by direct observation. However, a possible problem with observations is the "observer effect". That is, when the participants know that they are being observed in a certain context, they could change their behavior instead of doing what they actually do (Cohen, Manion, & Morrison, 2007). In this research, the "observer effect" was reduced in that the researchers had already had prior contact with students in other classes before the "official" observed and recorded sessions.

Prior to observing classes, the four instructors, after having a clear idea about our research problem and being assured anonymity, agreed to support this study voluntarily by incorporating their own self-disclosures to explain the course content in their classes. The implication is that teacher self-disclosure was intentional and planned before inclusion in the course material. Each class was observed near the middle of the semester for one session lasting two hours. The first author served as the observer, who sat at the back during each observation to collect qualitative data from the six sessions. To guide the note taking process, a classroom observation sheet (see Appendix A) composed of four sections was developed.

Section one. Section one gathered data about the name of the course, the date and time of each class, and the level of students.

Section two. Section two aimed to note down verbal examples of teachers' self-disclosure while covering the course material.

Section three. Section three sought to collect information on students' verbal reactions to their teachers' self-disclosure. It documented students' questions, comments, and self-disclosures when used to respond to relevant teacher self-disclosure.

Section four. Section four recorded the unexpected reactions/phenomena that followed teacher self-disclosure.

Overall, the observation sheet assisted in collecting specific data to assess the impact of relevant teacher self-disclosure on student participation. An audio-tape recording device was also used as a backup in case of a manual failure and to ensure collection of complete information.

Data Analysis

To answer the research question as to whether teachers' use of self-disclosure to explain the course content encourages student participation in the English language classroom, thematic analysis was employed by transcribing only the teachers' self-disclosures and students' immediate reactions. The transcribed data were checked by the two researchers to ensure that there are no misspelled words, grammatical mistakes, or irrelevant information. Eight extracts were excerpted from the six observed courses. Subsequently, preliminary codes were assigned to examples of teachers' self-disclosures and students' immediate responses. After multiple coding of the data, it was helpful to develop themes that were supported by extracts from the six courses. In this respect, we provided the name of the course from which each extract was taken. Then we described, explained, and discussed the self-disclosures produced by teachers (T) and the immediate reactions (i.e., asking questions, making comments, and reciprocating self-disclosures) alongside unexpected phenomena produced by each student (S).

Results

As shown in Figure 1, the identifying types of teacher self-disclosure were personal experiences, opinions, likes, and friendship, which elicited the observed forms of student participation (i.e., questions, comments, and self-disclosures) and other interesting incidents, specifically laughter. In other words, such types of teacher self-disclosure were found to encourage students to communicate with their teacher and reciprocate their personal information while unexpectedly engaging in occasional laughter.

Teacher-Student Communication

Teachers' use of personal disclosures helped foster rich communication between teachers and students in the educational process. More specifically, the instructor's personal experiences encouraged students to engage in the course material by asking questions as Extract 1 from Spoken English indicates:

T: "When I was in the U.S.A., I used to go with some international students to a nursing house every week to play games with senior residents. It was an amazing experience."
S1: "Sir, did you study in the U.S.A.?"
T: "Yes, I studied and worked in the U.S.A."
S2: "Can I give a presentation about community service?"
T: "That'll be interesting…."

In this incident, T introduced the importance of community service in student life in his class, but the learners were not familiar with the concept. Thus, T explained community service by employing his personal experience (i.e., when I was in the U.S.A…), which made Ss perceptive by the self-disclosure, encouraging S1 to self-select his turn to ask a question, although irrelevant to the course material, that elicited additional personal information about T. Right after that, S2 automatically self-selected her turn to make a request (can I give a presentation about…?), which quickly brought focus on the course content.

Likewise, personal experiences by the teacher encouraged students to make comments as Extract 2 from Pragmatics shows:

T: When I was a student in the United States, I thought French dressing would be like ours, something simple including vinegar, but it was sweet. From that time, I stopped taking all the salad dressings.
S1: Like Sushi here (i.e., Morocco).
T: Sushi, yes.
S1: [Interrupting] I mean raw fish…
T: Yes, raw fish. For us, we have to fry fish.

In Extract 2, the instructor was discussing an issue related to food in a foreign culture. The T self-disclosed her experience with food when she was a student in the U.S.A. Her personal disclosure encouraged S1 to self-select her turn to comment on the topic by giving another example (i.e., "like Sushi here") to show a sign of understanding the course content presented by T. In this incident, T's personal disclosure enabled the learner to self-select her turn to engage in a short yet important communication with her teacher.

Additionally, the teacher's personal experiences motivated students to share their personal opinions as Extract 3 from Applied Linguistics posits:

T: I still remember when I came across Valentine's Day I did not know what it was. So, I did not celebrate it.
S1: I think that in a context like ours [Morocco] we can't learn deep culture of English people because deep culture exists in the language where it is naturally learnt.

Figure 1
Summary of forms of student participation in response to types of teacher self-disclosure.
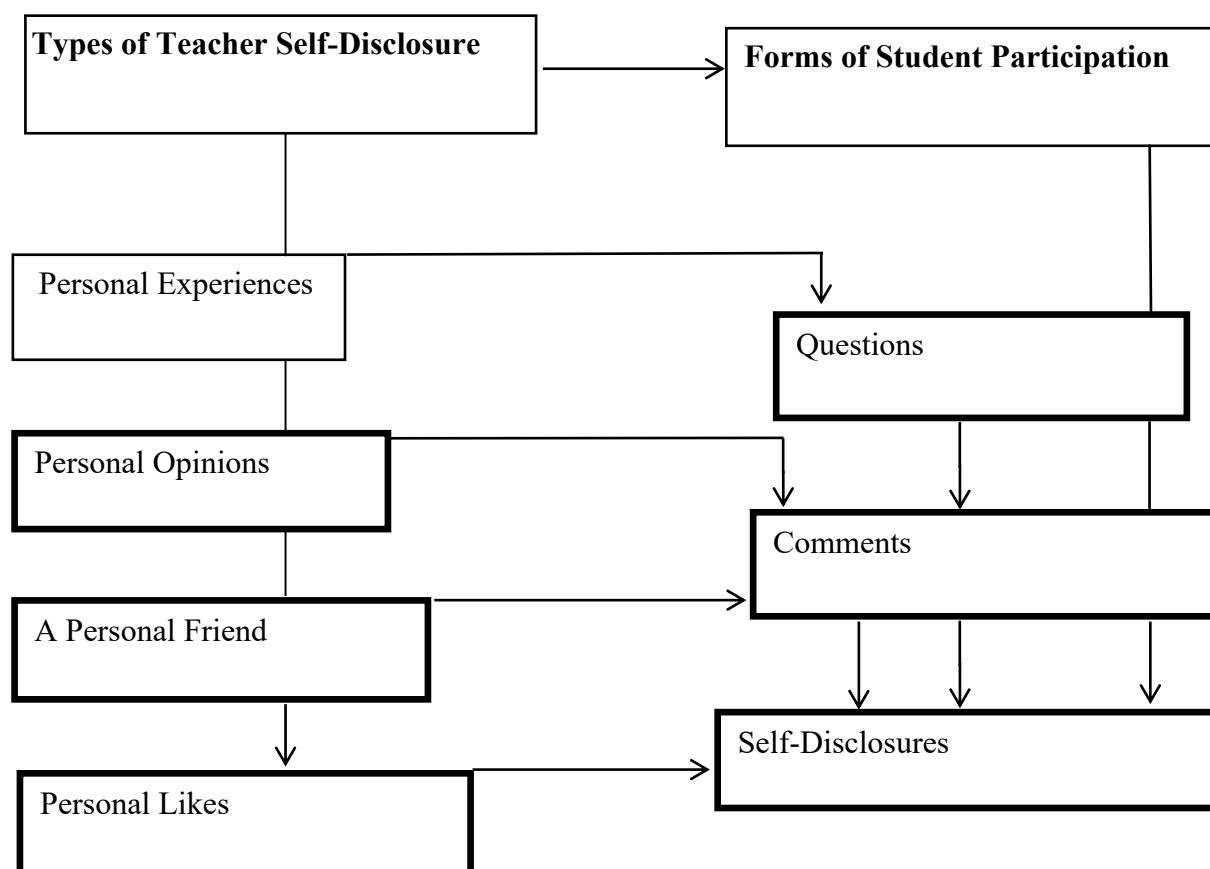
T: Sometimes learners learn that through books.
S2: I think that there are values like risk taking that we learn from Americans because we like them.
T:That's another American value.

In Extract 3, the professor was covering issues related to the concept of deep culture and second language learning. She used her personal experience with Valentine's Day to give an example of deep culture, which quickly elicited S1's opinion. T then commented on S1's opinions before S2 communicated his personal point of view about another example of deep culture (i.e., "I think that there are values like risk taking…"). After that, T responded to S2 and quickly moved to another point in the course content. This incident presents a sequence where both the instructor and learners were involved in classroom communication in the learning process.

Further, the instructor's use of a friend to explain the course content helped elicit students' comments as Extract 4 from Pragmatics reveals:

T: There was a teacher studying at Buffalo University doing her Master's, and I visited her. It was vacation. We did not go to bed … until, hmm, around 5:00 in the morning we were still awake. One of the students was passing by and said, 'Oh! You are still awake,' and this Moroccan student, my friend, said, "We need to make coffee now. It's almost the morning." And this Moroccan student was communicating according to the Moroccan norms of interaction, and the other student did not understand and said, "That would be lovely." She understood it as an offer for coffee.
Ss: (laughter)
S1: She meant one thing but conveyed another thing.
S2: She translated her norms of interaction in an inappropriate context.
T: Yes, she was communicating according to her native norms of interaction, and there was a clash.

In Extract 4, the professor was discussing the inappropriate use of language in the foreign culture.

The T shared a story that happened to her friend to explain the course content when she was in the U.S.A. Her personal disclosure (i.e., using a friend) generated laughter on the part of learners. Right after that, S1 and S2 showed signs of understanding the topic of discussion by taking the initiative to give comments on the T's disclosure, which helped clarify the course material in an amusing way.

The Reciprocity of Personal Information

The findings also indicated that teachers' use of personal disclosures motivated students to reciprocate their personal information in return. For instance, Extract 5 from Guided Reading and Extract 6 from Public Speaking and Debate respectively suggest that the teachers' use of personal opinions helped elicit students' opinions on the spot.

> T: "For me, revenge is against the noble values of humanity."
> S1:"I think revenge makes situations worse."
> T: "Yes, revenge is not a solution."

In Extract 5, the professor was discussing the theme of "revenge" in a play written by Shakespeare. She used her opinion (i.e., for me, revenge is against…), which encouraged S1 to self-select a turn to reciprocate his viewpoint before the teacher finished the discussion by approving the learners' opinion. According to this incident, though the T's self-disclosure (i.e., her opinion) begot S1's self-disclosure (i.e., his opinion), it did not create turns among students since only one S got involved in interaction with the T.

> T: I believe it is not easy to develop effective time management competence skill. This takes time and you need to train yourself…
> S1: You should also be a good manager to organize your time and…that's my point of view.
> T: Yeah, and you need awareness and consciousness. When you are aware about time management, this enriches (interruption).
> S2: Time is precious … We need to organize it.
> T: Yes, so to develop awareness about time is very important. I'll give you an example; sometimes you just use your mobile phone excessively, and you are not aware of the consequences, and you start feeling…Oh my God (yawning), I need to go to bed, and you become addicted to that at the expense of important priorities.

In Extract 6 the professor was discussing the concept of time management in his class. He employed his opinion about the topic, which motivated S1 to use language to express his viewpoint (i.e., you should also be a good manager to organize your time…). Then T interfered to interact with S1 by giving further information to clarify his opinion (i.e., yeah, and you need awareness and consciousness…) before S2 self-selected his turn by interrupting the discussion to make a comment on the topic of discussion (time management). This incident presents a sequence where both the instructor and learners contributed to class discussion in the learning process.

Further, teachers' use of personal likes propelled students to reciprocate their personal likes in the interaction process as Extract 7 from Introduction to Media Studies shows:

> T: I always listen to the radio while driving, and Hit Radio is my favorite station.
> Ss: (laughter)
> S1: I listen to Hit Radio when taking a taxi to the university, and my favorite program is Le Morning de Momo.
> S2: I like to listen to Hit Radio because it plays the latest songs.
> T: That's why I listen to Hit Radio: because I like their playlists.
> Ss:(laughter)

In Extract 7, the professor dedicated part of the session to discussing issues related to the radio. She introduced the course content by using her personal experience and preference for the topic of discussion. This incident of self-disclosure generated humor in class in that some Ss started laughing. Immediately, S1 self-selected her turn to disclose her favorite radio station. This also encouraged S2 to share her admiration for listening to the radio station: "I like to listen to Hit Radio." Following that, T responded to S2 by reciprocating her personal preference for listening to Hit Radio (i.e., "That's why I listen to Hit Radio..."), which again created humor in class.

Laughter

Unexpectedly, the teachers' use of examples of their personal disclosures created occasional laughter in the learning process. For instance, when the instructors shared their personal friends (see Extract 4) and likes (see Extract 7), students not only contributed to classroom participation, but also engaged in laughter. Interestingly, the teacher's employment of personal experiences as shown in Extract 8 from Applied Linguistics generated humor only in the teaching process:

> T: Toward the end of the eighties, we tried to switch to this form of addressing your teacher by using first names. We told our students, you don't have

to call us "professor" after you know us for an acceptable period of time; you can switch to first names. And students started to, you know, use it inappropriately. One student [the teacher waving with her hand] in the parking lot called her professor: "Hey, Fatima!" (a fake name).

Ss:(laughter)…

T: This showed disrespect, and then we decided to switch to the normal way of addressing teachers. There are things which are appropriate in one context and not in another one.

In Extract 8, the professor devoted part of the session to introducing norms of appropriate and inappropriate ways of greeting. She explained the course content by incorporating her professional experience, which led to laughter on the part of learners, suggesting that they were paying attention and showed a sign for understanding the example. But the self-disclosure did not encourage Ss to engage in participation to comment on the topic. Therefore, she continued discussing the topic before moving to another point in the course material.

Discussion

Results showed that the types of teacher self-disclosure identified in the data were personal experiences, opinions, likes, and a friend, which elicited students' questions, comments, self-disclosures, and unexpected laughter. In short, the findings indicated that teacher self-disclosure encouraged students to communicate with teachers and reciprocate their personal information while engaging in occasional laughter.

As for teacher self-disclosure in relation to teacher-students communication, the instructor's personal experiences encouraged students to engage in the course material by asking questions (Extract 1), making comments (Extract 2), and sharing their personal opinions (Extract 3). The teacher's use of her friend also made students contribute to class communication by providing comments (Extract 4). Extract 1 from Spoken English suggests that the T's self-disclosure (i.e., his personal experience in the U.S.A.) motivated the learner to show willingness to engage in an advanced level of class participation by giving an oral presentation (see Fritschner, 2000), which would allow her to communicate for an extended period of time (see, Cohen, 1991) in the subsequent session. The fact that S2 had to do research to give an oral presentation about community service reveals that she engaged in functional motives to communicate with her teacher since she liked to learn more about the course material (see Martin et al., 1999). An interesting observation is that whenever teachers used their personal experiences (see Extracts 1, 2, and 3), learners, although they

participated, never reciprocated their own personal experiences, as evidenced in the first three Extracts. An adequate explanation is that students may not have been exposed to similar experiences yet. If they have already studied abroad and experienced culture shock in a foreign culture as the teachers of Spoken English and Pragmatics, they could have gotten involved in a beneficial interaction with their teachers by sharing similar personal experiences.

On the contrary, teachers' employment of personal opinions (Extracts 5 and 6) and likes (Extract 7) encouraged students to reciprocate their personal information. Jourard (1971) found a strong relationship between self-disclosure and liking, meaning that if person X discloses personal information to person Y, the latter feels liked and trusted. Interestingly, the social exchange model posits that the rewarding value of an instructor's self-disclosure requires the student to respond in kind (Archer, 1979). Additionally, Tardy and Dindia (2006) agreed that self-disclosure predicts liking in that when individuals like each other, they become eager to know deeper information, such as attitudes, feelings and personal experiences. This explains why teacher self-disclosure may help develop a positive teacher-student relationship and various aspects of student motivation (Jebbour, 2018), including affective learning (i.e., affect for teacher and course) (Sorensen, 1989), student interest (Cayanus & Martin, 2008), and attitudes toward language learning (Farani & Fatemi, 2014). Hence, the amount and relevance of teacher self-disclosure are a way to humanize the learning environment (Goldstein & Benassi, 1994; Jebbour, 2018) in which students may feel comfortable to get involved in active classroom participation.

Unexpectedly, the instructors' employment of a personal friend (Extract 4), likes (Extract 7), and experiences (Extract 8) encouraged students to contribute to class discussions while engaging in occasional laughter. This suggests that the teachers' use of these different types of personal disclosures did not only elicit students' oral contribution and attract their attention, but also made the course content comprehensible for learners since laughter evidenced that understanding had taken place. Previous studies indicated that relevant teacher self-disclosure is an effective instructional technique in increasing the clarity of the course material presented for students (Cayanus & Martin, 2008; Wambach & Brothen, 1997). This may show that students enjoyed listening and contributing to class discussions.

As a final comment, Extracts 1, 3, 4, 6, and 7 suggest that teacher self-disclosure encouraged more than one student to engage in in-class participation. However, in Extracts 2 and 5 teacher self-disclosure and student participation took the form of teacher-student interaction. It is no surprise, then, to stress that "self-disclosure is a

rich personal source of student-faculty communication" (Fusani, 1994, p. 249) inside the classroom. Focus in those conversations was on discussing ideas and concepts to enrich the course content, indicating that relevant teacher self-disclosure helped generate an atmosphere conducive to learning and foster meaningful classroom communication between teachers and students. Importantly, relevant teacher self-disclosure helped bring an authentic atmosphere inside the classroom where students had an essential opportunity to use English to satisfy their real communicative goals. This suggests that teachers could connect their personal matters to classroom teaching, which may hopefully help students recognize the value of what they are learning in class.

The research question asked whether teachers' use of self-disclosure to explain the course content encourages student participation in the English language classroom. Based on current results, this study suggests that teachers' use of self-disclosures to explain the course material served as an effective instructional practice, without using questioning techniques or cold-calling, to motivate the learners to self-select turns to interact with their teacher and reciprocate their personal information while engaging in occasional laughter. There are four reasons to support our conclusion. First, student participation is not graded in the context where this study took place. Hence, this practice is likely to discourage students to participate since they may not see the value of their contribution to class discussions. Smith (1992) previously found that student participation depends on how much their involvement counts toward their final grade. Second, first- and second-year courses had larger class sizes. Nunn (1996) found that classes with over 35 students provide fewer participatory opportunities. Third, homework is not mandatory in the Fez Department of English, and thus teachers rarely give students assignments before they meet in each session. Thus, students usually come to class unprepared and have no idea about the course content of subsequent sessions. "If students know that there is a chance they will be asked to participate during class meetings, they may be more inclined to prepare themselves to do so" (O'Connor, 2013, p. 340). Fourth, students' immediate reactions to teacher self-disclosure should be understood as an initiative to participate on behalf of their classmates. Accordingly, the degree of student participation, albeit lasting a few seconds, to respond to teacher self-disclosure is undoubtedly deemed optimal in such situations.

Conclusion, Implications, and Limitations

This study offered essential implications by exploring whether teachers' use of self-disclosure to explain the course content encourages student participation in the university English language classroom. First, this manuscript introduced the types of teacher self-disclosure in relation to the observed forms of student participation and other incidents, mainly laughter, and argued that teacher self-disclosure might be included in different subject matters at the university level. For instance, teachers could use their disclosures when working out themes from literary works, such as short stories, novels, and plays. Such genres often reflect issues concerned with everyday life stories where teachers' opinions, experiences, etc. may add value to the course material and hence achieve desirable effects. Teachers can also incorporate their self-disclosures in courses of linguistics including sociolinguistics and applied linguistics since issues that emerge in such courses often deal with the use of complex language to achieve a certain purpose. In this context, teachers can share their personal experiences as learners of English and interesting incidents which happened when they were communicating in English and interacting with native speakers.

Second, the Moroccan students, without preparing for class and having prior knowledge of the course material, have immensely increased teacher talk time in class. To overcome this problem, teachers need to employ self-disclosure when it is relevant to the course content so that students, as Cayanus et al. (2009) noted, feel motivated to play an active role in the learning process. Third, the degree of students' absolute dependence on their teachers as the only source of knowledge to learn about the course material tends to hamper students' contribution to class discussions. Therefore, the use of relevant self-disclosure, especially opinions and likes by teachers, might automatically invite learners to voice their opinions and likes, thereby leading to an effective teacher-student interaction. Fourth, the relevance of teachers' disclosures may be a way to generate an interpersonal atmosphere in the learning environment in which students feel encouraged to contribute to class discussions. Fifth, given teacher self-disclosure—particularly of likes, friends, and experiences—could help generate laughter in class, and instructors are encouraged to use such information to capture students' attention in the educational process. Sixth, the awareness of including self-disclosure as a teaching practice to illustrate the course material while designing lesson plans may better inform teachers whether the desirable pedagogic objectives have been met at the end of each course. Lastly, the fact that instructors commonly misuse self-disclosure as a teaching strategy (Goodboy et al., 2014) justifies the need for including self-disclosure training in teacher education programs.

The findings further understanding of teacher self-disclosure and student participation in the classroom context. But like any piece of research, this study had limitations. First, this study observed only

undergraduate courses in the Department of English Studies. If the researchers had observed master's courses, where students' language proficiency is advanced, they could have collected richer data and hence developed new themes and categories. Second, this study did not examine whether the impact of teacher self-disclosure on student participation was mediated by other extraneous variables (e.g., teachers' gender, experience, and age). Third, this study did not test the impact of newly emerged dimensions of teacher self-disclosure, particularly appropriateness which may be linked to the outcome variable.

Given these limitations, several future directions should be considered. To triangulate the research further, it would be useful to explore the views of students about which types of teacher self-disclosure they would respond to in class. This would help to find out whether the types of self-disclosures identified in the data are more beneficial to foster student participation and are common to those that students think they may respond to. Further research needs to examine other language classes, such Spanish and Arabic, and hard disciplines like mathematics and physics to observe if the content of teacher self-disclosure generated from this study is similar or different to other discipline areas. Further, it would be useful to examine the effects of teacher self-disclosure on student participation from a gender perspective. In this regard, a comparative method on self-disclosures by male teachers and female teachers in relation to the outcome variable in class may yield interesting results. Exploring the effects of teacher self-disclosure on humor may further add interesting issues to the literature. Lastly, if another study expands observations to postgraduate courses, which are characterized by small class sizes, it may provide a stronger relationship to student participation.

Previous research, using teacher-self-disclosure as an independent variable, assessed student participation quantitatively (Cayanus et al., 2003; Cayanus & Martin, 2004a; Cayanus & Martin, 2004b; Cayanus & Martin; 2008; Cayanus et al., 2008; Cayanus & Martin, 2008; Cayanus et al., 2009; Goldstein & Benassi, 1994; & Wambash & Brothen, 1997). However, this manuscript filled this methodological gap by studying student participation through a qualitative analysis approach, which "presents more of a measurement challenge" (Rocca, 2010, p.187) and provided the basis for research on teacher self-disclosure in the Moroccan context in general and the language classroom in particular.

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Appendix A
Classroom Observation Sheet

Section One: Background Information
Course title:
Date:
Time:
Level of students:
Section Two: Teacher Self-Disclosure

	Observed	Not Observed
Teacher uses his/her personal information to explain the course material		
Examples:		

Section Three: Students' Reactions

	Observed	Not Observed
Student asks questions when responding to teacher self-disclosure		
Examples:		

	Observed	Not Observed
Student gives comments when responding to teacher self-disclosure		
Examples:		

	Observed	Not Observed
Student reciprocates personal disclosures when responding to teacher self-disclosure		
Examples:		

Section Four: Unexpected Phenomena

	Observed	Not Observed
Student reacts with different behavior to teacher self-disclosure		
Examples:		

Numeracy and Adults' Learning Readiness and Commitment: Results from a Large National Random Sample of Participants

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The rapid changes in our society have amplified the need for adult learning opportunities. However, adults often make decisions not to persist in formal learning experiences in a smooth, linear fashion. The decision to pause or terminate formal learning is a complex behavioral decision that includes knowledge, the cognitive process, personal belief, and environmental context. Because the construct of numeracy also necessitates the use of content, cognitive processes, dispositions, and context, this study examined the link between adults' numeracy abilities and learning readiness and commitment. This study analyzed the program for the International Assessment of Adult Competencies (PIAAC) Survey Adult Skills which was collected via a representative national random sample. The findings suggest numeracy abilities have a small, positive relationship to readiness to learn and learning persistence.

In our constantly changing world, where new knowledge and technologies emerge each day, the gap between what individuals know and what they need to know is ever-widening (Robinson & Aronica, 2015; Wagner, 2010). Cross (1992) contended that change in society has become so great "that no amount of education during youth can prepare adults to meet the demands that will be made on them" (p. 2). Therefore, in order to thrive, adults must learn. Adult learning can range from watching YouTube videos in order to gain new skills to studying for advanced degrees at a post-secondary institution. Regardless of the formality, adult learning occurs in pursuit of personal goals (Comings, Parrella, & Soricone, 1999; Courtney, 1992; Ginsberg & Wlodkowski, 2010; Rubenson, 1977; Schleicher, 2013; Tough, 1979).

Due to the complexities of adult life, adult formal learning does not always occur in a smooth, linear fashion. Temporary pauses in the formal learning process often occur, not because adults are uncommitted, but rather, because they must make choices about personal priorities and goals (Comings, 2007). Therefore, the definition of learning persistence for adult learners must be framed with these dynamics in mind. Comings et al. (1999) explained that adult persistence should be defined as "adults staying in programs for as long as they can, engaging in self-directed study when they must drop out of their programs, and returning to programs as soon as the demands of their lives allow" (p. 3). The method and the pace of adult formal learning are choices. Therefore, to understand an adult's commitment to partake and persist in formal learning experiences, the decision-making process to initiate formal learning, exit formal learning, and reengage in formal learning must be explored to identify mechanisms to assist adult learners in completion of their personal formal learning goals. Investment in formal education does not come without a cost, and that cost is often not offset with the reward of a formal qualification when adult learners fail to persist.

Bernanke (2007) declared that "deciding how much to invest in their education is one of the most important economic decisions people make during the course of their lives" (Bernanke, 2007, para. 4). Because educational decisions, like other economic decisions are not made in a vacuum, individuals respond differently based on personal experiences and beliefs, understanding of facts, and environmental framing of the situation (DellaVigna, 2009; von Winterfeldt, 2013). Thus, behavioral economists seek to understand the intricacies of this process to discover a conduit to better decision making.

Because decision making integrates cognitive processes, environmental context, and personal beliefs, researchers have explored a link between decision making and numeracy. Numeracy, or the "the ability to access, use, interpret, and communicate mathematical information and ideas, in order to engage in and manage the mathematical demands of a range of situations in adult life," may seem like an unlikely indicator of behavioral economic decision, but the opposite is true (PIAAC Numeracy Expert Group, 2009, p. 21). Numeracy, like decision-making, requires the use of knowledge and cognition combined with personal values and beliefs. Also, like decision-making, numeracy behaviors are entrenched in an individual's personal environment, allowing him to "effectively cope with or respond to a range of situations that are embedded in a life stream with real, personal meaning to them" (PIAAC Numeracy Expert Group, 2009, p. 15). Thus, there is a large intersection between the constructs of decision-making and numeracy.

Numeracy Defined

Numeracy can be thought of as the complement of literacy. The term originated in 1959 as part of the Crowther's report (Ministry of Education, 1959). Initially, the term carried the idea of not only quantitative, but also scientific reasoning (Ministry of

Education, 1959). However, more recent constructs of the term lean toward practical application of mathematical life skills.   While there are many interpretations of what numeracy entails, the analysis of formal definitions and framework reveals four themes: content, cognitive processes, dispositions, and context.

Ginsburg's, Manly's, and Schmitt's (2006) study, which compared many numeracy frameworks, created four classifications of adult numeracy content:

- Number and Operation Sense;
- Patterns, Functions, and Algebra;
- Measurement and Shape; and
- Data, Statistics, and Probability.

While numeracy content can be agreeably categorized into four major areas, these boundaries are not clean breaks between the groupings and thus cannot be mastered in isolation to one another.   Ginsburg et al. (2006) suggested, "Numeracy skills do not stop at 'being good with numbers.' Numeracy for the twenty-first century is a much richer construct" and therefore, a broad and deep understanding of numeracy is essential (p. 19). In fact, many numeracy assessment frameworks identify cognitive processes associated with numeracy alongside the content categories.

A cognitive process is a way that individuals acquire and make meaning of new knowledge (Garner, 2007). Condelli (2006) outlined a cognitive process framework for numeracy that consisted of three levels. This framework, developed during Maguire's and O'Donoghue's (2002) presentation at the International Conference for the Adult Learning of Mathematics, demonstrates that cognition skills in numeracy-based scenarios increase in complexity. The lowest level of complexity is a routine replication of basic arithmetic (Maguire & O'Donoghue, 2002). Evans, Waite, and Admasachew (2009) called this the limited proficiency model, which requires simple recall, no application, and a very low level of cognition. The complexity increases to application of knowledge to everyday life.

Numeracy is context-dependent. This delineates numeracy from mathematics. Mathematics is "pure and context-free," whereas, numeracy has a "distinctive personal element" that is embraced uniquely by each individual (Ginsburg et al., 2006, p. 1).   Thus, numeracy, "unlike mathematics…, does not so much lead upward in an ascending pursuit of abstraction as it moves outward toward an ever richer engagement with life's diverse contexts and situations" (Orrill, 2001, p. xviii). The OECD (2013) suggested that numeracy "assists individuals to recognize the role that mathematics plays in the world and to make the well-founded judgments and decisions needed by constructive, engaged, and reflective citizens" (p. 25). The complexity builds to a "complex, multifaceted, and

sophisticated construct, incorporating the mathematics, communication, cultural, social, emotional, and personal aspects of each individual in context" (Condelli, 2006, p. 7; Maguire & O'Donoghue, 2002). At this level, individuals are "empowered as 'knowledge producers' as well as 'knowledge consumers'—that is, to be technologically, socially, personally, and/or democratically numerate" (Maclean & Wilson, 2009, p. 2737).   Growing complexity of cognition is not necessarily a simple linear process disconnected from other life factors.

While cognition can be advanced at any age or life stage (Garner, 2007), in order to apply numeracy skills in these sophisticated ways, learners must possess the relevant schema to organize and process numerical information. If this does not exist, "it reinforces the idea that mathematics makes no sense and the belief that the student is not good at math and has no hope of mastering it" (Wallace, 2011, p. 6). Fitzsimons (2005) advocated, "The formal activity of learning mathematics at any stage of life is intimately bound up with the identity of the learner" (p.13). Thus, any disconnect between skill level and cognition level can be the cause of negative impact on a learner's identity.

Learner numeracy identity, particularly in adults, is complex and built over time, across many interactions with numerical concepts. These repeated interactions establish beliefs that begin to stabilize and define an individual's personal conception of their ability. These affective beliefs, or dispositions, cannot be divorced from the cognitive work of mathematics. Kilpatrick, Swafford, Findell, and National Research Council (U.S.), (2001) defined disposition of mathematics as the following:

> The tendency to see sense in mathematics, to perceive it as both useful and worthwhile, to believe that steady effort in learning mathematics pays off, and to see oneself as an effective learner and doer of mathematics. If students are to develop conceptual understanding, procedural fluency, strategic competence, and adaptive reasoning abilities, they must believe that mathematics is understandable, not arbitrary; that, with diligent effort, it can be learned and used; and that they are capable of figuring it out (p. 131).

While a negative disposition towards mathematics does not necessarily correlate to low intellect and can exist in individuals who possess strong cognitive ability, negative dispositions can form a barrier to adult learning (Ginsburg & Asmussen, 1988). Ginsburg and Asmussen (1988) referred to this strong relationship between feelings, emotions, and personal meanings as "hot mathematics" (p. 89).   Consequently, as individuals' negative dispositions are linked to

numeracy, their perceived self-efficacy can decline.

Bandura (1977) described self-efficacy as "beliefs in one's capabilities to organize and execute the course of action required to produce given achievements" (p. 3). Adult self-efficacy, while forward-focused on future outcomes, is built largely on past experiences. Of all aspects of self-perception, self-efficacy is the strongest predictor of adult behavior (Bong & Skaalvik, 2003; Wlodkowski, 2008). To build self-efficacy in learners, one strategy often employed is to remove the level of sophistication and cognitive demand from the learning situation. However, Noss (1998) warned that by moving toward what is learnable (facts and recall), one moves away from what is valuable (application and creation). Accordingly, if complexity is divorced from numeracy for the sake of building self-efficacy, adults may gain a more positive disposition toward the subject but make lack the ability to apply skills within a rich social environment. Thus, the process of building self-efficacy related to numeracy must move adults to the highest cognitive levels so that they are able to employ their skills and dispositions to make life decisions that allow them to achieve personal goals.

Therefore, adult numeracy is a complex process which holds the potential for enduring impact across life's many circumstances. Researchers, primarily in the fields of medicine and finance, have revealed this intersection. Studies have shown that high numeracy predicts better judgment, superior risk analysis, and more measured decisions (Benjamin, Brown, & Shapiro, 2013; Jasper, Bhattacharya, Levin, Jones, & Bossard, 2013; Pachur & Galesic, 2013; Peters, 2012). Since behavioral economists have related numeracy to individuals' choices, numeracy may potentially be a strong predictor of adults' decisions to be committed to learning.

Research in remedial numeracy programs has revealed positive correlations between increased numeracy abilities and adult learning trajectory. Bynner and Parsons (2009) suggested, "Skills supply the basic protective resources on which successful achievement in adult life is likely to be based, and at the core of these resources lie literacy and numeracy without which progress is likely impeded" (p. 29). Furthermore, adults who lack literacy and numeracy skills have "increasing risk of marginalization and social exclusion" (Bynner & Parsons, 2009, p. 29). Similarly, Metcalf and Meadows (2009) suggested that adults in literacy and numeracy programs created "a stronger sense of themselves as people and as learners; perhaps this first tentative step into learning will be the catalyst that enables them to fight back against existing power and privilege" (p. 346). Maclachlan, Tett, and Hall (2009) provided evidence that this may be true as they discovered that adults involved in these programs were significantly

more likely to enroll in future learning courses. Thus, the value of numeracy may be "that it opens the way to further learning opportunities…enabling people to progress to future education and training" (p. 239). Recently, Patterson and Paulson (2016) examined numeracy skills of adults who participated in the PIAAC Survey of Adult Skills and indicated participation in learning experiences, both formal and informal, in the last 12 months was positively related to numeracy skills. Therefore, the current literature suggests continual numeracy skill development and use pave the way for positive self-concept and meaningful learning engagement in educational experiences.

Current Investigation

The current investigation seeks to fill a gap in the existing literature. Many of the studies done to this point examine adults with experiences in numeracy programs who often possess the lowest level of numeracy skills. While Patterson and Paulson (2016) did investigate numeracy and learning in a large random sample, their focus was on learning both, formal and informal, and limited to activities in the past year prior to the survey. Since numeracy in these past studies has been shown to have positive educational outcomes, the current study seeks to extend this research by looking at the relationship of numeracy skills and formal learning qualifications in a large random sample of adults. Furthermore, the current study seeks to examine the relationship between persistence to a formal qualification after a uncompleted qualification. The research problem will explore if numeracy is related to commitment of adult learners in formal learning when controlled for other factors.

Methods

This study explored the relationship between numeracy and commitment to learning in adults in the United States. The data set selected was the OECD's PIAAC Survey Adult Skills' (2016) database. This section will outline the methodology utilized to explore the following research questions:

1. To what extent was numeracy ability related to a readiness to learn within formal and informal settings?
2. To what extent was numeracy ability related to the level of formal learning?
3. To what extent was numeracy ability related to quitting formal education?
4. To what extent was numeracy ability related to quitting and reentering formal education?

Data Source and Instrumentation

PIAAC is a large-scale international assessment directed by the OECD (2016). PIAAC administers the Survey of Adult Skills, which gathers individuals' levels of literacy, numeracy, and problem-solving in technology-rich environments (PSTRE), along with demographic and background information (OECD, 2016). PIAAC is a direct survey administered to individuals ages 16-74 in their homes. This on-going assessment was delivered in two cycles and a third future cycle is planned. The first round, from 2008-2013, involved 24 countries. The second, 2012-2016, expanded to an additional nine countries.

The current investigation will utilize data derived from the United States' sample from rounds 2012 and 2014, which consisted of 8,670 randomly selected individuals between the ages of 16-74. The sample was sufficient as "the effective sample size, which is the sample size needed to achieve the same sampling variance as a simple random sample, is 2,211" (OECD, 2016, pp. 1-181). Of the identified United States' population, 0.08% were excluded due to location barriers in their gated community (OECD, 2016, pp. 7-181). This is well within the bounds of the 5% non-inclusion rate established in the original data collection.

The non-response bias analysis showed fewer respondents who were 150% below the poverty level. Further analysis also showed the lowest response rates for the following groups:

Hispanics age 26 and older, With no children in the household, Not living in the Northeastern United States, Living in segments with unemployment exceeding 4.8 percent, and Living in areas (Census tracts) with less than 5.1 percent of the population being linguistically isolated. (OECD, 2016, pp. 7-181)

Table 1.
PIAAC Expert Group Framework for Numerate Behavior

Numerate behavior involves managing a situation or solving a problem…
1. In a real context:
   -everyday life
   -work
   -society
   -further learning
2. by responding
   -identify, locate or access
   -act upon and use: order, count, estimate, compute, measure, model
   -interpret
   -evaluate/analyze
   -communicate
3. to mathematical content/information ideas:
   -quantity and number
   -dimension and shape
   -pattern, relationships, change
   -data and chance
4. represented in multiple ways:
   -objects and pictures
   -numbers and mathematical symbols
   -formulae
   -diagrams and maps, graphs, tables
   -texts
   -technology-based displays
5. Numerate behavior is found on the activation or several enabling factors and processes:
   -mathematical knowledge and conceptual understanding
   -adaptive reasoning and mathematical problem-solving skills
   -literacy skills
   -beliefs and attitudes
   -numeracy-related practices and experience
   -context/world knowledge

Note. Reprinted from OECD. (2016). Technical report of the survey of adult skills ([PIAAC], 2nd ed., pp. 2-7).

Table 2.
Final Numeracy Question Set Distributed by Context.

	Final item set	
	Number	%
Everyday life	25	45
Society and community	14	25
Further learning	4	7
Total	56	100

Note. Reprinted from OECD. (2016). Technical report of the survey of adult skills ([PIAAC], 2nd ed., pp. 2-26).

Table 3.
Final Numeracy Question Set Distributed by Cognitive Processes

	Final item set		Framework goal
	Number	%	Number
Act upon, use	34	61	50
Identify, locate or access	3	5	10
Interpret, evaluate	19	34	40
Total	56	100	100

Note. Reprinted from OECD. (2016). Technical report of the survey of adult skills ([PIAAC], 2nd ed., pp. 2-26).

Factors that favored a greater response rate were presence of children in the household, younger individuals ages 16-34, individuals with children 16 years and younger, and women. Equal probability sampling was used for dwelling units. Of the entire United States' sample, 98.9% the individuals who began the background questionnaire completed the assessments of numeracy, literacy, and PSTRE.   The assessment was offered computer-based or with paper and pencil for individuals with limited computer experience. In the United States, of the 94.8% who completed the assessment, 79.9% completed the computer-based assessment, and 14.9% completed the paper-based assessment. The United States followed PIAAC procedures for addressing bias and variance. More information about the soundness of the sampling methodology can be located at https://www.oecd.org/skills/piaac/PIAAC_Technical_Rep ort_2nd_Edition_Full_Report.pdf

The development of the PIAAC Survey began in 2008. Teams of experts developed the literacy, numeracy, and PSTRE framework, as well as the questionnaires and digital tools. The framework for numeracy was created to parallel the Adult Literacy and Life Skills Survey (ALL) in the area of numeracy. The assessment, a multistage-adaptive design, analyzed clusters of responses before offering the next test item and did not have any open-ended questions that required human scoring (OECD, 2016). "PIAAC was the first international comparative survey to include multistage adaptive testing as part of the Main Study" (OECD, 2016, pp. 1-12). Countries were tasked with "translation and adaptation of the master English language versions" of the surveys (OECD, 2016, p.12). A field test was conducted in 2010. Adaptions were

made based on the field test, and the final version of the first-cycle main study was confirmed in 2011. Likewise, the second-cycle field test took place in 2013, and the main study began in 2014. An abbreviated outline of the validation of the instruments is provided below. More information about the field test and validation can be located at https://www.oecd.org/skills/piaac/PIAAC_Technical_R eport_2nd_Edition_Full_Report.pdf

This study focused specifically on the numeracy framework and the background questionnaire; therefore, a more thorough description is provided regarding those areas. The numeracy framework was created using construct-centered approach consisting of four steps (Messick, 1994). First, an expert group defined and organized the domain so findings from the data could be distilled in meaningful ways. Table 1 outlines the framework for numerate behavior outlined by the expert group (OECD, 2016, pp. 2-7).

Based on these defined domains, tasks were identified that created the highest degree of authenticity combined with a variety of question types and levels. This included differing amounts of text in the question and a variety of response methods, such as drop-down, numeric entry, and click.

The numeracy question related to different contexts, cognitive processes, and content. Table 2 demonstrates the four contexts in which questions were embedded. The largest portion of the questions focus on everyday life, society, and community.   The questions also require respondents to employ different cognitive processes.

Table 3 describes how the questions are distributed between less challenging and more challenging cognitive

Table 4.
Final Numeracy Question Set Distributed by Content

	Final item set		Framework goal
	Number	%	%
Data and chance	12	21	25
Dimension and shape	16	29	25
Pattern, relationships and change	15	27	20
Quantity and change	13	23	30
Total	56	100	100

Note. Reprinted from OECD. (2016). Technical report of the survey of adult skills ([PIAAC], 2nd ed., pp. 2-27).

Table 5.
PIAAC Numeracy Proficiency Levels.

Level	Literacy – Score	Numeracy – Score
Below level 1	0-175	0-175
1	176-225	176-225
2	226-275	226-275
3	276-325	276-325
4	326-375	326-375
5	376-500	376-500

Note. Reprinted from OECD. (2016). Technical report of the survey of adult skills ([PIAAC], 2nd ed., pp. 18-13).

applications of numeracy. The majority of the questions are upper-level application and evaluation processes.

The questions were also spread across the content that constitutes numeracy. Table 4 shows that the questions are relatively equally distributed among the four areas of the content framework.

Furthermore, an interpretive scheme for proficiency levels was established. Numeracy scores were reported across 6 levels on a 500 points scale. Table 5 displays these levels.

The assessment construction process and the questions' itemization demonstrate that the numeracy framework was well developed and constructed.

The background questionnaire (BQ) was carefully constructed and the data quality monitored. The BQ was developed to have multiple indicators of the same construct. Non-response bias assessment (NRBA) was required by all countries for inclusion in the data set. The following is in accordance with the OECD (2016):

"[A] more extensive NRBA was required if the overall response rate was below 70%, or if any stage of data collection (screener, BQ, or the assessment) response rate was below 80%. An item NRBA was required for any BQ item with response rate below 85%" (pp. 16-25).

This study used several variables from the PIAAC data related to demographic information, level of education, education in the last 12 months, and one derived subscale. These variables were field tested in a previous round of data collection and were considered sound. The demographic information used included gender, ethnicity, and socio-economic status. For socio-economic status, the parents' education level, when the respondent was 16, was used, as it was identified as the strongest indicator by the PIAAC technical report (OECD, 2016).

Furthermore, the background questionnaire contained several subscales, including the readiness to learn subscale (OECD, 2016). During the field test, in order for a subscale to be retained in the PIAAC survey, three criteria were required: acceptable scale reliability (Cronbach's alpha > 0.6), non-redundant correlation (Mean correlation < 0.7) with other subscales, and no significant between-country differences (Weighted root mean squared difference (WRMSD) < 0.25) (OECD, 2016). The six questions, I_Q04b, I_Q04d, I_Q04h, I_Q04j, I_Q04l, I_Q04 on the readiness to learn subscale met two of these criteria (Cronbach's alpha > 0.85 and range of mean correlation -0.08 – 0.44) (OECD, 2016). However, while the construct did not quite meet the between-country differences' criteria (WRMSD < 0.41) other strengths of the other statistical evidence suggested it was a very reliable scale, so it was retained (OECD, 2016). More information regarding the development and validation of the variables for the study can be found at https://www.oecd.org/skills/piaac/PIAAC_Technical_Report_2nd_Edition_Full_Report.pdf

Table 6
Descriptive Data for Population Demographics

	N	Percent
Gender		
Male	4011	46.3
Female	4659	53.7
Ethnicity		
Hispanic	1101	13.0
White	5269	62.3
Black	1450	17.1
Other Race	641	7.6
Age		
16-24	2038	23.5
25-34	2100	24.2
35-44	1253	14.5
45-54	1301	15.0
55-65	1229	14.2
66 +	749	8.6
Highest Level of Education		
< High School	1404	16.1
High School	3636	41.9
Certificate	679	7.8
Associate Degree	630	7.3
Bachelor Degree	1310	15.1
Graduate Degree	796	9.1
Parents' Level of Education		
High School or Below	1431	17.9
Post-Secondary but No Graduate	3546	44.4
Graduate	3002	37.6

Note: Ethnicity had 209 missing cases; Highest Level of Education had 198 missing cases; Parents' Level of Education had 691 missing cases.

This study utilized the PIAAC Survey of Adult Skills' database. The data were accessed via the International Database Analyzer (IDA), then exported to SPSS for analysis.

Description of the Sample

The current investigation sought to analyze a sample of adults (*n*= 8670) in the United States between the ages of 16 - 74. Several demographic variables from the Background Questionnaire (BQ) were analyzed to describe the population, including gender (*n*= 8670), ethnicity (*n*= 8461), age (*n*= 8670), highest level of education (*n*= 8455), and parents' highest level of education (*n*= 7979). The descriptive summary for these variables is indicated on Table 6.

Methods Analysis

When examining the proposed research questions, a multivariate general linear model and chi-squared analyses were considered the most appropriate strategies. A multivariate general linear model is necessary due to the reporting of the numeracy scores through plausible values. The plausible values give a range of possible numeracy scores, on a normal curve, that are attributed to each individual. Thus, because individuals received multiple numeracy scores, using a multivariate general linear model was determined to be the most appropriate approach. These models are based on the following:

$$Y_i = \alpha + \beta x_i + \gamma D_i + \varepsilon_i$$

Where Y_i is the outcome for individual i, α is the y-intercept, βx_i is the product of the slope and the individual i's value, and γD_i is the product of the level of the variable and the individual's response, and ε_i is the error associated with individual i.

Results

The following results are presented specifically for each one of the four research questions. The research questions explored how numeracy related to adult learners' general readiness to learn, formal education attainment, and persistence in the formal education pathway. The following section explores the results discovered from the analysis of the data.

Research Question 1

Research question one sought to examine the relationship between the variables of numeracy and readiness to learn. Readiness to learn was a subscale derived and tested in the PIAAC assessment. The readiness to learn subscale reflected respondents' selections to questions regarding relation of new ideas to real life, partiality to learning new things, desiring to find solutions to difficult ideas, and exploration of how ideas fit together. The subscale created six categories of readiness to learn, which delineated the scores into the lowest 20%, more than 20% to 40%, more than 40% to 60%, more than 60% to 80%, and more than 80%.

The multivariate general linear model, or MANOVA, was used to compare the results of the readiness to learn variable with the plausible values for

numeracy for each respondent. When examining the relationship, Hotelling's Trace was selected due to its robust application when samples' sizes are relatively equal (Hakstain, Roed, & Lind, 1979). Hotelling's Trace results are presented in Table 7.

The resulting η^2 indicates that there is a significant moderate effect of an individual's reported readiness to learn on their numeracy plausible scores.

A regression analysis was calculated to predict numeracy based on their level of readiness to learn. A regression analysis indicated $F(5, 3976.62) = 58.63$, $p = .000$, with an R^2 of .07, resulting in the following regression model:

$$Y_i = 199.16 + 18.90 \text{ (Low 20\%)} + 47.29(20\text{-}40\%) + 58.72(40\text{-}60\%) + 63.68(60\text{-}80\%) + 66.21(\text{more than } 80\%) + e_i$$

Research Question 2

Research question two sought to examine the relationship between the variables of numeracy and highest level of education. The highest level of education is described by six categories ranging from less than high school education to graduate degree.

A MANOVA was used to compare the response to the highest level of education variable with the plausible values for numeracy for each respondent. As indicated above, Hotelling's Trace was selected due to its robust application when samples sizes are relatively equal (Hakstain et al., 1979). Hotelling's Trace results are presented in Table 8.

Table 7
Readiness to Learn on Numeracy Score

Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	34.36	23934.92	10.00	6966.00	0.00	0.97
Readiness to Learn	2.62	1.22	14950.00	69642.00	0.00	0.21

Table 8
Highest Level of Education on Numeracy Score

Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	31.64	26701.91	10.00	8440.00	0.00	0.97
Highest Level	0.39	65.09	50.00	42192.00	0.00	0.07

Table 9
Descriptive Data for Completed or Uncompleted Formal Qualification

	N	Percent
Have had an uncompleted qualification	2075	23.9
Never have had an uncompleted qualification	4599	53.0

Table 10
Highest Level of Education on Numeracy Score for Dropout/Non-Completers

Effect	Value	F	Hypothesis df	Error df	Sig.	Partial η^2
Intercept	22.08	14705.36	10.00	6660.00	0.00	0.96
Highest Level	0.004	2.65	10.00	6660.00	0.00	0.004

Table 11
Cross-Tabulation for Uncompleted Qualification and Highest Level of Education for Persistors

	Highest Level of Education				
	High School	Certificate	Associate	Bachelor	Graduate
Uncompleted Qualification					
High School	22	2			
Certificate		63	19	21	8
Associate			19	19	3
Bachelor				51	16
Graduate					73

The resulting η^2 indicates that highest level of education has a small, significant effect on the associated numeracy level of the individual.

A regression analysis was calculated to predict numeracy based on level of highest education. A significant regression analyses indicates F (5, 4002.9) = 267.88, $p = .000$, with an R^2 of .25, resulting in the following regression model:

$Y_i = 208.07 + 36.23(\text{High School}) + 43.68(\text{Certificate}) + 59.39(\text{Associate}) + 81.12(\text{Bachelor}) + 92.30(\text{Graduate}) + e_i$

Research Question 3

Research question three sought to examine the relationship between the variables of numeracy and dropping out or not completing a formal qualification. Descriptive statistics regarding individual persistence and demographic variables are presented in Table 9.

Thus, the multivariate general linear model was used to compare the response to the highest level of education variable with the plausible values for numeracy for each respondent. Once again, Hotelling's Trace was selected due to its robust application when samples sizes are relatively equal (Hakstian et al., 1979). Hotelling's Trace results are presented in Table 10.

The resulting η^2 indicates that .4% of the variance regarding uncompleted and completed formal qualification is likely associated with numeracy. A regression analysis was calculated to predict numeracy based on level of readiness to learn. The result was not significant.

Research Question 4

Research question four examined the relationship between the variables of numeracy and persistence to complete a degree after dropping out of a formal degree program. Therefore, this analysis only focused on those individuals who reported an uncompleted degree (*n*= 2072). A cross-tabulation in Table 11 provides the level of uncompleted qualifications reported by individuals and the highest level of education that the individual reported.

The result identified Persistors (*n*= 316) as adults who demonstrated commitment to learning by finishing an uncompleted degree, or a higher degree, than the uncompleted level, and the Non-persistors (*n*= 1746), as adults who dropped out of a formal education program and did not continue to complete a degree. A multivariate, general, linear model was used to compare the numeracy values for each respondent. Hotelling's Trace resulted in *F*(10, 2051) = 7.831, *p*= .000, η^2 = .037. The resulting η^2 indicates that persistence has a small, significant effect on the individuals' associated numeracy.

Discussion

This research study was conducted to determine the relationship between numeracy and adult learning readiness and commitment. This was accomplished through the examination of four research questions:

1. To what extent was numeracy ability related to a readiness to learn within formal and informal settings?
2. To what extent was numeracy ability related to the level of formal learning?
3. To what extent was numeracy ability related to quitting formal education?
4. To what extent was numeracy ability related to quitting and reentering formal education?

This section will interpret the findings, examine their relationship to existing research, and discuss implications of the study.

The first research question examined the link between numeracy abilities and readiness to learn. The readiness to learn subscale variable represented a variety of concepts that included the relating of new ideas to real life, partiality to learning new things, desire to find solutions to difficult ideas, and exploration of how ideas fit together. Often these skills are associated with learner cognitive patterns and, even more specifically, metacognition. Metacognition is a "consciousness of one's own learning or rational process; it is having an appreciation for the knowledge that you already have, knowing how and making room for the knowledge you do not have" and is a critical component to learning (Chekwa, McFadden, Divine, & Dorius, 2015, p. 109). Since much adult learning is self-directed, metacognition is particularly important because it is foundational to self-regulated learning (Azevedo, Moos, Johnson, & Chauncey, 2010; Winne & Hadwin, 2008). Previous research has shown that the construct of numeracy incorporates elements of the cognitive process (Condelli, 2006, p. 7; Maguire & O'Donoghue, 2002). The results of the present study further confirmed the link. When readiness to learn was compared with numeracy, a relationship existed between the two constructs. Thus, adult learners with higher numeracy skills are more apt to be ready to undertake learning experiences. Numeracy may be a construct that enhances adult learners' metacognition and other cognitive strategies, thus preparing them to monitor and regulate their self-directed learning.

The second research question explored numeracy abilities' relationship to level of education. These two variables were related, but the relationship was not strong. While it is not clear from the results if higher numeracy leads to the pursuit of more education or more education leads to higher numeracy, some relationship between the two elements exists. The literature is also mixed on the numeracy and education interaction (Adelman, 2006; Dion, 2014, Stewart, Lim, & Kim, 2015).

The third research question examined the relationship between numeracy abilities and dropping out of a formal qualification program. While there was a statistically significant relationship, there was no practical relationship between these two variables. One explanation for this is that dropping out or not dropping out of education may both be wise choices. If an adult's life circumstances are not conducive to investing in education at a specific time, they may choose to drop out for a phase, which is a wise choice (Comings et al., 1999; Comings, 2007, 2009). However, persisting in a linear fashion and not giving up despite difficult circumstances would also be considered a sound decision. Conversely, dropping out or persisting can be poor choices depending on the context of the decision. Because numeracy has been shown to correspond with better decision-making, one might expect that little difference would exist between the two groups, since individuals with high numeracy skills and low numeracy skills would be represented in both groups (Benjamin et al., 2013; French & Institute of Medicine (U.S.), 2014; Jasper et al., 2013; Pachur & Galesic, 2013; Peters, 2012; Peters et al., 2006). These data support that adults' skills and abilities may play a small factor in deciding what formal learning decisions are best, but adults' personal context, situations, and goals may have a larger impact on these decisions.

The final research question examined the relationship between numeracy ability and persistence. There was a small relationship between these variables. Thus, higher numeracy abilities may be a small part in commitment to learning. However, this relationship was not robust.

Summary

Finally, a holistic look at the findings yields patterns that need exploration. The pursuit of formal qualifications can be viewed as a pathway depicted in Figure 1. Stage One indicates learners in the state of readiness. Stage Two represents entrance and experience in formal education. Stage Three is the culminating outcome of the formal educational pathway.

Individuals begin with a specific level of readiness to learn in Stage One. Then, as individuals enter and begin their formal learning pathway in Stage Two, they either drop out and have an uncompleted degree, or they persist continuously to completion of a degree with no stop outs. Finally, in Stage Three the formal learning pathway ends in non-persistence or persistence. If the learners had an uncompleted degree in Stage 2 and never chose to re-enter the formal learning pathway, they would demonstrate non-persistence. However, learners who experienced an uncompleted formal pathway at a point in Stage Two and reentered Stage Two to complete the qualification would demonstrate persistence in Stage Three in spite of dropping out. Thus, this group could achieve a similar outcome to those that demonstrated persistence with no pauses in Stage 2 and moved continuously

Figure 1
Learning Cycle
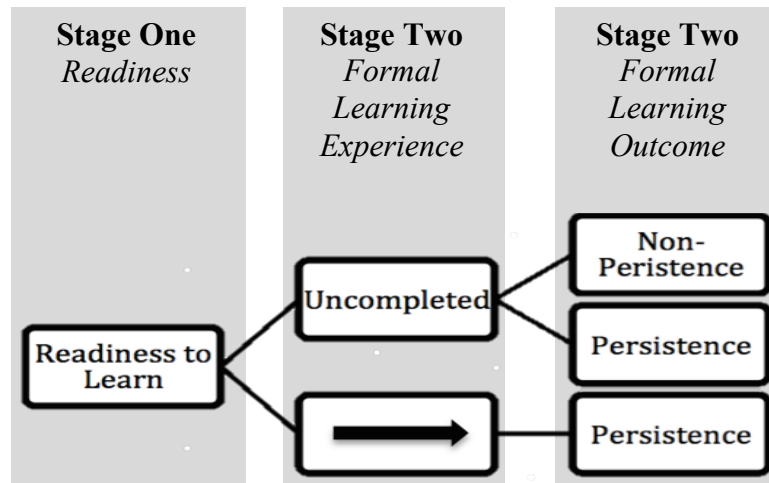
through their formal education cycle.   The process would then be repeated for each subsequent degree.

According to Comings et al. (1999), adults who completed a degree, regardless of the pathway taken, are persisting in education. Past research linking numeracy and the learning trajectory suggested that increased numeracy does create a pathway towards future learning (Maclachlan et al., 2009; Metcalf & Meadows, 2009). While the findings of the present study confirm that higher numeracy abilities have a strong relationship with adults' learning readiness, the relationship between numeracy and actual learning commitment was not as convincingly powerful as the previous studies. One possible reason is that the present study focuses on the learning pathway from high school all the way to graduate studies, and the previous studies were typically focused on a singular learning level such as a numeracy course that led to enrollment in more courses (Maclachlan et al., 2009; Metcalf & Meadows, 2009). Thus, the examination of the holistic pathway of learning readiness and commitment is unique to the current study.

The current study demonstrated that while numeracy had a large interaction at the readiness stage, that influence significantly decreases as readiness moves towards learning persistence decisions. Higher numeracy had a greater relationship in predicting beginning readiness than predicting learning actions, such as completing a degree without quitting (Stage 2) or persistence toward the end goal (Stage 3). The decrease of numeracy's role, when readiness (Stage 1) transforms into action in pursuit of learning goals (Stages 2 and 3), could be a reflection of the powerful influence of variables that are more important than ability (Boshier, 1973; Miller, 1967; Rubenson, 1977).

These personal or systemic barriers located in the educational structure may outweigh abilities.

In light of these findings, numeracy and decision-making are not as tightly linked in education as in other behavioral economic fields. Education decisions may be unlike the behavioral economic decisions in healthcare and finance, both of which have demonstrated that numeracy and decision-making are highly related. Adults are immersed and shaped through the education process. The power of the social structures, both internal to the individual and external in the educational system, likely play a more powerful role than in medicine or finance where individuals interact on a more intermittent basis. Thus, a more complex combination of variables than just numeracy needs to be examined to understand adults' readiness and commitment to learning.

Implications for Practice

Educators at all levels, but particularly in the realm of K-12 schools, seek to instill the desire for lifelong learning in students.   Educators recognize the importance of creating a mindset in the learners where they view themselves as active and curious information seekers who can make meaning of their own learning. The link between numeracy and readiness to learn manifests a tangible mechanism to help develop this skill. A focus on numeracy, not simply pure mathematics, within schools, has the potential to prime students towards a learning mindset. Thus, developing K-12 numeracy skills could have potential impact into adulthood learning endeavors. The benefits of a formal qualification have been extensively documented (Abel

& Deitz, 2014; Rose, 2013). Thus, encouraging numeracy development may be a potential factor to prepare learners to consider higher education when contemplated alongside other more personal and systemic factors for adult learners. However, before these results are acted upon, the connection between numeracy skills needs impact on education attainment need additional investigation to determine if higher numeracy abilities may cause higher levels of post-secondary attainment or vice versa. In the current investigation, the ability to explore this relationship further was not possible due to the use of an existing data set and lack of pre- and post-levels for individuals.

While numeracy may influence individuals' readiness, this influence on education-related decisions declines as readiness turns into persistence in a formal learning institution. Thus, it is conceivable that the relationship between numeracy abilities and educational decision-making becomes overshadowed by other internal and external factors that affect adult learning decisions (Boshier, 1973; Miller, 1967; Rubenson, 1977). Past literature has confirmed this effect in finding that factors such as life events and schedule are impactful predictors of learning activities (Johnstone & Rivera, 1965). Futhermore, Merriam, Caffarella, and Baumgartner (2006) contend, "Since the early 1990s the field of adult education has become much more conscious of the impact of sociocultural factors on shaping participation in adult education" (p. 68). Thus, findings in past literature and the decreased impact of numeracy abilities from learner readiness to formal education persistence in this study suggest this area warrants further exploration of barriers to adult learning.

External barriers such as the structure of schooling may be a compelling factor in uncompleted degrees and non-persistent learners. Thus, two lines of research could be examined. First, future research could replicate this study using data from different countries whose education systems are dissimilar to those of the United States and thus could provide some new insights. Second, future research could entail a closer examination of the demographic, internal, and external demographic variables that define the group of adult learners who are committed to learning with a particular focus on first-generation students. These studies would further reveal the degree to which social factors influence an environment of success for adult learning.

Further study should also examine the link between numeracy abilities and level of education. Due to the lack of access to pre- and post-data in the current study, the connection between numeracy and education could not be further explored to determine which variable was causing the other to increase. It is recommended that future research should examine the numeracy abilities in a longitudinal study that follows individuals through numerous levels of education rather than at a single point in time.

Limitations

The limitations of this analysis arise from the use of an existing data set. The second research question could not be fully explored due the lack of pre- and post-assessment data. Furthermore, the lack of access to participants does not allow for follow-up for further quantitative and qualitative data collection that could add additional depth to the findings. Finally, the use of the existing data set confined the additional investigation that was performed to the variables and data that had been previously collected.

Summary

Education is a vehicle that allows adults to construct industrious lives and be involved, productive citizens in society. Their learning can be informal or lead to acquisition of formal qualifications, but, regardless, the path is self-directed by the learner. The adult learner carefully balances personal ambitions with the forces with which they contend to reach their final goal. Thus, to better understand adult learners, we must understand the factors that affect their education-related decision-making process.

In the United States, education beyond high school involves investments of personal and financial resources. Similar cost-benefit analyses occur when adults interact with medical or financial decisions. In these venues, personal behaviors, such as knowledge, beliefs, and values, distort pure economic decisions. In the fields of medicine and finance, a link has been found between adult numeracy abilities and decision-making. Thus, in the current study, numeracy abilities were explored to examine their link in educational decision-making.

While numeracy had a statistically significant relationship with the variables, other variables on the relationship—readiness to learn, level of education, completion of a degree with no hiatuses, and persistence to complete a qualification after dropping out of a formal learning program—were sizeable. Additionally, a holistic pattern emerged that demonstrated a significantly stronger direct relationship between numeracy and readiness to learn than at either of the intersections where learners made persistence-related decisions. While numeracy skills were shown to matter in education decisions, they did not solely capture the complex factors that are predictive of adults' education pathways. This trend suggests the needed future analysis of other variables.

Insights gained through this project added to the pool of evidence that the United States education system, P – 16 and beyond, has social and cultural barriers that restrain some adults from obtaining the highest degrees of education. While numeracy did not

play a practical role in propelling adults along their learning pathway, there was a strong relationship with adult learning readiness. This finding supports the development of numeracy skills, not just pure mathematics skills, at all levels of education in order to increase cognitive readiness of learners.

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Group Work and Student Outcomes among First Year International Students

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The purpose of the study is to examine the effect of group work on student outcomes. The study explores the incorporation of group work in assessments for first year international students. Group work was primarily used in this study to enhance learning amongst international students in Australia. The study utilized multiple-choice questions answered individually and afterwards in groups which were mostly formed by the students themselves. The results of the study support the existing literature on the potential of group testing to enhance learning in a collaborative environment. The results of the study suggest that group work has a positive effect on students' marks. That is, group members could have a positive impact on assessment marks where the group mark is significantly higher than a student's individual mark for an assessment. The results also suggest that assessed group work has a significant positive effect on a student's final exam mark, which in contrast to group assessment, is a closed-book individual assessment.

Industry groups have put emphasis on teamwork since the 1980s (Seethamraju & Borman 2009). Employers expect current and future employees to have essential and desirable skills such as collaboration and teamwork. Academia's response is group work, hence group assessment has since been part of tertiary education (Ballantine & Larres, 2007; Gaur & Gupta, 2013; Lavy, 2017). The widespread use of group assessment could be attributed to its effectiveness or its ability to lessen the marking load for educators (Caple & Bogle, 2013; Revere, Elden & Bartsch, 2008). Moreover, group assessments "viewed as a learning opportunity is likely to provide greater benefits to the student than one which seeks only to quantify what has been learned previously" (Sainsbury & Walker, 2008, p. 115).

Education is one of the top exports for Australia, and international student numbers continue to increase in the Australian higher education sector. The education sector's contribution is estimated at A\$19.9 billion in 2015-2016 (ABS, 2016). Most of the international students studying in Australia and New Zealand are considered to come from a collectivist culture, as opposed to an individualistic culture (Baker & Clark, 2010; Li & Campbell, 2008; Moore & Hampton, 2015; Popov et al., 2012). The tendency to cooperate is higher among students from a collectivist culture (Popov et al., 2012, p. 307). Moreover, the need to adjust in a new environment and the lower level of English proficiency among international students encourage them to rely on each other. This interdependence could extend to university assessments which could pose problems if most assessments are designed to be completed individually. Hence, to make international students realize the difference between group work and an individual assessment, the incorporation of group work in higher education assessments is vital.

Frykedal and Chiriac (2016) noticed that assessed group work is a neglected area of research and provided some suggestions as to the framework that could be used to assist educators in assessing group work. This study attempts to contribute to the literature of assessed group work; however, the focus of the paper is not on learning styles (Cassidy, 2004; Pashler, McDaniel, Rohrer, & Bjork, 2008; Riener & Willingham, 2010) which differentiate between visual, textual, auditory, or physical stimuli, but in the social versus solitary preference in learning. The paper is organized as follows: Section II discusses recent literature relevant to this research. Section III presents the data and methodology used in the study. Section IV outlines the results, and Section V discusses the main findings of the study.

Background

The importance of cooperative learning, collaborative learning, and group learning has been recognized in the literature (Baker & Clark, 2010; Cen, Ruta, Powell, Hirsch & Ng, 2016; Hancock, 2007; Lejk, Wyvill & Farrow, 1997; Lejk, Wyvill & Farrow, 1999; Li & Campbell, 2008; Reiser, 2017; Siegel, Roberts, Freyermuth, Witzig & Izci, 2015; Woody, Woody & Bromley, 2008; Zakaria, Solfitri, Daud & Abidin, 2013), albeit coupled with some inherent problems such as free-riding and/or social loafing (Maiden & Perry, 2011). In addition, Woody et al. (2008) argued that collaborative learning does not necessarily lead to knowledge retention. Nevertheless, the effectiveness and fairness of group assessment in higher education have been discussed in the literature using different perspectives ranging from accounting and finance to the creative arts (Ballantine & Larres, 2007; Gammie & Matson, 2007; Orr, 2010). Attitudes toward group assessment among final year accounting students were assessed using journals or learning logs (Ballantine & Larres, 2007) to record experiences when completing group assessments. Similarly, Gammie and Matson (2007) collected data to understand the mechanics of group and peer assessment, as well as gauge final year accounting and finance students' perceptions on fairness relating to group assessments. Orr (2010) argued that students in the

performing arts – including theatre, dance, and film – understand the importance of group assessments; however, lecturers are encouraged to do more to understand group dynamics.

Group work is a fraught exercise involving students from similar background not to mention involving multicultural students. Strauss, U-Mackey, and Crothers (2014) described the possible dilemmas to group assessment when students come from different cultures. Moreover, when dealing with different cultures other problems such as free-riding, social loafing, language barriers, and regressive collaboration could manifest (Revere et al., 2008; Sainsbury & Walker, 2008). Arevalillo-Herráez (2014) provided assessment strategies to address social loafing by exploiting existing emotional relationships between team members while Revere et al. (2008) suggested that group examinations could lead to less social loafing and higher perceived levels of learning for students.

Australian and New Zealand researchers have investigated different aspects of group learning from active learning, cooperative learning, group assessment, interaction between domestic and international students, social loafing, and group performance (Baker & Clark, 2010; Caple & Bogle, 2013; Li & Campbell, 2008; Liu & Dall'Alba, 2012; Moore & Hampton, 2015; Sainsbury & Walker, 2008; Seethamraju & Borman, 2009; Strauss et al., 2014; Sweeney, Weaven & Herington, 2008). In this region, classes are increasingly becoming more diverse where domestic students and international students are studying together (Moore & Hampton, 2015; Sweeney et al., 2008). Moore and Hampton (2015) noted that both domestic and international students prefer to engage with students from similar backgrounds for group assessments. The authors also noticed that students with positive attitudes toward multicultural groups tend to perform better in group assessments.

Ladley, Wilkinson, and Young (2015) asserted that group cooperation is prevalent in business and that most successful inventions were products of successful cooperation. Hence, learning how to function in groups could be beneficial to first year international business students and at the same time harness the collectivist culture prevalent in most international students in Australia.

The present study makes a distinction between group work and group assessment: the former can be informal and not assessed while the latter is formal and assessed (Frykedal & Chiriac, 2016; Reiser, 2017; Sainsbury & Walker, 2008). Group work in higher education is a process in which students come together to collaborate and possibly learn from each other. It is considered a sociocultural task in which learning is fundamentally a social process (Sainsbury & Walker, 2008). Frykedal and Chiriac (2016, p. 150) defines it as the "teaching mode above all others that encourages the development of cooperative abilities, shared learning,

and creativity." Generally, assessed group work (i.e., group assessment) ranges from case studies or case presentations to examinations. If group work is not assessed or linked to individual outcomes, then students might refuse to participate, which makes group work a difficult exercise for students. Hence, group testing or group examination might be a useful tool to reduce social loafing and facilitate learning (Almond, 2009; Desrochers, Fink, Thomas, Kimmerling & Tung, 2007; Revere et al., 2008; Scafe, 2011).

Once group assessment has been incorporated in the curriculum, the next step is forming groups. The effectiveness of group assessment might depend on the group itself: that is, its members (Channon, Davis, Goode & May, 2017; Lejk et al., 1999; Moore, 2011; Reinig, Horowitz & Whittenburg, 2012). Lejk et al. (1999) offered no conclusion as to how to form groups but suggested that mixed-ability groups benefited weaker students. Ballantine and Larres (2007, p. 178) also noted while examining final year accounting undergraduate students' attitude towards group assessment, "[L]ess able students felt that the group experience had contributed more to their academic improvement than [it did for] their more able colleagues."

Seethamraju and Borman (2009) identified four factors that could influence group formation, and they are the following: (1) convenience, (2) social cohesion, (3) task management, and (4) technical skills/knowledge. The authors also suggested that groups are formed in higher education either by the lecturer or by the students themselves. The study concluded that students might be best placed to form their own groups since they have taken into consideration factors that could increase the performance of their groups. Similarly, Ballantine and Larres (2007) noted that in higher education groups are formed by student self-selection or by lecturers and that smaller group size (e.g., three or four members) is ideal.

The interaction within the group is crucial to its success in terms of assessment completion and quality. There could be instances where only a couple of members would work together to complete an assessment with other members considered as free riders. This creates significant problems within the group, as well as the question of fairness for educators when awarding group marks. Maiden and Perry (2011) explored practical and effective approaches in dealing with free-riding at a UK university. Peer evaluation has been used to prevent free-riding among group members (Lejk et al., 1999; Plastow, Spiliotopoulou & Prior, 2010; Zhang, Johnston & Kilic, 2008). However, Lejk et al. (1999) raised two important issues regarding peer assessment, and they are as follows: (1) group assessment should receive the same mark and (2) students might not be capable of peer evaluation. Moreover, peer evaluation itself seems to be dependent on whether the group is homogenous or not. Strauss et al. (2014) found that Asian students, mainly Chinese students

who are thought to have English as a second language, tend to agree to receive the same group mark for a group assessment. In other words, students coming from similar backgrounds, especially those from a collectivist culture, tend to equally apportion marks among group members, in contrast to students coming from an individualistic culture. Zhang et al. (2008) proposed a generalizability theory framework to evaluate the reliability of peer and self-rating in grading group projects. The authors also noted that a voluntary nature of group formation encourages students' involvement and motivation.

The interaction between domestic part-time graduate business students and international students in the United States (Rafferty, 2013) and an increase in international students in undergraduate courses add an extra dimension to consider in group assessments. Li and Campbell (2008) explored Asian students' attitudes toward, and perceptions of, participating in group work and group assignments. For group learning to be effective, both international and domestic students should be prepared for group work (Baker & Clark, 2010; Li & Campbell, 2008). De Vita (2002) used regression analysis to test if group assessments involving multicultural groups tend to reduce the marks of domestic students. The study provided support to group assessment where the results of the study showed that the average individual mark of both domestic and international students are lower when compared to the average group work marks of the same students for their group project.

Popov et al. (2012) summarized the challenges students encounter in multicultural group work. The combination of students coming from individualist and collectivist cultures could potentially create problems within group assessments. The authors summarized from the literature the different group-level challenges in higher education that affect multicultural student group work. At the group-level, the challenges are classified as group membership and group process. The former consists of differences among group members, such as knowledge, skills, experience, ambition, and culture, notwithstanding age and gender. The latter consists of communication, problem solving skills, conflict management, and leadership. Most of these challenges are present in homogeneous groups but become more problematic in heterogeneous groups that are multicultural. Popov et al. (2012) also highlighted the differences between individuals from a collectivist and high-context culture and those from an individualistic and low-context culture.

The present study utilizes assessed group work in the form of multiple-choice questions to examine its effect on student outcomes for first-year international business students in Australia. Hence, group testing, including multiple-choice questions (Desrochers et al., 2007; Scafe, 2011), are used in first-year economics and statistics units to enhance learning among international students from various cultural backgrounds.

Data and Methodology

The data set includes mostly undergraduate first year international business students from a private tertiary education provider in Australia. A majority of the students are from the Indian subcontinent (65%) and Southeast Asia (24%) with the remaining 11% coming from Central Asia, Eastern and Western Europe, and Central and South America. The gender distribution is biased towards males at 72%. Two first-year units – Business Economics and Business Statistics – were included over a two-year period. There were three main assessments students had to complete in each semester: (a) two short multiple-choice tests (Test 1 and Test 2), (b) a mid-semester test (MST), and (c) final exam (FE).

The sample data includes 475 international students over two years studying two units, with students repeating the units included. Among the students repeating the units, nine out of 32 successfully completed the Economics unit the second time around, and six out of 19 did so in the Statistics unit. For Test 1 (individual) there were 366 students, and for Test 1 (group) there were 344 students, while for Test 2 the numbers were 246 and 228 respectively. In addition, there were 368 students who attempted the mid-semester test and 326 who attempted the final exam. Over the two-year period (i.e. 2012-2013), 415 received a final mark. The data set had missing data, hence for the correlation and regression analyses the sample size was reduced to 191 and comprised of 120 males and 71 females. The distribution was divided equally between those studying economics and statistics (i.e., 96 and 95). There were 117 students from 2012 and 74 from 2013. Out of 191, 59 students studied both units between 2012 and 2013 with only one student repeating and successfully completing the Economics unit the second time around. Three out of four completed the Statistics unit on the second attempt.

The two short multiple-choice tests included an individual test and a group test. For each of the short multiple-choice tests, the individual mark is combined with the group mark. The group test was introduced since collaboration during examinations is considered a useful tool for student learning (Reinig et al., 2012; Sainsbury & Walker, 2008; Scafe, 2011). The two short multiple-choice tests were conducted in week 4 before the mid-semester test and in week 12 before the final exam. The group test had the same questions as the individual test and was administered after the individual test with a five-minute break in between. The correct answers were not provided before the group test.

Students were asked to choose from three weighting options (i.e., 75-25, 50-50 and 100-0) where the weight for the individual test is higher than the group test (except for the 50-50 option). Plastow et al. (2010) examined different weighting options to

Table 1
Descriptive Statistics

Variable	Final Exam Mark	Test1 group	Test2 group	Mid-semester Test
Mean	26.29	12.66	9.85	8.13
Median	26.25	13.00	10.00	7.50
Maximum	50.00	19.00	18.00	23.50
Minimum	4.00	0.00	0.00	0.00
Std Deviation	9.67	3.33	3.27	3.74
Observations	326	343	228	368

Note: minimum value zero is when a student received a zero mark or did not attempt the group test. These are raw marks hence, not weighted.

combine the individual mark to the group mark and found that an 80-20 weighting is most effective when combining individual marks to group marks for level 3 students. One week before each test, students were asked to nominate their preferred grade weighting. Students who were absent in week 3 and in week 11 but present during the weeks of the tests (i.e., week 4 and week 12) were assigned a default weighting of 75-25.

The students could organize their groups beforehand (Seethamraju & Borman, 2009; Zhang et al., 2008). However, if their group members were not present during the week of the tests then they were encouraged to join other students/groups to attempt the group test. A group was not allowed to exceed three members (Reiser, 2017) to avoid social loafing or free riding, hence at least two students were needed to form a group. In addition, the present study allowed students to form groups based on friendship/familiarity (Theobald, Eddy, Grunspan, Wiggins, & Crowe, 2017). The individual and group marks obtained from the two short multiple-choice tests were compared (Gaudet, Ramer, Nakonechny, Cragg & Ramer, 2010) to examine the effect of group work on student outcomes.

Hypotheses testing, and regression analyses were utilized to ascertain the effect of group work on the final exam marks. Paired t-tests were utilized to compare the combined marks for Test 1 and Test 2, as well as to compare the individual and group marks for Tests 1 and 2. The group marks for Tests 1 and 2 were compared to the students' individual marks to examine if there were significant differences between the two marks. Moreover, the combined marks (e.g., weighted individual and group) for Tests 1 and 2 were also compared to ascertain if students improved between Week 4 and Week 12. Regression analyses were also used to determine if there is a relationship between group marks and students' individual marks (e.g., final exam).

Results

This paper attempts to examine the effect of group work on first year international students' academic performance on a final exam. A majority of the international students in Australia have different characteristics when compared to domestic students in terms of culture, English ability, and study ethics. Instead of solely assessing students based on individual assessment, assessed group work was introduced to improve student outcomes.

Based on surveyed students' preference, 57% chose the 50-50 option, and 36% preferred 75-25 for Test 1. For Test 2, 55% of the students chose the 50-50 option, and 39% selected 75-25. Less than 10% chose the 100-0 option, that is, 7.2% for Test 1 and 6.5% for Test 2. On the day of the tests, because some students were absent the week before when they were supposed to nominate their preference, 47% of students in Test 1 chose the 50-50 option, and 39% did so for Test 2. Moreover, approximately 5% of the students who attempted the tests chose the 100-0 option. There seemed to be a preference for a more equal distribution of marks in both tests. However, towards the end of the semester, there was a slight change in preference towards the 75-25 option.

Table 1 summarizes the four assessment marks that contributed toward the students' final marks. The maximum (raw) marks for the final exam, Test 1 group marks, Test 2 group marks, and the mid-semester test are 50, 20, 20 and 25 respectively. The individual marks for Test 1 and Test 2, as well as the combined marks for the two tests, are not included in the table. Table 2 shows the correlation coefficients for each of the variables included in the ordinary least squares (OLS) regression model used in the study. As an individual test like the dependent variable, the mid-semester test mark is positively correlated with the final exam mark at around 54%. The final exam mark is also positively correlated with year. This might be capturing the fact that 31% of the students (i.e., 59 out of 191) studied both economics and statistics over the two-year period, and 12% tended to repeat either units. The correlation between the unit and the group mark for Test 1 is also positive, which could suggest that the students found the first group test in economics easier when compared to statistics.

Table 2
Correlation Matrix (Balanced Sample, List Wise Missing Value Deletion, Sample Size = 191)

	Final Exam Mark	Test1_group	Test2_group	Mid-semester Test	Unit	Year
Final Exam Mark						
Test1_group	-0.0383					
Test2_group	0.0276	-0.1642*				
Mid-semester Test	0.5354*	0.2344*	-0.0880			
Unit	-0.0243	0.6238*	-0.2943*	0.1937*		
Year	0.4125*	-0.1929*	-0.2999*	0.1105	0.0388	

Note: * - significant at 99%

Table 3
Paired Two Sample t-Test for Means of Individual and Group Marks for Tests 1 and 2

	Test 1 Individual	Test 1 Group	Test 2 Individual	Test 2 Group
Mean	10.6327	12.6603	7.7654	9.8496
Variance	12.3870	11.0956	9.3180	10.6636
t-statistics	12.8966		12.2093	
p-value (one-tail)	0.0000		0.0000	
p-value (two-tail)	0.0000		0.0000	
Pearson Corr	0.6399		0.6690	
Observations	343		228	
df	342		227	

Table 4
OLS Regression Results

Variable	Model 1	Model 2	Model 3
Intercept	5.0535** (3.4863)	5.0535** (3.2913)	1.9908 (3.5027)
Test1_group	0.0165 (0.2187)	0.0165 (0.2053)	0.2438 (0.2225)
Test2_group	0.5064* (0.1782)	0.5064* (0.1532)	0.5784* (0.1744)
Mid-semester Test	2.0957* (0.2272)	2.0957* (0.2425)	1.8512* (0.2319)
Unit	-1.8116*** (1.381)	-1.8116** (1.2499)	0.6083 (1.5148)
Year	8.0409* (1.177)	8.0409* (1.2058)	12.5847* (1.7453)
Unit*Year			-7.7364* (2.2448)

Note: * significant at 99%, **significant at 85%, ***significant at 80%
Sample size = 191, 117 from 2012 and 74 from 2013

T-tests and paired t-tests were conducted to examine a series of questions. Firstly, is there a difference between the marks obtained from the two tests, one held in week 4 and the other in week 12? The t-tests results indicate that the difference in the marks is statistically significant at 1%. The mean for Test 1 is higher than the mean for Test 2. This might reflect the difference in the level of difficulty between the two tests. Secondly, is there a difference between the individual mark and the group mark for Tests 1 and 2? The t-tests results also indicate that the marks are statistically significant at 1% where the group marks are higher than the individual marks. This result is similar to Desrochers et al. (2007) where multiple-choice questions were used to compare individual marks to group marks, although the group marks were derived using two settings (i.e., cooperative test versus competitive test). The authors suggested that students working in groups perform better than those working alone. Scafe (2011) conducted a similar study on MBA students studying statistics by using multiple-choice questions. The results of the t-tests also suggested that the students' individual scores were significantly lower than their group scores. The results from the present study suggest that students benefit from group work where the difference in the means for Test 1 and Test 2 are 2.028 and 2.084 respectively, as shown Table 3.

An ordinary least squares (OLS) regression is also utilized to examine if there is a relationship between the final exam marks and other variables such as the Tests 1 and 2 group marks, the mid-semester test mark, the unit (either economics or statistics), and the year the unit was

Figure 1
Initial OLS model

FE_Mark^ =	5.0535	+ 0.0165*Test1_grp	+ 0.5064*Test2_grp	+ 2.0957*MST
		− 1.8116*Unit	+8.0409*Year	

where: Year = 0, 2012 and =1, 2013, Unit = 0, Statistics and =1, Economics. The coefficients of Test2_grp, MST and Year are significant at 1% while the intercept, coefficients of Test1_grp and Unit are insignificant at 10%.

attempted. Table 4 shows the results from three OLS regression models. Model 1 is the initial OLS model as seen in Figure 1. Heteroscedasticity is suspected at 10% significance level. Hence, model 2 is employed to correct for heteroscedasticity using Huber-White standard errors. There were no changes in the values of the coefficients nor the level of significance.

The OLS regression results explain almost 46% of the variation in the dependent variable, the final exam mark. Overall, the OLS model is statistically significant at 1%. Model 3 includes an interaction term between the variables unit and year, which is statistically significant at 1%. Heteroscedasticity is not present in the model. The results from model 3 are similar to the first two models where there is no statistical difference between Business Economics and Business Statistics at 10%. However, the interaction term between unit and year suggests that among the students enrolled in 2013, studying economics had a negative impact on their final exam marks.

The results also suggest that students learn to adapt with group tests. On one hand, the first group test, Test1_grp, is not significant in contrast to the second test, Test2_grp. On the other hand, since 12% of the students tended to repeat either units and 31% studied both, there is a significant difference between the years the group tests were first introduced when compared to the subsequent year.

In sum, the study found that group work does affect student marks. Firstly, students' group marks are significantly higher than their individual marks. This result is similar to the findings in the literature (Desrochers et al., 2007; Plastow et al., 2010; Scafe 2011). One anonymous referee pointed out that a high performing student would easily identify the correct answers in a multiple-choice test. However, in this study, there were instances where the individual mark is higher than the group mark (i.e., 55 out of 343 for Test 1 and 24 out of 228 for Test 2). This suggests that some discussion among group members persuaded the high performing members to change their answers.

Secondly, there is a significant difference between the tests conducted in Week 4 and Week 12 when the individual and group marks are combined, although the mean mark of Test 2 is lower than the mean mark for Test 1. This could indicate the difference in the level of difficulty between the two tests. Lastly, the regression results confirm that the final exam mark could be explained by the Test 2 group mark and the mid-semester test mark, as well as the year the unit was attempted.

Discussion and Conclusion

This study uses data from a private tertiary education provider in Australia. The study examines the impact of group work on academic performance on a final exam among first-year international students enrolled in either Bachelor of Accounting or Bachelor of Business degree programs over a two-year period in two core units: Business Economics and Business Statistics. In acknowledgement of the cultural diversity present among international students, a group test was introduced. The group test could serve various purposes to first year students. First, it could be used as a tool to encourage more interaction among students: that is, it encourages them to interact with other students from other cultures. Secondly, since most international students in Australia come from collectivist cultures, there is a natural tendency to cooperate (Popov et al., 2012). Group work could be a complementary tool in accommodating students' preference for cooperation. Moreover, a majority of Australian working environments expect employees to work as a team. Hence, learning how to function in groups is a very important skill to have for any student (Almond, 2009; Caple & Bogle, 2013). Last, due to the varying cultures of first year international students, group work could be used to create an inclusive learning environment.

Potentially, group work could have either a positive or a negative impact on students' academic performance (Lejk et al., 1999; Moore & Hampton, 2015). Sainsbury and Walker (2008) discussed regressive collaboration where a dominant member of a group creates confusion instead of conceptual clarification. On one hand, if a student is grouped with a high performing group, the student could benefit from this scenario by receiving a higher mark and/or learning better study techniques. The opposite could also be true: that is, the student could continue to rely on other group members and in return not perform as well during final examinations. On the other hand, if a student is grouped with a low performing group, the student is disadvantaged in terms of a lower group mark

contributing to his/her final mark and the inability to improve on study techniques. However, a generally good student in a bad group could still have a better outcome than a generally poor student in a good group.

The regression results indicate that the second group test is statistically significant, which could suggest that first year international students benefit from group work and it also positively affects their final exam scores. Hence, group work does not have to be confined to case studies or projects such as oral presentations and report submissions. The incorporation of group work using multiple-choice questions in tertiary education might be another useful tool in assisting first year international students in their transition period (Desrochers et al., 2007; Hancock, 2007; Scafe, 2011). It allows students to evaluate their individual answers, discuss with their group members the best answer, and learn from the process. Moreover, it could harness their tendency to collaborate, which is an essential skill in paid employment.

The main purpose of the group work in this study was to enhance learning among first year international students in Australia and to make them realize the difference between group and individual assessments. The students were briefed regarding the group work requirement. They were given a chance to organize their groups. They were also given a choice to determine the weighting applied on their group marks and individual marks. The results of the study support the existing literature on the potential of group testing to enhance learning in a collaborative environment. The results also suggest that collaborative learning could be achieved in a multicultural group setting.

The present study does not consider attendance, gender, ability, attitude, etc. which are variables that have been mentioned in the literature to predict student outcomes (Latif & Miles, 2013; Moore, 2011; Stenberg, Varua & Yong, 2012). The weighting preferences of the students can be further explored to gain an insight on students' reliance on group work. Hence, more data is needed to include relevant variables mentioned above and to extend the OLS model presented in this study.

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Progress of Nursing Students' Motivation Regulation Profiles and Affiliations with Engagement, Burnout and Academic Performance

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This longitudinal study explored the development of Finnish undergraduate nursing students' motivation regulation profiles during two years in traditional and blended learning environments. Also, the association between the profiles and experienced study engagement, burnout and academic performance was investigated. The data were collected with a survey and included motivation regulation, study engagement, and burnout scales that were combined with students' entrance examination scores, study credits, and grade point averages. Regardless of the learning environment, a majority (62.3%) of the students showed a sustainable, highly developed motivation regulation profile over time. They reported strong study engagement, higher academic performance, and reduced susceptibility to cynicism when compared to the students with less-developed motivation regulation profiles. However, individual reciprocal transitions between motivation regulation profiles over time were found with a group of students. As such, motivation regulation is changeable and influenced by situational components in learning. This aspect should be emphasized in developing professional higher education and teaching.

Introduction

The motivation to learn is suggested to be a key for successful studying in higher education and degree completion, as well as later on in a career, in order to experience work engagement and to avoid experiencing burn-out (Boekaerts, 2016; Linnenbrink-Garcia et al., 2018). Development of motivation is grounded in students' beliefs, appraisals, and experiences about learning, and it is affected by their personal choices, goals, and the strategies employed throughout their studies (Linnenbrink-Garcia & Patall, 2016). Moreover, research has shown that motivation is not a static individual characteristic, and it can be actively steered by the students themselves. Through the self-regulation of learning, and motivation regulation especially, students can modify, adapt and direct their motivated learning and intentionally build up a motivated learning profile that supports their learning and engagement throughout their studies (Salamonson et al. 2016; Smit, de Brabander, Boekaerts, & Martens, 2017).

Self-regulated learning (SRL) refers to the learner's intentional monitoring, activating and sustaining behaviors, cognitions, motivations, and affects that are oriented toward the attainment of learning goals (Pintrich 2004; Schunk, 2014; Zimmermann, 2011). SRL skills, and motivation regulation in particular, are essential to developing nursing students' vocational competence as they prepare for their nursing careers, which require constantly developing professionalism and the completion of varying and demanding tasks (e.g., medication management, critical thinking, the provision high-quality care, the promotion of safety, working with various health technologies) (Sulosaari et al., 2015; Toode, Routasalo, Helminen, & Suominen, 2015). Furthermore, the ability to maintain and control motivation become of even greater importance since

nursing students have often been shown to suffer from a lack of motivation (Warrén, Stomberg, & Nilsson, 2010) and high levels of stress during their studies (e.g., Bartlett, Taylor, & Nelson, 2016). Motivation regulation skills are therefore essential for newly graduated registered nurses who will inevitably find their work stressful and demanding (Flinkman & Salanterä, 2015).

Although there is prior research on nursing students' overall motivation (Bronson, 2016; Khalaila, 2015; Nesje, 2015; Yardimci et al., 2017) and the SRL, including the motivation regulation of higher education students in other fields (Engelschalk, Steuer, & Dresel, 2017; McMillan, 2010; Schwinger, Steinmar, & Spinath, 2012; Smit et al., 2017; Wolters, & Benzon, 2013), research on undergraduate health care, nursing students' motivation regulation, and their use of motivation regulation strategies is still scarce (Hoops, Yu, Wang, & Hollyer, 2016; Vanthournout, Gijbels, Coertjens, Donche, & Van Petegem, 2012; Wolters & Benzon, 2013). Even less is known about the function of motivation regulation both among those nursing students who struggle to cope with burnout and the desire to dropout from their studies and their counterparts who are highly engaged and high achieving.

This study aims to gain better understanding of the development of nursing students' motivation regulation in two different nursing programs by applying longitudinal design. Also, association between the motivation regulation profiles and students' study engagement, burnout, and academic performance are explored.

Motivation Regulation as a Part of SRL

Motivation regulation is a crucial part of SRL and refers to students' conscious and active practice of

processing thoughts and actions systematically to try to influence their motivation levels concerning certain learning activities (Winne & Hadwin, 2012; Wolters, 2003). A high level of motivation regulation can increase students' attention to their learning processes and outcomes, choices of tasks, efforts to learn difficult tasks, and persistence in completing time-consuming tasks, such as achieving mastery of a complex skill (Zimmermann, 2011). To regulate their motivation, students can utilize different strategies such as interest enhancement, efficacy management, self-consequating, regulation of mastery goals, regulation of performance goals, environmental structuring, and regulation of value (Wolters, 2003). The five last-mentioned are explored in this study.

Self-consequating (SC). Self-consequating refers to the students use of self-provided consequences for their own behaviour (Wolters, 2003). For example students can create self-administered consequences, rewards or punishments to influence on their motivation (Wolters & Benzon, 2013). (e.g. "After I have studied two hours, I can go for a walk.")

Regulation of mastery goals (RMG). Regulation of mastery goals refers to the students' desire to reach goals associated with mastery-related reasons (Wolters, 2003). Students can, for example, think about how to master tasks in order to improve their abilities and become more competent or knowledgeable (Wolters & Benzon, 2013). (e.g. " I want to learn to understand this better.")

Regulation of performance goals (RPG). Regulation of performance goals comprises thinking about getting extrinsic rewards or doing better than others (Wolters, 2003). Highlighted goals can be associated, for example, with high grades or approval from others (Wolters & Benzon, 2013). (e.g. "I want to get the highest score.")

Environmental structuring (ES). Environmental structuring consists of reducing the probability of encountering distractions during study (Wolters, 2003). It implicates, for instance, decreasing the possibility of off-task behaviour or improving the readiness for study (Wolters & Benzon, 2013). (e.g.,"I go to study in a quiet room where I can concentrate.")

Regulation of value (RV). Regulation of value comprises thinking of the meaningfulness and usefulness of the studied tasks (Wolters, 2003). Student can use strategies to highlight the value of the studied task or material in the future (Wolters & Benzon, 2013). (e.g., " I think up situations where it would be helpful for me to know this.")

The appropriate application of motivational strategies has been associated with higher effort, achievement, and performance in students (Schwinger et al., 2012). Smit et al. (2017), for instance, found a positive relationship between the use of motivational strategies and the value students attach to schoolwork,

as well as the effort they put into it and the pleasure they get from completing it. Furthermore, prior research has indicated that motivation regulation facilitates experiences of meaningfulness, enhanced learning, and persistence in learning situations among vocational education students (Smit, de Brabander, & Martens, 2014; Støen & Utvær, 2014). Motivation regulation also supports students' autonomy and the feeling of competence in educational settings and has a positive relationship with academic and vocational meaning (Smit et al., 2014; Støen & Utvær, 2014). This study focuses on five different motivation regulation strategies: self-consequating, regulation of performance and mastery goals, environmental structuring, and regulation of value. Furthermore, affiliations with motivation regulation strategies and study engagement, burn out, and academic performance are studied.

Changes in Motivation Regulation Levels and Learning Situations

It is often assumed that once learners have a good basic understanding of the relevant strategies and possess the appropriate skills, motivated learning just takes place organically. However, research into SRL has repeatedly shown that students do not always engage in regulating their motivation in learning, even when they possess the necessary skills (Winne & Jamieson-Noel, 2002). Learners are not always able or willing to apply effective learning strategies, such as motivation regulation, when they are needed in fluctuating learning situations, and thus give up in the face of difficulty (Winne & Jamieson-Noel, 2002). Students can also confront different motivational challenges in different situations and phases of their studies, and, therefore, the level of and need for motivation regulation can vary both within and between individuals (Engelschalk et al., 2017; Järvenoja, Volet, & Järvelä, 2013; Ketonen, 2017). Hence, recent studies have highlighted that the situational perspective of the regulation of learning can help us understand SRL processes (Greeno & Engeström, 2014; Hailikari & Parpala, 2014; Järvenoja, Järvelä, & Malmberg, 2015). Learning is not a stable state but takes place in constantly changing contexts; as such, it is exposed to situational dynamics in the time and place it occurs (Järvenoja et al., 2015; Pintrich, 2004; Urdan & Schoenfelder, 2006). If learners and teachers cannot realize adaptive motivation regulation in varying situations, they may fail to maintain motivated learning and engagement (Azevedo & Cromley, 2004; Hoops et al. 2016; Urdan & Schoenfelder, 2006).

Many things can affect motivation regulation processes, engagement and well-being, including learners' individual, behavioural, or mental actions (e.g. beliefs), social situations, and the circumstances of

pedagogical and learning environments (e.g., pedagogical guidance, interaction, study community, and communication technology) (Heggen & Terum, 2013; Järvenoja et al., 2015; Pietarinen, Soini, & Pyhältö, 2014). For instance, student-centred learning environments that consider learning as a constructivist, situated and social activity have shown to support students' achievement and motivational processes (Sarja, Janhonen, Havukainen, & Vesterinen, 2018; Smit et al., 2014). Contextual and social factors - such as a well-organised learning environment, teacher collaboration, teaching approaches that promote SRL and good teacher–student relations - have been positively associated with facilitating university students' motivation and learning (Hoops et al. 2016; Kunnari, Ilomäki & Toom, 2018; McMillan 2010; Ysuke, Parpala, Pyhältö, & Lindblom-Ylänne, 2016). Similarly, well-organized learning environments have been shown to elicit qualitatively better learning activities and outcomes than those of more informal learning environments, such as workplaces (Bakkenes, Vermunt, & Wubbels, 2010; Hailikari & Parpala, 2014). In addition, student-centered learning methods, cognitive complexity, and high-quality clinical learning environments have been shown to improve nursing students' learning and motivational resources (McComb & Kirkpatrick, 2016; Yardimci et al., 2017).

The prior research verifies that how learners engage in motivation regulation can vary across the situations and contexts. Accordingly nursing students' motivation regulation profiles are likely to change during their studies.

Role of Motivation Regulation in Nursing Students' Engagement and Burnout

Just as high-level self-regulative learning skills have been associated with student success, a lack of regulation has been shown to predict difficulties in studying, such as delayed graduation and the risk of dropping out (Hailikari & Parpala, 2014; Heikkilä, Lonka, Nieminen, & Niemivirta, 2012; McComb & Kirkpatrick, 2016; Vanthournout et al., 2012). For example, motivational and strategic aspects of SRL, such as appropriate self-efficacy and time management skills, are significant predictors of students' susceptibility to procrastination in academic work (Wolters, Won, & Hussain, 2017). Earlier studies of motivation regulation have shown a relationship with higher academic performance, better study engagement, and improved well-being (Boekaerts, 2011; Schwinger et al., 2012; Winne & Hadwin, 2012). On the contrary, diminished regulation skills may increase burnout symptoms, including the risk of exhaustion, especially during the first years of study (Litmanen, Loyens, Sjöblom, & Lonka, 2014).

Study-related exhaustion, cynicism, and feelings of inadequacy are all connected to the concept of study burnout (e.g., Parker & Salmela-Aro, 2011; Schaufeli, Martinez, Pinto, Salanova, & Bakker, 2002). The relationship between the symptoms has been described as complex; however, exhaustion and cynicism are provably regarded as core dimensions of burnout (Bresó, Schaufeli, & Salanova, 2011; Maslach, 2003; Schaufeli & Taris, 2005). Study-related emotional exhaustion is considered a distinctive symptom of study burnout that is a result of perceived high study demands, the development of cynicism (i.e., cynical and detached attitudes toward study), and feelings of inadequacy (Salmela-Aro & Read, 2017; Schaufeli et al., 2002). Study-related exhaustion can also be described as feelings of strain, stress, and chronic fatigue, while study-related cynicism is an indifferent or distant attitude towards studying and the loss of interest and meaning in academic work (Salmela-Aro & Read, 2017).

Burnout, in the context of study, can lead to serious problems, both during the period of study and later in life (e.g., Upadyaya & Salmela-Aro, 2013). It has been pointed out that especially nursing students suffer from increased levels of stress during their studies (Bartlett et al., 2016). Nursing students experiencing study burnout has been reported as a predictor of decreased academic performance, occupational preparedness, and future clinical performance (see Pitt, Powis, Levett-Jones, & Hunter, 2012; Rudman & Gustavsson, 2012). Based on the literature review by Walker, Rossi, Anastasi, Gray-Ganter and Tennent (2016), nursing students have expressed greater feelings of satisfaction, commitment, and motivation in their studies when they have felt included and supported. As a result, the study authors recommend that authentic and engaging learning opportunities and environments should be ensured for nursing students. In addition, to aid student success, support, guidance, and information services should be provided to all students. Facilitating a social presence in online courses, providing flexible modes of learning, and assisting students' critical thinking abilities and strategies can contribute to nursing students' motivation in their studies (Walker et al., 2016).

Similar to study burnout, study engagement is also related to affective components of engagement (Upadyaya & Salmela-Aro, 2013). It is further characterized by a combination of study-related vigor, dedication, and absorption (Salmela-Aro & Upadaya, 2012; Schaufeli et al., 2002). Vigour refers to high levels energy, mental resilience, persistence and willingness to invest effort to one's work while studying. Dedication describes the sense of significance, inspiration, and involvement achieved through studying; and absorption characterizes full concentration and engrossment, or the state of being

happily and singularly focused on studying (Salanova, Llorens, & Schaufeli, 2011; Salmela-Aro & Upadaya, 2012; Scaufeli et al., 2002). It has been suggested that implementing pedagogical activities that promote students' psychological processes and motivation regulation strategies (e.g., self-efficacy, time management, and goal setting) can increase students' overall engagement and performance (Bresó et al., 2011; Wolters & Hussain, 2017). Furthermore, students' active roles in learning situations—such as interaction with peers and supervisors, team-based learning, homework and online task competition, lecture attendance, and study hours—have been referred to as pivotal factors in enhancing engagement and academic performance (Heggen & Terum, 2013; Mackintosh-Franklin, 2018).

Recent research has focused simultaneously on study-related burnout and engagement (e.g., Salmela-Aro & Upadaya, 2012; Salmela-Aro & Read, 2017). A longitudinal study completed by Tuominen-Soini and Salmela-Aro (2014) explored school-related burnout and school engagement among high school students (n = 979). Their study revealed four rather stable profiles over time: engaged, engaged–exhausted, cynical, and burnedout. Both engaged and engaged-exhausted students were committed, were motivated, and performed well in school, taking into account that engaged–exhausted students were more stressed and preoccupied with possible failures. Conversely, cynical and burned-out students valued school less and had lower academic achievement. The profiles seemed to be stable from adolescence to young adulthood. It was most typical for engaged students to stay in engaged groups, yet engaged–exhausted students often moved into more disengaged groups over time. The study also found a difference in students' long-term educational attainment, indicating that the engaged students had the highest educational aspirations and were more likely to attend universities and that engaged–exhausted students were more likely to attend universities of applied sciences (Tuominen-Soini & Salmela-Aro, 2014).

To conclude, motivation regulation, study engagement, and study burnout are each made up of various elements (e.g., situational and emotional dimensions) and have an impact on learning and study success, which are closely related and partly intertwined. Furthermore, motivation and emotional regulation have been referred as inherent parts of self-regulation in collaborative learning situations (Järvenoja, Järvelä, & Malmberg, 2017). An overview of this literature reveals that an examination of nursing students' motivation regulation skills and their associations with students' study burnout, engagement, and academic achievement would increase our understanding of undergraduate nursing students' learning and unveil advantageous implementations within professional higher education.

Aims

This study explores the variation in nursing students' motivation regulation, study burnout, and study engagement from the first to second year of study. Furthermore, it investigates their associations with academic performance (entrance examination score, grade point average [GPA] and completed credits) in traditional and blended learning (BL) environments. The longitudinal approach provides the opportunity to follow and focus the progress and changes in individuals' functioning and development over time (Bergman & Trost, 2006). Hence, this study examines development of students' motivation regulation profiles during two years. The research questions are as follows:

(1) What kind of motivation regulation profiles, study engagement, and study burnout can be detected among second-year nursing students?
(2) How does the motivation regulation, study engagement, and burnout associate with students' academic performance?
(3) How do nursing students' motivation regulation profiles, study engagement and burnout progress from the first year to the second year?

Methods

In Finland nursing education is carried out in Universities of Applied Sciences (UAS) and follows the European Union's training requirements for general care nurses (Directive 2005/36/EC; Directive 2013/55/EU). The requirement for admission is a secondary general or vocational education certificate. The final student selection is based on earlier study success and the university's own entrance examination, which usually includes writing and mathematical skills tests and an aptitude test. It takes approximately three and a half years to graduate as a registered nurse (Bachelor of Health Care degree).

The nursing degree program comprises 210 European Credit Transfer and Accumulation System (ECTS) credits and can be completed either in a traditional classroom-based program or in a BL program. Blended learning combines pedagogically planned face-to-face and online activities, as well as synchronous and asynchronous activities and technologies (Galvis, 2018). It integrates the advantages of traditional classroom learning with online and offline learning and aims to enhance learning success (Cheung, Kwok, Kubota, Lee, & Tokito, 2018). In the traditional program, nursing students take part in face-to face classroom teaching weekly; in the BL program, students attend a classroom approximately one week (4-

5 days) per month and otherwise study wherever and whenever they choose using tutors and technology-enhanced, web-based, online learning management systems. Both programs include the same amount of clinical training in practical placements (90 ECTS).

The Finnish national credit allocation and accumulation system is equivalent to the ECTS, and one year of full-time study corresponds to 60 credits (European Union, 2015). Completed courses are evaluated numerically on the scale excellent (5), good (3–4), satisfactory (1–2), and fail (0).

Data Collection

A cross-sectional and longitudinal approach were used to obtain survey data from the sample of undergraduate nursing students in UAS. The first and second survey data were collected via questionnaires by the researcher during a lecture. The first quantitative survey study was conducted at the beginning of the nurse education program (February 2016). Altogether, 90 first-year baccalaureate nursing students participated in the first study. The second quantitative survey (N=98) was carried out at the beginning of the second year (February 2017), which is halfway through the program. The online survey was sent via email to students who did not attend the lecture. The participants were informed about the study and their rights, including voluntary participation and the researcher's commitment to ensuring anonymity and confidentiality, and the fact that any decision concerning their participation would have no effect on their studies.

The students' GPAs for their completed courses, number of accomplished credit units, and entrance examination results were received from the university's administrative register. The study was approved by our institution's review board, and permission was obtained from the director of education, research, development and innovation in health care and nursing education.

Participants

Altogether, 98 second-year nursing students (83 women, 84.7%; 15 men, 15.3%) from UAS in northern Finland participated in the second quantitative survey study. The sample consisted of all the second-year baccalaureate nursing students in two separate degree program units. The response rate was 90.7%. Their ages ranged from 21 to 51 years (M = 28.31, SD = 6.83). Thirty-four of the participants studied in a BL environment, whereas 64 students studied in a traditional learning environment. A slight minority (48.0%) of the students were not working during their studies, whereas 45.9% had part-time jobs and 6.1% full-time jobs. The groups differed from each other in terms of their employment status. In the BL group, most students were working (64.7%, n = 22), whereas in the traditional learning group approximately half of the students 54.7%, n = 35) did not work in addition to completing their studies while the other half did. The response rate of the same students participating in both the first and second survey was 87.3% (n = 69). All longitudinal data were analyzed using this n, whereas the cross-sectional data of n = 98 was used in all other analyses.

Measurement

The first and second survey contained three scales, which have been used in prior studies with different population-validated scales. The motivation regulation scale (26 items) included subscales for the regulation of performance goals (RPG; five items), self-consequating (SC; five items), regulation of value (RV; six items), environmental structuring (ES; four items), and regulation of mastery goals (RMG; six items) (Wolters & Benzon, 2013). The study engagements scale (nine items) comprises vigor (three items), dedication (three items), and absorption (three items) (Schaufeli, Bakker, & Salanova, 2006; Schaufeli et al., 2002). The study burnout scale (eight items) consists of exhaustion (five items) and cynicism (three items) (Maslach, Scaufeli, & Leiter, 2001; Salmela-Aro, Kiuru, Leskinen & Nurmi, 2009; Salmela-Aro & Näätänen, 2005). All three scales and items are presented in the Appendix.

Respondents were instructed to indicate agreement with each item using the seven-point Likert scale, ranging from strongly disagree (1) to strongly agree (7). Four demographic questions concerning defendants' gender, age, employment status, and parenthood of underage dependents were added in the survey.

Analysis

After checking the normality of the variables, exploratory factor analysis (EFA) with maximum likelihood extraction was used to probe the underlying structure of the variables of motivation regulation, study engagement, and study burnout. As for the motivation regulation scale, results suggested that a five-factor solution for the motivation regulation scale should be retained, including RPG, RMG, SC, ES and RV.

For the study engagement scale, a one-factor solution seemed most plausible, and for the study burnout scale variables, a two-factor structure of cynicism (three items) and exhaustion (five items) was supported by the analyses. To create motivation regulation clusters and to determine their number, a K-means analysis was conducted. Two- and three-cluster procedures were tested. Based on the relatively small number of respondents (n = 98), the two-cluster

Table 1
Cronbach's Alphas, Means, Standard Deviations, And Minimum and Maximum Values on Motivation Regulation, Study Engagement, Study Burnout and Academic Performance (N = 98)

Items/Scales	N of items	Alpha	Mean	SD	Min	Max
Motivation regulation						
Regulation of performance goals	5	.87	4.25	1.24	1.60	7.00
Self-consequating	4	.91	4.46	1.47	1.00	7.00
Regulation of value	6	.87	5.25	.99	2.17	7.00
Environmental structuring	3	.89	4.94	1.20	2.00	7.00
Regulation of mastery goals	3	.72	3.80	1.09	1.33	6.33
Study Engagement	9	.90	4.28	1.00	1.67	6.56
Study Burnout						
Exhaustion	7	.83	3.26	1.19	1.14	6.57
Cynicism	5	.88	2.25	1.19	1.00	6.20
Academic performance						
GPA	1	-	3.14	.62	.00	4.64
Credits	1	-	102.69	21.16	13.00	135.00
Entrance examination	1	-	79.62	5.78	63.0	93.0

solution was selected. Independent t-tests were used to compare groups when the dependent variables were measured at least at an interval level, and repeated measures t-tests were used to examine the differences between the first measures and second measures. Linear regression analysis was used to examine the relationships between students' motivation regulation subscale scores and GPA and between students' entrance examination scores and GPA. Because there were no differences between students' motivation regulation profiles, engagement, burnout, or academic performance based on their learning environment, both learning environment groups are processed together in the analysis. All data analyses were carried out using SPSS version 24 (2016).

Results

Second-Year Nursing Students' Motivation Regulation Profiles, Study Engagement and Study Burnout, and Associations with Academic Performance

The results indicated that second-year nursing students displayed high or moderate levels of motivation regulation, ranging from M = 3.80 for RMG to M = 5.25 for RV. They also displayed a moderate level of study engagement. In terms of study burnout, the students reported a moderate level of exhaustion but low level of cynicism (see Table 1).

Linear regression analyses indicated that, of the motivation regulation variables, only SC predicted GPA ($b = .16$, $t(97) = 3.82$, $p < .001$), explaining a significant proportion of the variance in GPA scores ($R^2 = .13$,

$F(1,96) = 14.62$, $p < .001$). Also, entrance examination score had a positive relationship with GPA ($b = .04$, $t(97) = 3.73$, $p < .001$), explaining a significant proportion of the variance in GPA scores ($R^2 = .15$, $F(1,96) = 13.89$, $p < .001$). There was no relationship between study engagement and academic performance nor between experiencing study burnout and academic performance.

Progress of Motivation Regulation Profiles, Study Engagement and Study Burnout from First Year to Second Year

One of the research questions aimed to examine the progression of motivation regulation, study engagement and study burnout over time. K-means cluster analysis, using the subscale scores of the motivation regulation scale of the first measurements' point, enabled the detection of two distinctive student profiles. The first motivation regulation profile culled from our analysis was students with a high level of motivation regulation. This was the most common profile among the nursing students, with a 66.7% (n = 46) sample share. As displayed in Figure 1, these students displayed high levels of RPG, RMG, SC, ES and RV. The second profile, which showed less-developed motivation regulation, displayed lower motivation regulation levels in all motivation regulation scales and represented slightly over one-third (33.3%, n = 23) of the nursing students in the sample.

Using our second measurement data, the same analysis again revealed two distinctive student profiles. The most common profile was still students with high levels of motivation regulation (62.3%, n = 43), including high levels of RPG, RMG, SC, RV and ES.

Figure 1.
The first measurement motivation regulation profiles
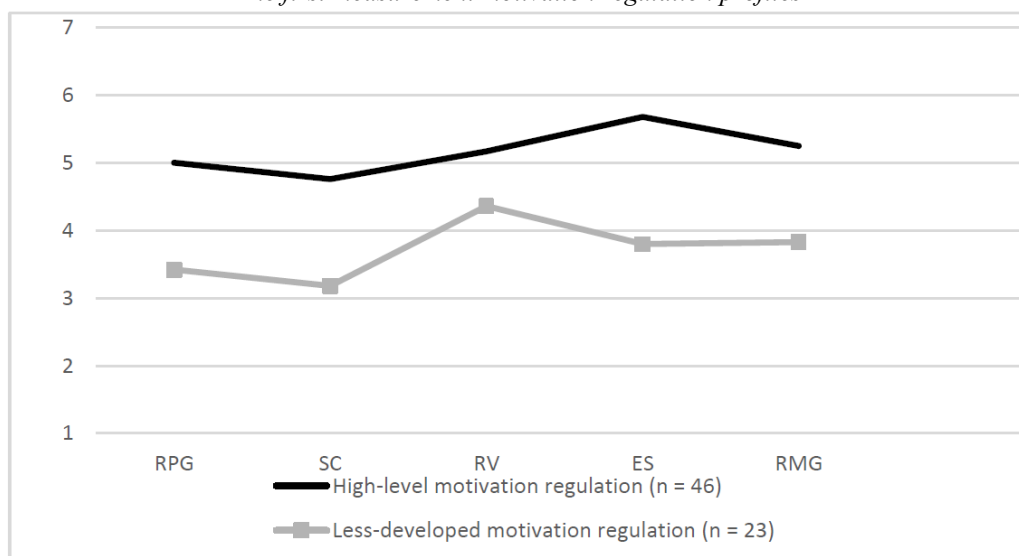
Figure 2.
The second measurement motivation regulation profiles
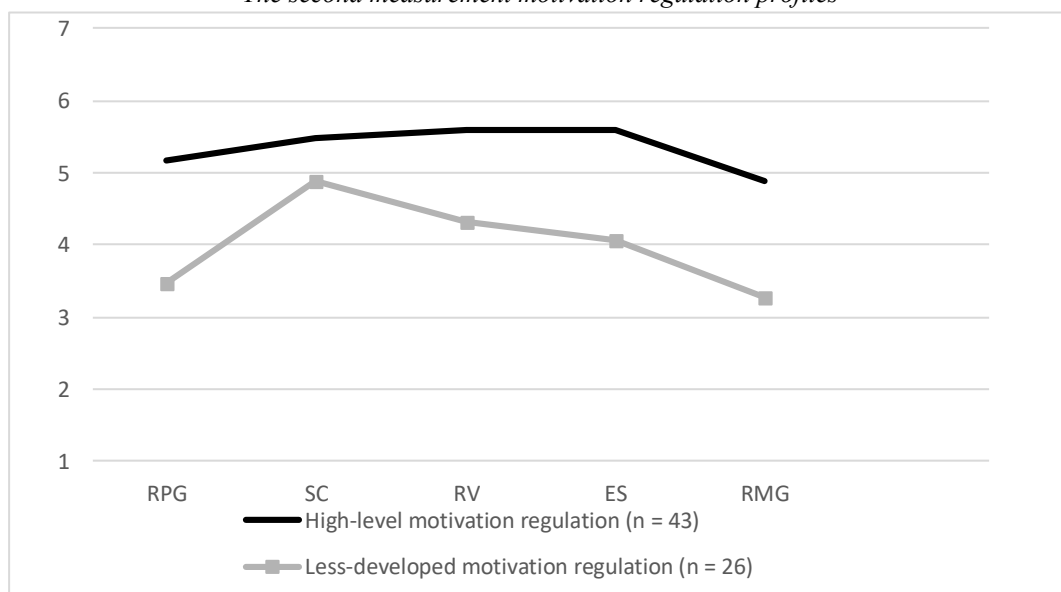
The second profile was, similarly, the less-developed motivation regulation profile, representing slightly over one-third (37.7%, n = 26) of the nursing students in the sample. The less-developed motivation regulation profile holders showed moderate levels of RPG, RMG, SC and ES and a slightly lower level of RV (see Figure 2). The profiles, thus, seem to be rather stable over time.

As Table 2 indicates, there were some differences between the first measurement and second

measurement in terms of RV, RMG, study engagement, and cynicism. Also, small differences were observed in SC and exhaustion between the two measurements. The students' reported RV increased, as did SC, exhaustion and cynicism (see Table 2). Conversely, the reported RMG and study engagement decreased over time. No meaningful changes were detected in students' responses concerning the strategic use of ES.

The profile of second-year nursing students with high levels of motivation regulation (n = 43, M = 4.56,

SD = .91) displayed higher levels (t(96) = -3.60, p = .001) of study engagement than did the less-developed profile (n = 26, M = 3.86, SD = 1.00). There were also differences in cynicism (t(69.15) = 2.72, p = .008) and GPA (t(74) = -2.28, p = .026) between the two profiles: students with high-level motivation regulation skills displayed less cynicism (M = 1.98, SD = 1.04) and had a higher GPA (M = 3.27, SD = .56) than students with less-developed motivation regulation skills (M = 2.65, SD = 1.30 and M = 2.98, SD .47, respectively).

Shifts within both profiles over time were also analyzed, and four types of motivation regulation progression paths were detected. As Figure 3 indicates, shifting from less-developed motivation regulation to high-level motivation regulation from the time of the first measurement to the time of the second was more typical than the opposite: approximately one-third of those with less-developed motivation regulation at measurement time one had shifted to a high level at time two. Only approximately one-quarter of those with high-level motivation regulation had shifted to the less-developed level at time two. We found no statistically significant differences between those who had shifted profile and those who had not.

Table 2
Means Scores of MR, Study Engagement, Study Burnout Scale Scores Over Times 1 and 2

	First Measurement (n = 69)		Second Measurement (n = 69)			
	M	SD	M	SD	t	p
Motivation Regulation						
Regulation of performance goals	4.48	1.22	4.30	1.25	1.38	.172
Self-consequating	4.23	1.35	4.50	1.43	-2.01	.048
Regulation of value	4.90	1.05	5.31	.94	-3.70	<.001
Environmental structuring	5.05	1.40	5.05	1.24	-0.03	.973
Regulation of mastery goals	4.77	1.24	3.87	1.05	5.93	<.001
Study Engagement	5.92	1.35	4.35	1.03	15.98	<.001
Study Burnout						
Exhaustion	2.99	1.22	3.28	1.25	-2.45	.017
Cynicism	1.70	.88	2.30	1.27	-4.97	<.001

Figure 3
Shifts in motivation regulation profiles
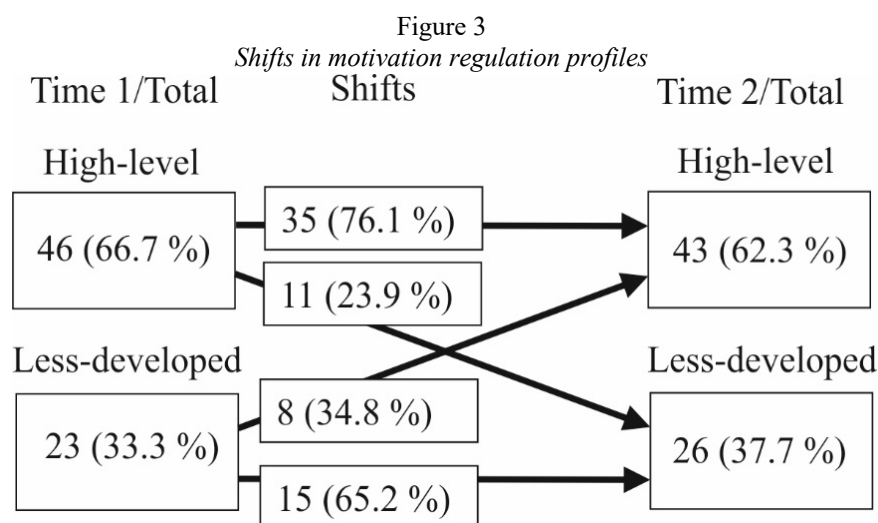
Discussion

This longitudinal study focused on investigating the progress of undergraduate nursing students' reported use of different motivation regulation strategies, engagement, and risk of suffering from burnout. The affiliations of these strategies with academic performance were also studied. First, the results indicated that a majority of the students displayed high or moderate levels of motivation regulation and moderate levels of study engagement in both the first and second year of their studies. In terms of their risk to suffer from study burnout, the results showed that while the second-year students experienced moderate levels of exhaustion, most of the students still reported only low levels of cynicism. The findings are in line with earlier studies, which indicated that highly engaged and motivated students can simultaneously experience feelings of exhaustion (Salmela-Aro & Read, 2017; Tuominen-Soini & Salmela-Aro, 2014). Accordingly, the present study highlights that educators should continue to support students even when they display a relatively high level of motivation and engagement since they are still susceptible to feelings of study-related exhaustion and stress (Tuominen-Soini & Salmela-Aro, 2014). The fact that this longitudinal study revealed at both measurement points two distinctive motivation regulation profiles strengthens the idea that students are not homogeneous group but instead possess different levels of motivational regulation throughout their studies (Engelschalk et al., 2017; Ketonen, 2017; Mäenpää, Pyhältö, Järvenoja & Peltonen, 2018; Schwinger et al., 2012).

Second, this study found a relationship between an overall high level of motivation regulation and academic performance (GPA). This is in line with studies that have indicated that the appropriate use of motivational strategies results in higher levels of achievement (Schwinger et al., 2012; Smit 2017). Differing from earlier studies (Schwinger et al., 2012; Smit, 2017), this study revealed a relationship between higher levels of motivation regulation in terms of SC and higher academic performance. This finding demonstrates an even greater positive impact of persistent self-talk, such as promising oneself a reward for completing the assigned work or reaching the set goal (McMillan, 2010; Wolters & Benzon, 2013). In addition, and parallel to earlier studies, a higher entrance examination grade was shown to be a predictor of higher academic performance in nursing students (Wolkowitz & Kelley, 2010).

Third, the longitudinal approach demonstrated some changes in students' individual motivation regulation profiles, meaning the profiles are not permanent. Four different profile paths were uncovered:

two stable profiles consisting of students staying either in the high or less-developed motivation regulation profile over time and two changing profiles consisting of students who shifted either from the high-level motivation regulation profile to less-developed level or vice versa. With respect to the original profile groups, there were more students shifting from the less-developed motivation regulation profile to the higher-level motivation profile over time. This result is in line with the idea that individuals' levels of motivation regulation should not be regarded as a stable state; instead, students with different motivational approaches can modify their use of motivation regulation strategies to fit the situational challenges they encounter during their course of study (Järvenoja et al., 2015). This leads to the question of whether certain aspects of individuals' SRL skills, and in situational contexts, can be uncovered to specifically influence motivation regulation. What contributes and maintains successful motivation regulation despite varying situations and competing motivational challenges? Considering that there were reciprocal changes in the profiles, it is important to proceed by exploring the factors that strengthen or weaken motivation regulation. It would help to understand how students' motivation regulation and commitment to learning can be scaffolded and, also, to widen the research approach in essential situational contexts (Greeno & Engeström, 2014; Järvenoja et al. 2015).

The current study was carried out at one university of applied sciences in northern Finland with a relatively small sample of participants from a single discipline and cultural context. The response rate of the cohort was quite high, and longitudinal results test the stability of the results reported in this study. However, the longitudinal design created four different types of motivation regulation profiles, and as a result, the number of students within each profile or the number of profile shifters is not that high. As such, because of the sample size and analytical approach used, the results should be considered with caution, particularly in terms of making generalizations. Bearing this limitation in mind, the current study did reveal that students can engage in different types of learning paths in terms of their motivation regulation. While a good number of students successfully maintained high engagement and motivation regulation between the two measurement points, there were groups of students who remained at low levels of motivation or who experienced something that caused their commitment and motivation regulation to dwindle. In the future, there is a need for additional studies that implement multiple methods and approaches in studying undergraduate nursing students' motivation regulation in action, in order to gain a deeper understanding of the causes of the levels of

engagement and motivation regulation, both high and low. Further research using interpretive qualitative approaches could provide more insight into the individual and situational factors that contribute to nursing students' motivation regulation. As motivation regulation research in professional higher education for nurses is still scarce, this study offers a lessfrequently examined addition to the empirical research on motivation regulation.

In endeavouring to support students' learning, it is also necessary to consider that educators can help their students maintain and bolster their motivational regulation strategies, such as by tailoring their learning environment structures, providing assistance with goal setting and applying support and peer interaction techniques (Hoops et al. 2016; Schunk 2014; Urdan & Schoenfelder, 2006). Receiving social and motivational support both during their studies and in their transition from nursing study to nursing practice will also help ensure more nurses choose to stay in the profession (Bartlett et al., 2015; Flinkman & Salanterä, 2015). Without a supportive learning environment and attention paid to the enhancement of their motivational regulation skills, students can feel overloaded and find it difficult to engage in studies or successfully meet the scholarly and practical demands of the course (Bronson, 2016; Khalaila, 2015; Nesje, 2015).

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Appendix

Motivation regulation scale and items (Wolters & Benzon, 2013).

Scale	Items
Regulation of value	I think up situations where it would be helpful for me to know the material or skills.
	I try to make the material seem more useful by relating it to what I want to do in my life.
	I make an effort to relate what we're learning to my personal interests.
	I try to connect the material with something I like doing or find interesting.
	I tell myself that it is important to learn the material because I will need it later in life.
	I try to make myself see how knowing the material is personally relevant.
Regulation of performance goals	I remind myself about how important it is to get good grades.
	I think about how my grade will be affected if I don't do my reading or studying.
	I remind myself how important it is to do well on the tests and assignments in this course.
	I convince myself to keep working by thinking about getting good grades.
	I tell myself that I need to keep studying to do well in this course.
Self-consequating	I promise myself some kind of a reward if I get my readings or studying done.
	I make a deal with myself that if I get a certain amount of the work done I can do something fun afterwards.
	I tell myself I can do something I like later if right now I do the work I have do get done.
	I set a goal for how much I need to study and promise myself a reward if I reach that goal.
	I promise myself I can do something I want later if I finish the assigned work now.
Environmental structuring	I try to get rid of any distractions that are around me.
	I make sure I have as few distractions as possible.
	I change my surroundings so that it is easy to concentrate on the work.
	I try to study at a time when I can be more focused.
Regulation of mastery goals	I persuade myself to keep at it just to see how much I can learn.
	I tell myself that I should keep working just to learn as much I can.
	I challenge myself to complete the work and learn as much as possible.
	I convince myself to work hard just for the sake of learning.
	I tell myself that I should study just to learn as much as I can.
	I eat or drink something to make myself more awake and prepared to work.

Study engagement scale and items (Schaufeli, Bakker, & Salanova, 2006; Schaufeli, Martinez, Pinto, Salanova & Bakker, 2002).

Scale	Items
Vigor	In my studies, I feel like I am bursting with energy.
	In my studies, I feel strong and vigorous.
	When I get up in the morning, I feel like going to study.
Dedication	I find studying full of meaning and purpose.
	I am enthusiastic about my studies.
	Studying inspires me.
Absorption	Time flies when I am studying.
	When I am studying, I forget everything else around me.
	I am immersed in my studying.

Study burnout scale and items (Maslach, Schaufeli, & Leiter, 2001; Salmela-Aro, Kiuru, Leskinen & Nurmi, 2009; Salmela-Aro & Nçätänen, 2005).

Scale	Items
Exhaustion	I feel overwhelmed by my schoolwork.
	I often sleep badly because of matters related to my schoolwork.
	I feel totally exhausted.
	I brood over matters related to my schoolwork a lot during my free time.
	The pressure of my schoolwork causes me problems in my close relationships with others.
Cynicism	I feel a lack of motivation in my schoolwork and often think of giving up.
	I feel that I am losing interest in my schoolwork.
	I'm continually wondering whether my schoolwork has any meaning.

Metacognition and Motivation in Anatomy and Physiology Students

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The purpose of this study was to use a grounded theory, qualitative approach to gain a deeper understanding of students' self-regulated learning processes in a required first-year gateway Anatomy and Physiology (A&P) course that is critical for success in health care-related academic programs and professions. At the end of a two-semester sequence in A&P, students were recruited to participate in individual 30-minute semi-structured interviews based on questions related to their metacognitive beliefs and behaviors. Investigators reviewed verbatim transcripts from 25 primarily first-year students and identified four major themes: 1) career orientation, 2) relevance of Anatomy and Physiology, 3) success as the ability to earn good grades, as well as retention and ability to apply materials, and 4) student behaviors referring to the learning and metacognitive strategies reported by students. Within the theme of student behaviors, four sub-themes emerged: collaborative work with peers, self-responsibility, self-awareness, and evolution as learners. The results of this study will help investigators to design and implement strategies to improve success in this course for pre-health professional students.

The ability to regulate and monitor the quality of one's own learning process is an essential skill for individuals across a range of contexts. While cognitive monitoring and metacognition have long-been considered crucial elements of learning (Flavell, 1979), there is also a recognition that the capability to self-regulate learning is becoming more and more important because of structural changes in society (Bjork, Dunlosky, & Kornell, 2013). In the 1970s, John Flavell (1979) presented a model of cognitive monitoring that consisted of a set of interconnected factors including metacognitive knowledge, metacognitive experiences, actions (or strategies), and goals (or learning tasks). Metacognitive knowledge includes both a comprehension of cognition in general, as well as self-referential knowledge about one's own goals, actions, and beliefs regarding the process of cognition. Metacognitive experiences encompass both emotional and cognitive states. For example, judgments about whether something has been understood correctly or incorrectly fall under the construct of metacognitive experiences, but this construct also includes the affective consequences that arise in the process of cognitive acts (Flavell, 1979). Particularly when confronted with new and challenging tasks, these metacognitive processes involve the regulation of both emotional and cognitive resources (Ambrose, Bridges, DiPietro, Lovett, & Norman, 2010).

In the past few decades, researchers have expanded and examined the socio-cognitive system of self-managed learning. Self-Regulated Learning (SRL) is a model which describes "the degree to which students are metacognitively, motivationally, and behaviorally active participants in their own learning processes" (Zimmerman, 2013, p. 137). SRL is comprised of a group of learning-related strategies, including an ability to evaluate one's performance, seek out necessary information and other social supports, set up a reasonable learning environment, and maintain productive studying practices (Zimmerman, 2013). Within this model, the process of self-regulation encompasses three phases. In the first phase, forethought and planning, learners set out goals and plans and consider their beliefs about their ability to learn the material as well as the value of the task itself. In the second, performance monitoring phase of the cyclical self-regulation model, individuals must observe and monitor their attention, cognitions, and performance in learning-related tasks. Moreover, they must control their environment, behaviors, and cognitions to meet the task-related requirements. The third phase of the process involves self-reflection, during which individuals reflect on whether they achieved their desired outcomes, as well as how and why these goals were or were not achieved. During this phase, individuals must also manage their cognitive and emotional reactions accordingly (Wigfield, Klauda, & Cambria, 2011; Zimmerman, 2013).

Self-regulation theories generally account for how humans adapt to environments (Zimmerman & Cleary, 2009), and in order to effectively pursue goals, individuals must often regulate their behaviors, cognitions, and emotions (Karoly, 1993; Sitzman & Ely, 2011). Indeed, students who show higher levels of self-regulatory practices perform better academically, as measured by both their grade point averages and standardized test scores (Zimmerman, & Kitsantas, 2014). Ultimately, SRL is a cyclical process in which effective learners engage in the forethought phase, followed by the performance phase and then the self-reflection phase, during which they make judgments and adjustments as necessary. These cyclical processes are, therefore, feedback loops in which self-regulated learners alter their actions

depending on the consequences of their behaviors (Zimmerman & Cleary, 2009).

SRL models traditionally suggest that intrapersonal processes of self-regulation are embedded within a person, who is also embedded within a larger environment. Individual motivations and other person-level variables can, therefore, affect the cognitive and metacognitive strategies which students employ (Efklides, 2011). One of the most salient of these individual differences is learners' estimation of the value of the task. Students' perceptions of the relevance of coursework varies, but it generally seems to fall into two broad categories: those that they consider directly relevant and those that they consider to be indirectly relevant to their personal, academic, and occupational development (Pisarik & Whelchel, 2018). Those students who place a higher value on the material they are learning tend to be more persistent in their work and utilize more cognitive and self-regulatory strategies (Pintrich & DeGroot, 1990). An important component of this value emerges from the larger reasons students have for pursuing their educational goals. These goals help motivate them and are influenced by both personal and contextual factors (Berkhout, et al., 2015). Even when lessons have been intentionally drained of all engaging content that might serve to trigger positive affect toward a subject, providing a reasonable rationale for learning the material can promote engagement, regulation, and better conceptual understanding (Jang, 2008). More proximal goals are other person-level factors that are also important in learning. In a meta-analysis examining which aspects of self-regulation were associated with learning in work-related education and training, self-set goal levels for performance standards emerged as one of the strongest predictors (Sitzmann & Ely, 2011).

Students' mindsets about the nature of intelligence, their perceived ability to learn material, and their sense of responsibility for learning are other person-level variables that work in conjunction with more fundamental metacognitive processes to determine the manner in which they approach studying and their performance in school (Ambrose, et al., 2010; Zimmerman & Kitsantas, 2005). While some individuals conceptualize intelligence as fixed, others have a more incremental view and believe that experience or effort can change one's intelligence. When students believe that their intelligence is immutable, they tend to be more focused on "performance goals" or goals that can demonstrate their overall ability. When students hold a more incremental or "growth" mindset, they are more likely to have "mastery" goals and thus are more likely to persist when tasks are difficult or when they initially experience failure (Blackwell, Trzesniewski & Dweck, 2007; Elliott, & Dweck, 1988). Students also differ in their overall sense of efficaciousness for learning and their engagement in school (Fredricks, Blumenfeld, &

Paris, 2004; Pintrich & Degroot, 1990). Students' ratings of self-efficacy for learning are also associated with their perceptions of who is responsible for the learning process: their teachers or themselves. For example, among a sample of high school girls, the quality of their homework assignments was associated with their GPAs, as mediated by their perceived self-efficacy for learning and perceived responsibility for learning (Zimmerman & Kitsantas, 2005).

There is an ever-more intense focus on understanding and supporting students' self-regulatory and metacognitive practices because of a growing recognition that it is important to help them learn to reflect critically, to develop an understanding of their discipline, and to think like scientists or professionals in the field (Metzger, Smith, Brown, & Soneral, 2018; Sandars & Cleary, 2011; Tanner, 2012). Changes in the structures of our society and the demands of many jobs are prompting a need for individuals to initiate and manage their own learning more effectively across the span of adulthood (Bjork, et al., 2013; Zimmerman, 2002). Learning to self-regulate the process by which one learns has, therefore, become a particularly important skill because most adults must engage in a life-long learning process across a variety of professions and contexts (Sitzmann & Ely, 2011; Zimmerman, 2002). This is perhaps particularly important in the field of health care, because advances in biomedical techniques and technology require practitioners to update their understanding of the field regularly, making the ability to self-direct their own learning an essential skill. Moreover, those who enter particular professions where they must conceptualize a specific case, make decisions, and act accordingly need to hone metacognitive skills because, without an awareness of the metacognitive process, errors in critical thinking may to lead to dire consequences (Medina, Castleberry, & Persky, 2017).

Though there is broad agreement that SRL represents an important theory in the field of education, there are still many unanswered questions about the relevance of each component of the process and the ways in which personal characteristics interact with specific features of the situational task to produce learning outcomes. This is particularly true for our understanding of SRL processes among higher education students (Schober, et al., 2015). In their meta-analysis examining self-regulated learning in programs for work-related training, Sitzmann and Ely (2011) suggest that more qualitative research examining the ways in which students engage in self-regulatory processes across the course of a semester within a particular context could help elucidate the overall process and better-identify possible interventions to support the self-regulatory processes (Sitzmann & Ely, 2011) and thus academic success.

Table 1
Participant Characteristics

Characteristic	M	(SD)
GPA	3.41/4.00	(0.5)
A & P I Grade	83.8	(7.8)
A & P II Grade	90.5	(7.8)
	n	Percentage
Gender (N = 25)		
Female	18	72
Male	7	28
Year in School (N = 25)		
Freshman	21	84
Sophomore	3	12
Senior	1	4
A&P I Grades (N = 25)		
A or B	19	76
C	5	20
D	1	4
A&P II Grades (N = 24)		
A or B	21	88
C	3	12
D	0	0

Note. N = 25

Therefore, the purpose of this study was to use a grounded-theory, qualitative approach to gain a deeper understanding of students' SRL processes in a first year Anatomy and Physiology course sequence that is critical for success in students' academic programs and their future professions. Anatomy and Physiology I and II are required courses and are important first year gateway courses for the health professions. Students can often struggle with the large volume of highly detailed material. Success in this course is critical for progression through health professions programs. In order to be successful in clinical health care, practitioners need to develop metacognitive habits of mind and critical thinking abilities. An understanding of these processes in beginning undergraduates may help to develop these abilities for the future.

Method

A qualitative research design was implemented in order to examine how students approached the Anatomy and Physiology courses, the motivation for studying in these courses, and the ways in which they regulated their learning during the semester. An exploratory approach, based on grounded theory methodology and principles, was utilized to provide the researchers with the opportunity to gain a deeper understanding of the perceptions and needs of a particular group, in this case, students (Creswell 1998;

Foley & Timonen, 2015; Levitt, Motulsky, Wertz, Morrow, & Ponterotto, 2017; Strauss & Corbin, 1990).

Participants

This study was conducted at a private comprehensive residential college with 3500 full time undergraduates and 575 graduate students representing 32 states and 31 countries. The population is about 50% male and 50% female and of traditional college age. The Department enrolls 419 majors, (25% Athletic Training, 45% Exercise Science, 30% Health Sciences). Data presented in this study was collected at the end of the Spring 2017 semester at the conclusion of completion of a year-long Anatomy and Physiology (AP I & AP II) course sequence. All students in the courses were invited to participate in the study, and they received extra credit for their participation. Any students interested in the study informed researchers and enrolled in the study. All participants consented to participate in this research in accordance with the College's IRB protocol, resulting in twenty-seven participants. One student did not complete the interview, and one interview was lost to technical difficulties (see Table 1 for a description of participants' characteristics), leaving 25 interviews to be transcribed. One interviewee did not obtain the required C or better grade in A&P I and so was not able to move on to the second half of the course.

Materials and Procedure

We used purposive sampling to recruit students for the study. Upon enrollment the participants were interviewed in person for 20 to 30 minutes by two authors. Prior to their interview, each participant chose a pseudonym. Only those pseudonyms were attached to the recording tapes, transcriptions, coding, and results presentation.

Both researchers performed informal, ongoing data analysis during interviews. After initial interviews were completed, the researchers met and agreed that data saturation was achieved, so no further participants were recruited. Interviews were conducted independently by two researchers, not associated with the A&P course sequence, who were involved in the design of the semi-structured interview guide which was created for the purposes of this study (see Appendix). The semi-structured format was utilized because the researchers wanted to maintain consistency throughout the interviews to enhance the integrity of the data without losing the opportunity to follow up with questions and delve more deeply into responses when needed. The interview methodology allowed researchers to gain an in-depth understanding of students' perceptions of how they learn and their understandings of their metacognitive behaviors. The semi-structured format provided flexibility for the researchers to be able to probe more deeply into participant responses and to ask follow-up questions leading to richer, more robust data. Interviews were recorded and transcribed verbatim.

Data Analysis

According to Strauss (1987), grounded theory analysis is an approach in exploring the data when the researcher does not have any prior assumptions regarding the research topic since data are not collected prior to any former conclusion. As a result, there is a possibility of theory formation (Strauss & Corbin, 1998) out of the gathered data. In alignment with this theory, the two researchers who conducted the interviews independently analyzed the data from all of the interviews, using constant comparative methods through the following process: 1) identified codes and created categories (open coding), 2) reread the data to determine themes and subcategories (axial coding), and 3) determined the main themes and supporting data (selective coding (Glaser, 1965; Strauss & Corbin, 1990). A post-positivist orientation was utilized as the researchers strove to objectively analyze the data so that the participants' perspectives were accurately represented (Levers, 2013). Independent analysis by two of the researchers supported this approach and increased the likelihood of objectivity. After analysis, the researchers compared and agreed upon themes and subthemes that emerged from the data. The third and fourth authors then reviewed and confirmed the findings.

Data Credibility

According to Creswell (1998), at least two strategies should be implemented in order to ensure credibility of the data. We implemented peer reviews and multiple analyst triangulation as described above. We also included data triangulation through the use of field notes taken during the interviews. These were used to confirm themes during data analysis.

Results

Interview Themes and Sub-Themes

The theory that emerged from analysis, shown in Figure 1, is that in A&P, student learning and metacognitive behaviors are influenced by career orientation, relevance of the course to career goals, and students' definition of academic success. In-depth descriptions of themes and sub-themes are presented below.

Career Orientation

Participants in this study all expressed that attending college and then entering a profession after graduation was their predetermined pathway after high school. They expressed that it was simply what everyone did and what was expected of them. For example, Ellen said, "It was just something that was expected from my parents. They both went to college, and my mom has her Master's…" Some were motivated by the fact that one or both of their parents either did not attend or did not complete a college degree and that they could thus be the first to achieve a goal that was important to the family. Grace stated, "I'm the first one in my family to go to college so it was a big thing." Rachel said the following:

> [M]y dad went into the military so he didn't really go to college, and my mom went to some college, but she didn't finish all the way through, so it was kinda like, uh, you can do it first type thing.

Finally, Ashley expressed that she "definitely wanted to come to college because both of my parents didn't get a college education . . . [She] wanted to do something that would benefit others . . ."

These students were enrolled in various major programs within a Health Sciences Department. For all the participants, the decision to attend college was strongly driven by the goal of developing a career in some aspect of health care. For example, Nick said, "I knew college was my only option for what I wanted to do." Carol shared a similar sentiment: "Just because I knew I would be giving myself a better opportunity in my future, so that's really the main reason." They also

Figure 1
Overview of major themes
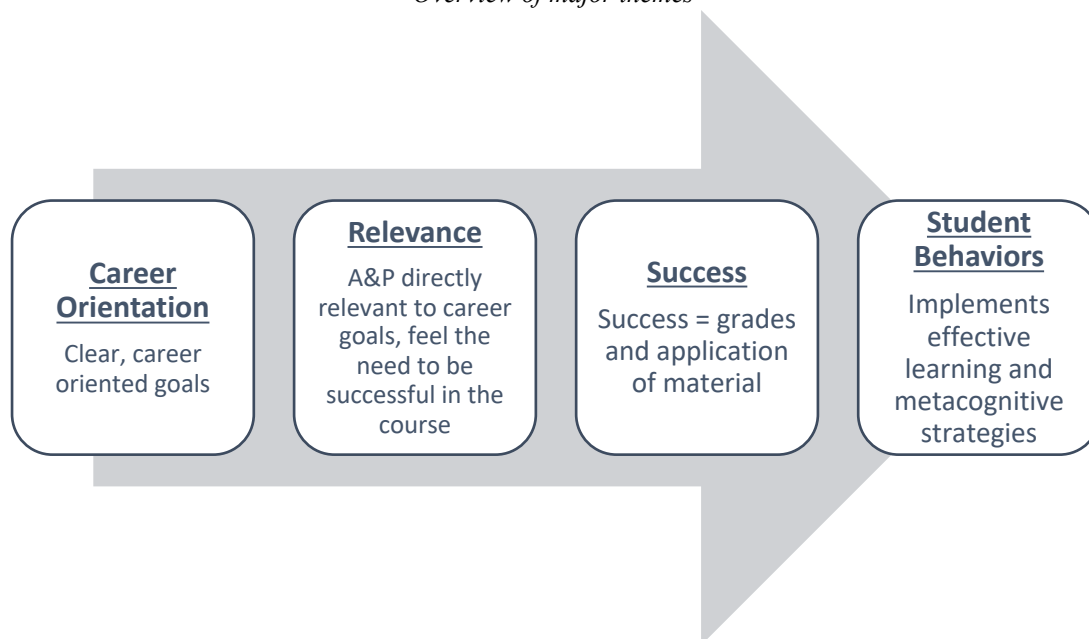
clearly expressed that successfully obtaining a good job minimally requires a college degree, and some noted that many health careers would also require advanced degrees, which would in turn require that they obtain good grades to be competitive in graduate applications. Jason and Desiree, respectively, shared, "[T]o be really successful you kind of need that college degree," and, "[N]othing else even crossed my mind other than going and furthering my education, and then not even to mention that from pretty young I knew that I did want to go in the Health Science field."

Relevance of Anatomy and Physiology

All the participants considered the Anatomy and Physiology class to be foundational and highly important due to its relevance to all health science careers. Not only did they see the course as relevant, but they also understood that success in this course would be a necessary prerequisite for other courses in their major program, for graduate admission, and for their future careers. Participants shared the following:

- "[A&P] relates a lot . . . It's gonna help with trying to get a certified strength and conditioning coach, and I'm gonna need that in the future" (Matt).
- "We have to know anatomy to, like, go head into grad school, and I took that in high school actually, and I really liked it..." (Kate).

- "[Y]ou have to know the parts of the body to see if there, like, . . . you need to know and be able to figure out where an injury is and, like, how to fix it" (Mackenzie)
- "[T]o be an athletic trainer I have to know the anatomy of the human body, how it works. The muscles, the bones and the systems, so it's very important that I know all of the information we are taught in anatomy" (Patricia).

Success: Good Grades and Application

When asked to define academic success in the context of A&P, students identified good grades as very important, as would be expected. Some specifically mentioned that taking a test and then immediately forgetting the material was not desirable or useful, even if the test received a high grade. Additionally, many defined success as the ability to retain the information over time and to apply it to real world situations, including the ability to see connections and interrelationships between different aspects of the material. Taylor expressed both of these ideas in his response: "I mean an A obviously and probably be able [sic] to understand and remember what I learned. Not just remembering it for the course but taking it after like remembering everything." Tori and Erin focused on the usefulness of the content: "Anything that really sticks with you and that you hear and you remember easily and you get where it came from, and you actually understand

the concept . . . it needs to be something you feel like you can use," and, "Building knowledge that I'll remember beyond the classroom."

Interestingly, some students commented on the importance of the content and its connection to future classes or their career. Michael found importance in "obtaining the knowledge and remembering it and applying it to other classes that I will take next year". Rosie and Kate had similar feelings. Rosie noted the following:

> . . . [T]he retention, it takes a while to kind of recall it, but after a couple minutes of hearing or discussing it, I'm, like, oh yeah, this is why this is happening: because it's connected with this or interrelates to that.

She also notes the importance of "being able to apply it in certain things, 'cause being able to apply it is more important than just memorizing it, taking a test, then just forgetting it."

Students Behaviors: Learning and Metacognitive Strategies for Success

The students in this sample have clear career goals and understand that successful mastery of A&P is relevant and important to achieving those goals. In order to be successful, students described a number of strategies they implemented: collaborative work with peers, self-responsibility as a learner, and self-awareness and willingness to change. In addition, the sub-theme of participants' evolution as learners as it relates to their current behaviors emerged from the data. Each of these sub-themes is described here.

Emphasis on collaborative work with peers. One clear strategy that several students used was collaborative work with peers. They recognized that often, on their own, they were not able to understand and master some material. In these situations they sought out and worked with other students to go through the difficult concepts. Much of this activity took place outside of class with roommates, dorm mates, friends, and teammates. It was interesting that this peer activity worked in two directions. They sought help from peers who they felt had mastered the material and could explain it to them effectively in terms they could understand. As Mackenzie stated, ". . . I have a lot of friends on my floor and I'll ask them if they get it and can explain it."

They also defined their own mastery by their ability to help another student understand something that student struggled with. They expressed positive attitudes toward helping to teach other students, both to simply be helpful but also to confirm their own mastery by their confidence in their ability to effectively express the concepts involved, as Hailey described:

> If someone else needs help or someone doesn't understand it, then I can explain it to them, student to student, instead of someone who has a lot of education on it and may not be able to dumb it down but bring it to their level of understanding.

Jackie discussed how she wants to "retain the knowledge so I can pass it on to other students," and Matt said:

> Just getting a good grade on it, knowing it by memory, if I'm able to tell it to one of my friends and they asked me if that was correct and that was correct, then that's my kind of definition of knowing.

Some noted that an explanation from a peer who was facing the same challenges they did was more helpful than working with an instructor who seemed removed from their experience. Rosie highlighted this when she explained, "I sometimes find that your peers are better teachers than your instructors because they can explain it in a way that you might understand. Or they can just kind of walk you through it in a more personalized way." Gazelle discussed a similar benefit to peers working together:

> Sometimes there is a question that everyone has, so…when we're able to sit with other kids in the class and look over all the models and material, I feel—well, not only myself but all the other students, too—we are able to help each other know what they might not understand …to work through questions that both of us might have.

However, not all students felt the collaborative work was beneficial Ashley illustrated this in her response:

> I would do group work, but then I would just get sidetracked….I am a very individual thinker and like I need to figure it out before I can talk to anyone else about it. So if I get something wrong, I wanna see if I can figure it out before I go to a second source.

Overall, most participants discussed the benefits of working together to support understanding and retention of material.

Self-responsibility as learners. When asked about their role in the learning process, students stressed the idea that they were ultimately responsible for their learning in the sense that, while an instructor could teach the material, only they could learn it. Mackenzie explains:

> [B]eing able to take what the teacher tells us and review it on your own to make sure we have a full

understanding of it. …it's my job to listen in class, but when I leave it's my job to make sure I know what I was taught and teach myself what I may have missed.

Michael said the following:

[My] role is to do my part. Listen, ask questions and like it's not the professor's responsibility that I know it. It's his or her responsibility that he or she teaches it, and then I do whatever I want with the information, whether I choose to study or not study.

Hailey summarized this idea when she said, "I believe that you can have the best professor ever but it's on you. Everything is on you. Even if you have a crappy professor, it's on you still." Patricia illustrated this when she noted the following:

To really pay attention and engage with the professor and go on with what they are teaching and showing them that you care by doing well and doing the studying and asking the questions and going to the extra hours

Some also remarked that they did not find it helpful when other students came to class unprepared and remained silent, even though they were confused, since if one person had a question about something, it is likely that others did also. Marie stated: "[S]howing up, being ready, having questions you may have, I mean, I think it's always awkward when a professor's there trying to help you and everyone's saying, 'Oh, I don't have any questions,' but no one's doing that well." Kate said, "If you're just not getting it like when you're reading it, you're just setting yourself up for failure,…so help yourself and, like, always ask for help, too, when you need it, and just be assertive…. Don't lay back."

Self-awareness and willingness to recognize challenges and change approach. The participants interviewed showed a self-aware attitude. They were willing to recognize and think about their areas of strength and areas of challenge. When they were successful, they felt that their learning approach had been validated and planned to continue with those strategies in future. Participants in this study exhibited a growth mindset, believing that they could do better with effort and additional help, rather than giving up when they encountered setbacks.

In those areas in which they were challenged or less successful than they hoped, they were willing to increase their effort and change their learning approach to address those areas to increase their probability of success. As Rosie explained, "There's always room for improvement... I think it's all about allotment of time and how you approach it because sometimes my strengths don't work as well for certain things, so I

need to go back and tweak it." Rebecca added a different perspective related to in-class experiences when she explained:

I get a little frazzled, . . . but after class I'll be like, okay, so that just happened . . . I'll go back later that night and kind of go through the PowerPoint again, see what it was and kinda take my time . . . I just have to like step back, and then go back into it.

Some students, similar to Ken, explain their emotional reactions, but also their perseverance: "I definitely feel bad, but I know that I need to put more work into the homework assignments or the next quiz".

When students were disappointed and frustrated, they noted that they made efforts to understand and analyze where they may have gone wrong, seek help, and develop new strategies. As Hailey stated:

Since this is a class that I am very passionate about, I would probably be very disappointed in myself or if I felt that I didn't do enough or felt that I did do enough to prepare for the assessment then I would probably ask (Instructor X) or somebody that did well to go over it with me.

Jackie made a similar statement but discussed both her role as a learner and also what she would do if she wasn't successful on a test or assignment:

If I didn't study and I didn't do well, I still feel bad, but I know I deserved it, but if it's one that I really studied for and I still received a bad grade I'd be upset, but I'd still go to more TA hours and receive more help.

The following quote from John summarizes this sub-theme well:

[T]here were a couple of times where I felt devastated, I should have done better than that. But I had a support system in the class… So we would be like . . .so listen why don't we go after class and see what we can do and go from there'. …how can we build on failure.

Interestingly, some students also described how family motivated them which supported their ability to keep trying. Charles commented, "My parents and family, they just...they're doing a lot for me and my brothers and sisters, so I just wanna, like, give back." Family also supported them during times of academic challenges which seemed to help them persist. For example, Kate shared the following:

[S]he (Mom) always helps relax me like and not stress out with my exams, and she'll always tell

me, 'You know the information…You're doing a good job.' She helps motivate me and keep me going so doesn't [sic] let me give up.

Evolution as learners. A variety of influences have affected the course of students' evolution as learners, including family, professors, and a developing awareness of the role of their education in future career success, etc. Some noted their lack of, or minimal effort in, high school or middle school and recognized that college would require a greater investment of time and effort. Many noted that an understanding that their career goals required good performance spurred them to work harder and in different ways, particularly in A&P where they saw the direct relevance to the future. As Grace explained:

In high school I wouldn't even try…This semester I am very more on top of my work, I am more determined and I fixed whatever mistakes I made last semester and I think that's what made me improve. …I realized if I really want to succeed and really pursue a career in the health field I need to be more determined and more on top of my school work or it's never going to happen. … For the first time in my life it (A&P) is a course that means a lot to me.

Jordan explained a similar feeling of the importance of the transition from high school to college:

[F]rom high school to college, it was more of like I had so much free time here, so I had to do a lot of work outside of class…coming from not knowing much from like a school that didn't teach much to a high school that did, that transition made me understand like that I have to put in work outside of school in order to stay on top of things.

Others noted that their families encouraged hard work and active involvement in their education. As Jackie described:

I was the first child of 4, and they (parents) were very hard on me. I'm almost like a role model to..my siblings..so I feel like they pushed me a little bit harder to be very successful with my grades.

John described a similar sentiment: "Without him (Grandfather) pushing me, him, my dad, my parents my whole family like they are always tough on me like in a good way . . . like do this now, and then you'll be thankful later."

Discussion

Our goal in this study was to determine the extent and type of metacognitive behaviors practiced by first

year anatomy and physiology students majoring in the health sciences. This information will enable us to help students to cultivate and expand their abilities to reflect on their learning in order to achieve greater success in this challenging course. Semi-structured interviews with a sample of these students conducted at the end of the year-long course sequence yielded four major themes (see Figure 1): 1) These students are very motivated to pursue careers in health care. 2) They perceive Anatomy and Physiology as directly relevant to these career goals and understand that they must be successful in this course to achieve these goals. 3) In addition to good grades, they define success as the ability to retain and apply the material to real world health care-related situations. 4) These students implement effective learning and metacognitive strategies in order to be successful.

Self-Regulated Learning (SRL) is a model which describes "the degree to which students are metacognitively, motivationally, and behaviorally active participants in their own learning processes" (Zimmerman, 2013, p. 137). This involves a feedback loop of 1) Forethought/planning, 2) Monitoring performance, and 3) Reflections and revising approach (Wigfield, et al., 2011; Zimmerman, 2013; Zimmerman & Cleary, 2009). The Forethought phase includes self-motivation, beliefs/values, and the encompassing of self-efficacy, outcome expectancies, task interest, and goal orientation. In the Performance or Monitoring Phase, self-control and self-observation involve self-instruction and help-seeking behavior. In the Self-Reflection Phase, self-evaluation, causal attribution, affect, and adaptive/defensive reactions are seen. Results from this study provided evidence that students in AP I&II are demonstrating SRL. Particularly, the themes of self-responsibility and self-awareness in this study indicate that some students are both monitoring performance and reflecting and revising their approach. Even though students in this study were higher performing students, faculty should consider including opportunities for all students to develop SRL. For example, at the start of the semester students could take a survey related to motivation, values, and career goals. This information could be used to provide feedback to help students see the relevance of the course to values and goals. At the midterm students can complete a reflection on their learning so far – including content they have found challenging, content they have "clicked with" – and discuss strategies they can use during the rest of the semester to support learning.

Having a sample of primarily higher performing students suggests that we may not find the same behaviors in students who were not as successful in the course. Perhaps participants in this study had developed and implemented metacognitive practices in the past and so were able to articulate these ideas when

interviewed and apply them in order to be successful in this course. Understanding the extent to which all students in the course engage in SRL would be informative and would add to the understanding of student behaviors in a gateway health sciences course.

Motivational Value of Healthcare Career Goals

These students almost unanimously and strongly identified the goal of a career in some aspect of health care as a factor in their motivation toward learning, a process of the Forethought Phase. While some were quite specific in their direction (for example, physical therapy, physician assistant), others simply noted health care as a goal but were unsure as to direction. They also clearly understood the relevance of the A & P courses to those goals. In a study on academic relevance of course work in college students, Pisarik and Whelchel (2018) described several domains of relevance, including relation to future courses, vocational goals, and personal growth and development. These same factors were cited by our subjects. In a meta-analysis of self-regulated learning in work-related training, Sitzmann and Ely (2011) noted goal level, persistence, effort, and self-efficacy as having the strongest effects on learning. Specific goals expressed by medical students in a clinical environment were also found to influence self-regulated learning, along with personal and social factors (Berkhout et al., 2015). Our findings support this research as we found that students felt A&P connected to both their professional goals and also future courses they will take. In addition, students mentioned a strong family influence as a personal factor, which has been shown to support SRL (Berkhout et al., 2015). This suggests that the applications of research relating to medical students may also apply to broader health science students as well. Gaining a deeper understanding of what motivates students in a foundational course such as A&P can help instructors develop strategies to support student motivation and success. Faculty should consider integrating strategies to support connections to careers in the course. These opportunities for integration include incorporating more specific anecdotes and case studies using a variety of careers as context, including assignments in which students need to apply learning in various situations, and building relationships with students so that they can support the connections students make to the real-world applicability of content (regardless of career).

Task Value and Relevance

The students in this study clearly expressed the understanding that the anatomy and physiology course is directly relevant to any health care field. They also understood that good performance in the course would be necessary for success in succeeding courses in the undergraduate program, admission to advanced degree programs, and eventual clinical practice. This theme could be considered part of the forethought phase of self-regulation (Zimmerman, 2013). Pisarik and Whelchel (2018) term these factors as having direct academic relevance, in that a course is required for the degree and is a pre-requisite to others in the academic program, as well as direct occupational relevance, in that the course is directly applicable to health care careers.

Metacognitive Strategies and Self-Regulated Learning

Findings from this study provide evidence that students in a gateway A&P course are implementing aspects of SRL. In particular, students' strong career orientation, along with their understanding of the relevance and importance of A&P (task value, goal orientation), caused them to devise a set of strategies for preparing for study in advance of various assessments. This is driven by a strong sense of self-responsibility for their learning as noted also by Zimmerman and Kitsantas (2005). In addition, Kitsantas and Zimmerman (2009) found that self-efficacy for learning correlated with perceptions of responsibility and predicted course grades. Interestingly and somewhat unexpectedly, these subjects clearly prioritized their responsibility in the learning process.

The students in this sample clearly showed that they were reflecting on tests and assignments returned to them and comparing their performance to their prior preparation in the self-reflection phase of SRL. When they did well, they intended to continue with the types of preparation they had been using. When their performance did not meet their goals and expectations, they assessed what they felt they needed to change to improve their performance and took action to do better. Some students clearly recognized their evolution as learners from high school to college, particularly that high school study strategies were not going to be sufficient or effective for college level work in science. This recognition helped to motivate change. In some cases, these actions were personal and individual, for example studying further ahead, investing more time, changing the approach by emphasizing the greater use of the text, changing the study environment, changing pre-class and in-class behaviors, etc.

A key component in the Performance Phase of SRL is help seeking behavior. These subjects seemed quite comfortable with seeking out and utilizing opportunities for help. As expected, this could involve seeking out instructors and teaching assistants for additional explanations of the material and help with study

strategies. Many students strongly emphasized the role of social and collaborative learning. Turning to and working with peers, both in and out of class time, seemed to be a very important component for improving learning. It may be helpful for faculty to build in opportunities for peer to peer teaching and review, group quizzes, and team-based learning. Instructors could also focus on creating a culture in which help-seeking is encouraged and including metacognitive activities into the course (e.g., an exam wrapper where students reflect on their test performance and what can be done differently next time).

Performance and Growth Mindset

Underlying performance monitoring and strategies for change seem to be a belief that they can do better: self-efficacy. Doing better to these students did not simply mean better grades, described as performance goals by Blackwell et al., (2007) and Elliott and Dweck (1988). Rather, they identified mastery goals, which they defined as the ability to retain the material in future courses and in practice and apply it appropriately to concrete or real-world situations. This is evidence of the "growth mindset" which may lead to increased persistence in situations of difficulty or failure (Blackwell, et al., 2007; Elliott & Dweck, 1988).

An important feature of SRL is the ability to reflect on performance and to revise one's approach. This requires the ability to control cognitive process and emotions (Wigfield, et al., 2011). Several students stated that the positive emotions they experienced when doing well only confirmed their strategies and increased their motivation without leading them to slack off because they were in control. In the case of negative emotions resulting from failure or doing less well than expected, the reactions seemed to be temporary and were attributed to their own perceived ineffective behaviors and study strategies. Given that they attributed the situation to personal factors within their control instead of to external forces, rather than giving up, it seemed to motivate them to exert greater or different types of efforts such as seeking help, etc. In no case did students express any sense that a poor result would cause them to give up on the course. This is also evidence of a growth mindset (Blackwell, et al., 2007; Elliott & Dweck, 1988). While students in our study demonstrated aspects of a growth mindset, studies have shown that interventions can support the development of a growth mindset in a range of students (Broda et. al., 2018; Kalman, Sobhanzadeh, Thompson, Ibrahim & Wang, 2015; Wagener, 2016). Faculty should consider including strategies to encourage and develop a growth mindset as part of the course or as a separate intervention.

Our study interviewed primarily first-year students in anatomy and physiology. Stanton, Neider, Gallegos, and Clark (2015) describe a continuum of metacognitive regulation in introductory biology students that ranged from not engaging to struggling to emerging and developing. By these criteria the students described in the present study fall in the emerging category, knowing what to do, but they may or may not follow through, and in the developing category, following through on their insights for change to enhance learning. We have no evidence as to whether all students followed through with their plans for change, though some clearly stated that the change in approach resulted in improved performance on subsequent assessments.

Implications

The ability to regulate and monitor the quality of one's own learning process is an essential skill for individuals in many disciplines. Therefore, the purpose of this study was to use a grounded-theory, qualitative approach to gain a deeper understanding of students' SRL processes in this gateway course that is critical for success in their academic programs and their future professions. Based on the findings, one of the practical implications of this study focused on the connection between professional goals and the coursework in which students are engaged. It is important for instructors to gain a deeper understanding of what motivates students in a foundational course such as A&P, as well as other courses, in order to develop strategies to support student motivation and success. As described above, there are strategies that faculty can use to identify and make connections to students' values and motivations that may enhance success in courses such as A&P.

Students in this study clearly expressed the understanding that good performance in a course will be necessary for success in future academic coursework and for eventual clinical practice. Therefore, it is important to help students make connections to their personal and professional goals based on how their academic courses connect to those goals. This can be done through class activities, assignments, and relationship building with students. Based on results from this study, helping students make these connections may support their motivation and overall success in the course.

Findings from this study provide evidence that students in a gateway A&P course are implementing aspects of SRL. The subjects were clearly reflecting on their learning and making changes to their behaviors based on this reflection. However, these were also higher performing students, so we do not know habits of other students in the courses. Other research has suggested the benefits of SRL, metacognition, and mindset for a range of students. In conjunction with our findings, an important implication is that faculty should

consider strategies for supporting the development of metacognitive strategies and a growth mindset in their students to support their success, especially in gateway courses such as A&P.

Limitations and Future Directions

It is important to note several limitations of the current study. The participants were traditional-aged college students attending a smaller, private college. A convenient, purposeful sampling was implemented to recruit students enrolled in the Anatomy and Physiology course sequence. In addition, the participants had higher GPAs, which may not be representative of the average students in health sciences. It has been noted by Zimmerman and Kitsantas (2014) that students describing more developed SRL behaviors do better academically. Also, the current study was not gender balanced (74% women, 26% make men), which may have altered results. Nevertheless, the current study is a first step in gaining a deeper understanding of students' SRL processes in a gateway course that is critical for success in their academic programs and their future professions. Future studies might examine differences between majors, for example, health sciences majors and liberal arts majors. Future studies might also examine the applicability of these findings to different populations such as nontraditional or part-time community college students.

Studies have indicated that implementation of strategies to help students improve metacognitive skills can be effective (Tanner, 2012; Zhao, Wardeska, McGuire, & Cook, 2014). Medina and colleagues (2017) have described a number of strategies for improving metacognitive skills of reasoning, comprehension, and problem solving in health professions education. The results of this study will help us to design and implement strategies like this targeted to this course and to pre-health professional students.

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Appendix

Interview Questions

Metacognition in A&P: A Qualitative Inquiry

The purpose of this study is to examine students' understandings and perceptions of learning and metacognition in

the context of an A&P course. A secondary purpose is to examine students' self-reported use of metacognitive

behaviors in A&P.

Relevance

1. **What are the reasons you decided to attend college? Were there other jobs or activities you also**

    considered?

    What goals do you have as a college student?

    What are your professional goals?

2. **What is your major? Why did you choose this major?**

    How does A&P relate to your major? To your possible professional goals?

3. **Please describe what being successful in A&P would look like at the end of the**

    semester.

    Do you feel motivated to be successful in A&P? Why or why not?

    Please describe how you think your motivation level affects your ability to be

    successful in the course.

4. **What are your strengths as a learner in AP? How do you know?**

    What are your weaknesses or areas for improvement? How do you know?

    Are these strengths and weaknesses similar to the strengths and weakness in other courses? Why or why

    not?

    How can you build on your strengths or address your weaknesses?

Learning/Being a Learner

5. **What does the term "learning" mean to you?**

    Follow up if necessary with: How would you describe the concept of "learning"?

6. **Who or what has shaped you as a learner?**

    Do you think you have changed as a learner over time?

If yes, how? Why?

If no, why not?

7.   **Please describe what you do to learn A&P content/material.**

Do you think it is effective? Why or why not?

If they say yes, ask: do you think there is anything you could do to be a more effective learner?

If they say no, ask: Do you think you could make your learning more effective? Why or why not?

Do you do the same things in other courses? Why or why not?

If yes, how does it differ?

Metacognitive Behaviors

8.   **Imagine you are in an A&P lecture or lab. You have been following along and understanding the content but now you are getting confused or are lost in class. How do you feel? What do you do? Why do you do this?**

How will you know if your strategy for dealing with the confusion is successful?

Now imagine that you are doing the reading for class and the same thing happens. How do you feel? What do you do? Why do you do this?

9.   **Imagine you are in class and the content "clicks" and you really "get it". How do you feel? What do you do? Why?**

10.   **Imagine you just got a test or assignment back in A&P, you did really well. How do you feel? What do you do? Why do you do this?**

What if you didn't do well? How do you feel and what do you do? If you try to do better, how will you know if your strategy was effective?

11.   **Please describe what you do to prepare before a class or lab section.**

Please describe what you do during lecture and lab.

Please describe what you do after class.

12.   **How would you describe your role in the learning process in A&P?**

Follow up with, what is your job as a student in learning the content of A&P? (Only if   necessary)

13.   **Can you tell me what you think the job of the professor is in your learning the content A&P?**

14.   **Is there anything else you would like to add?**

"Constantly, Excessively, and All the Time": The Emotional Labor of Teaching Diversity Courses

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Emotional labor accompanying academic work is often gendered and racialized, and such labor may be heightened for those teaching diversity courses. This article reports on interviews with 38 faculty members teaching diversity courses required as part of general education programs at three predominantly White liberal arts colleges in the Southeastern U.S. Findings detail the types and examples of emotional labor performed, as well as faculty members' rhetorical framing of the concept as either an expectation or choice and their attempts to set boundaries around emotional work or opt out of performing it altogether. This study leads to implications for faculty and graduate student training and socialization, as well as implications for institutional leaders to acknowledge, value, and limit emotional labor.

In academic work, faculty members engage in emotional labor and other caring work, which entails managing one's own emotions as well as those of students (Bellas, 1999; Hochschild, 1983), work that often goes unrewarded. In their study of instructors who taught required diversity education courses, Moore, Acosta, Perry, and Edwards (2010) found, "White women, women of color, and men of color showed a richer density of emotional responses" (p. 194) compared to their peers. Other acts of emotional labor include counseling, mentoring, participation in service activities such as committee membership (Harley, 2008; Lechuga, 2012; Turner & Myers, 2000), and even "service with a smile" (Tunguz, 2016, p. 3). However, there is still a gap in understanding what emotional labor entails and how faculty who are engaged in this work relate to this concept. The purpose of this study was to examine examples of emotional labor in faculty work, as well as how faculty members frame the concept of emotional labor. The specific context of diversity courses required as part of general education programs at U.S. higher education institutions provides fertile ground for examining this phenomenon, as faculty of color and women may be more likely to teach such classes and expected to engage in emotional management as controversial topics arise (Moore et al., 2010; Perry, Moore, Edwards, Acosta, & Frey, 2009).

Given this context of faculty members teaching undergraduate diversity courses that fulfill general education requirements at three predominantly White liberal arts colleges in the U.S. South, our research questions include:

1. How do faculty members describe the types and examples of emotional labor in which they engage?
2. How do these faculty frame the concept of emotional labor in their own contexts?

For this study, we define emotional labor as the process of, and behaviors associated with, managing, performing, and evoking emotions for a given job or career — in this case, as a diversity course instructor (Roberts & Iyall Smith, 2002).

Framework and Literature

Emotional Labor

Hochschild (1983) defined emotional labor as emotion management in the labor force whereby one creates or maintains behaviors or norms consistent with social and organizational norms. Workers adhere to these norms, or "feeling rules," that are learned through professional socialization, organizational rules, or codes of conduct. Some of these norms include "acceptable and unacceptable emotions to display at work," called display rules (Mesmer-Magnus, DeChurch, & Wax, 2012, p. 8). Hochschild (1983) described two levels of "professional acting," or emotional labor strategies, in which people engage while working: surface acting and deep acting. Surface acting entails people's outward appearance to others, whereby they pretend to hold certain feelings. An example of surface acting in an educational context might be an instructor faking a neutral facial expression in class after a student shares an offensive comment. Deep acting involves a person's "attempt to modify feelings to match the required displays" (Grandey, 2003, p. 87). While engaging in deep acting, people "evoke in ourselves the feelings we need in order to seem to feel the right feeling for the job" (p. 334). An example of deep acting could be an instructor attempting to empathize with a student who said an offensive comment while outwardly appearing amenable to the student's contribution. In summary, surface acting entails people "modify their displays without shaping inner feelings" (Grandey, 2003, p. 87); while engaged in deep acting, people modify "internal

affect so that it matches with outward expressions" (Spencer & Rupp, 2009, p. 429).

The extent to which workers perceive they must conform to organizational display rules has implications for the worker, the organization, and those whom the organization serves. For example, Mesmer-Magnus et al. (2012) found emotional labor constructs like surface acting are positively associated with employee burnout and stress. Although Hochschild's concept of emotional labor is rooted in management and business fields, she posits that in any occupation that interacts with others and must conform to socially prescribed norms, it is probable an individual will engage in emotional labor. In fact, Hochschild (1983) listed college teachers as one of the census occupations that involves a considerable amount of emotional labor.

Emotional Labor in the Academy

The concept of emotional labor is apparent in much of the work professors perform in their various teaching, service, and research roles (Bellas, 1999; Hochschild, 1983; Postareff & Lindblom-Ylänne, 2011). The classroom is a site in which instructors engage in emotional labor by maintaining student interest, managing classroom dynamics, and motivating student learning. Instructors are expected to simultaneously moderate their own emotions, as well as their students', and, in some cases, "exhibit neutrality…in treating students equitably" (Bellas, 1999, p. 100).

There is a growing body of literature that has considered different aspects of the emotional labor faculty members perform in higher education contexts. Previous studies have detailed emotional labor in faculty life by exploring faculty members' emotion management in college classrooms (e.g. Harlow, 2003; Roberts & Iyall Smith, 2002), positive and negative emotions related to teaching (Postareff & Lindblom-Ylänne, 2011), women's overrepresentation in service expectations (Bellas, 1999; Hanasono et al., 2018; Misra, Lundquist, Holmes, & Agiomavritis, 2011; O'Meara, Kuvaeva, Nyunt, Waugaman, & Jackson, 2017a; O'Meara, Lubaeva, & Nyunt, 2017b), persistent institutional marginalization of faculty of color who perform emotional labor (Harley, 2008; Lechuga, 2012), women's intellectual work (Gonzales, 2018), emotional labor and professional outcomes (Mahoney, Buboltz, Buckner, & Doverspike, 2011), and faculty experiences of microaggressions (Garran, Aymer, Gelman, & Miller, 2015; Hunn, Harley, Ellitot, & Canfield, 2015; Pittman, 2012) and aggression in the classroom (May & Tenzek, 2018). However, less has been researched about experiences faculty members identify as emotional labor in their practice and how they frame the concept of emotional labor in higher education.

Emotional labor in academe is enacted and experienced in gendered and racialized ways and impacts those with marginalized identities. For instance, research has shown differences in women performing more teaching and service activities than men (Acker & Armenti, 2004; O'Meara et al., 2017a), even though universities have not updated their evaluation policies to recognize this labor (O'Meara et al., 2017b). Faculty of color are more likely than their White peers to perform more service-related duties and serve in "diversity" capacities on committees, which are largely unrewarded in tenure systems and lead to cultural taxation (Baez, 2000; Harley, 2008; Padilla, 1994). In a study of instructors of required diversity courses at a Research I institution, Moore et al. (2010) found a "split academic labor market in which emotional work is a primary marker of gender and racial difference in the experiences of teaching" (p. 196). In the U.S., where universities were built on a patriarchal, Eurocentric structure, much of the emotional labor that includes diversity work in and out of the classroom, service responsibilities, and mentoring falls to underrepresented instructors in the academy.

Instructors may also be targeted by students while teaching on issues of diversity, which in turn may prompt instructors to engage in surface or deep acting. Microaggressions are "everyday verbal, nonverbal, and environmental slights, snubs, or insults, whether intentional or unintentional, that communicate hostile, derogatory, or negative messages to target persons based solely upon their marginalized group membership" (Sue, 2010, p. 3). Faculty, particularly faculty with minoritized racial or gender identities, may endure microaggressions from students (e.g., Garran et al., 2015; Hunn et al., 2015; Pittman, 2012). Beyond microaggressions, students may target faculty with more aggressive behaviors. May and Tenzek (2018) found inclusion of diversity in class discussions to be one trigger for students to bully faculty, which manifested as accusations that the professor is pushing an agenda, profanity-laced outbursts in class, or departure from the classroom (May & Tenzek, 2018).

Diversity Courses in General Education

As a strategy to address racial inequality, a lack of inclusive curricula in U.S. higher education, and changes in society and culture in the U.S., institutions of higher education have incorporated required diversity courses as part of a general education curriculum for undergraduate students (Chang, 2002). A 2015 survey of AAC&U members revealed 60% of institutions reported their general education programs included diversity courses (Humphreys, 2016).

Research regarding required diversity courses largely center on student experiences and outcomes, including increased understanding of White privilege (Case, 2007), reduction of racial bias or prejudice (Chang, 2002; Denson, 2009), and awareness of structural oppression (Case, 2007) and race-based policies (Radloff, 2010). However, little has been explored regarding the experiences of those who teach required diversity courses and, specifically, their experiences navigating emotional work.

Methods

This paper is based on findings from a qualitative multiple-case study (Merriam & Tisdale, 2016) rooted in critical constructivism (Kincheloe, 2008). We view reality and knowledge as socially constructed and recognize that issues of power and (in)equity pervade all teaching and learning environments (Kincheloe, 2008). The study examined three predominantly White, liberal arts-focused higher education institutions in the Southeastern United States. This article focuses on a subset of data from the larger study and examines how faculty at the three institutions engaged in emotional labor as part of their teaching. As we began analysis focused on data relevant to emotional labor, we noticed commonalities in faculty members' approaches to and framing of the concept of emotional labor across the three colleges. Thus, in this paper, we primarily examine themes common across faculty interviews at all three institutions rather than providing a cross-case analysis.

Data Collection and Participants

We selected institutions meeting the following criteria: location in the common regional context of two neighboring states in the Southern U.S.; bachelor's degree-granting institutions with at least one stand-alone diversity course requirement; a publicly available course schedule with faculty contact information. Elite College is a highly selective, private liberal arts college with about 70% White students. Selective College is also private, highly selective, and 70% White, and it includes several well-regarded professional schools in addition to the undergraduate college. Regional College, a mid-size public institution that began as a teaching college, prides itself on small class sizes and also offers several master's degree programs. Regional College has the most racial diversity, with about one-third African American student enrollment and other students of color and international students at 10%.

This study draws upon semi-structured, one-on-one interviews with faculty members teaching required undergraduate diversity courses. We purposely recruited information-rich cases embedded within each research site by contacting all faculty members who taught courses satisfying diversity requirements. Interviews with 38 participants (see Table 1) lasted 1 hour and 15 minutes on average and addressed topics including teaching methods, course content, and faculty and student identities. Specific to this article, each applicant was asked if he or she felt that he or she performed emotional labor connected to the teaching of diversity courses and to elaborate on their responses. Many shared examples and anecdotes of their emotional labor, as well as their assessment of colleagues' labor (or lack thereof). For participants who were unfamiliar with the concept or asked for a definition, we defined emotional labor as attending to students' needs beyond course content, both inside and out of the classroom, as well as addressing one's own emotional management and displays as a faculty member. Examples given included managing heated discussions in class, meeting with students who want to discuss personal issues, or managing emotional reactions and expressions in and out of class.

Data Analysis and Trustworthiness

Interview transcripts were analyzed using inductive coding, building codes directly from the data. Once the excerpts of manuscripts that addressed emotional labor were identified, the researchers inductively recoded these data, identifying codes such as modeling disclosure, recognition of emotional labor, tone setting, race and gender in emotional labor, and emotional labor as a job duty. These codes were organized and recoded into 39 codes (see Table 2) to group like codes and reduce the total number of codes. Finally, themes were derived from the reorganized codes that reflect the findings presented in this article. Each interview transcript excerpt was coded by one team member, coded again by a second team member to identify discrepancies or missing codes, then verified with all three team members to reach consensus on code applications and, subsequently, themes and results. While the first three themes—emotional labor in teaching, framing emotional labor, and limiting emotional labor—correspond to the results sections presented below, examples from the fourth theme—identity in emotional labor— are included throughout the results section, as the relationship between emotional work and social identities including race and gender appeared across each of the themes.

We engaged in several strategies to promote trustworthiness of the study (Merriam & Tisdale, 2016). We shared interview transcripts with participants and sought their corrections, additions, and feedback: a member checking strategy. By collecting data at three similarly situated college campuses over the course of one semester and completing 38 interviews, we sought to collect adequate data. As we began analysis for this

Table 1
Participant Overview

Pseudonym	College	Primary position	Discipline	Race/ethnicity, gender
Alexis	Elite	Tenure track faculty	Humanities	African American woman
Allan	Elite	Tenure track faculty	Humanities	Asian man
Alicia	Regional	Tenured faculty	Social science	White woman
Amy	Regional	Non-tenure track, full time	Humanities	White woman
Andrew	Regional	Tenured faculty	Social science	White man
Annie	Elite	Tenure track faculty	Social science	White woman
Bill	Elite	Non-tenure track, part time	Social science	White man
Charles	Regional	Non-tenure track, full time	Social science	White man
Chris	Selective	Tenure track faculty	Humanities	White man
Daniel	Elite	Tenured faculty	Humanities	White man
Elena	Elite	Tenure track faculty	Humanities	Latinx woman
Greg	Selective	Tenured faculty	Humanities	White man
Gwen	Selective	Tenured faculty	Humanities	White woman
James	Elite	Tenured faculty	Social science	African American man
Janice	Elite	Administrator	Social science	Asian American woman
Jay	Elite	Tenured faculty	Social science	Asian American man
Jeanne	Regional	Non-tenure track, full time	Social science	White woman
Jeffrey	Regional	Tenure track faculty	Social science	African American man
Jess	Regional	Administrator	Social science	White woman
Joe	Selective	Tenured faculty	Social science	White man
Joshua	Elite	Tenured faculty	Humanities	White man
Joy	Elite	Non-tenure track, full time	Social science	Asian American woman
Kate	Elite	Tenure track faculty	Social science	White woman
Kathleen	Elite	Tenured faculty	Humanities	White woman
Laurel	Regional	Administrator	Social science	African American woman
Leo	Regional	Non-tenure track, full time	Social science	Latinx/White man
Liz	Regional	Non-tenure track, full time	Social science	African American woman
Luis	Elite	Tenured faculty	Humanities	Latinx/White man
Mary	Selective	Non-tenure track, full time	Social science	African American woman
Michael	Selective	Administrator	Social science	African American man
Nancy	Regional	Non-tenure track, part time	Humanities	White woman
Patty	Regional	Tenured faculty	Humanities	White woman
Priscilla	Elite	Non-tenure track, full time	Social science	White woman
Rita	Elite	Administrator	Humanities	Latinx woman
Roxanne	Selective	Non-tenure track, full time	Humanities	Latinx woman
Sydney	Selective	Tenured faculty	Humanities	African American woman
Veronica	Selective	Tenured faculty	Humanities	Latinx/White woman
Violet	Regional	Administrator	Social science	White woman

Note: All full-time administrators held non-tenure track faculty appointments.

manuscript, we found that we reached data saturation related to perspectives on emotional labor and that original themes ceased to emerge after coding approximately 20 of the 38 interviews. As mentioned above, all data was analyzed by multiple researchers on the team to surface divergent perspectives. Additionally, we constructed an audit trail for the study (Merriam & Tisdale, 2016), documenting all study recruitment materials, interview and field notes, transcripts, codes, and manuscript drafts.

We also reflected on our positionalities, both individually and as a team, acknowledging the influence of our own subjectivities on all phases of the research process. Reflection on our varied perspectives in terms of professional and teaching experience, as well as our varied racial and gender identities, strengthened our analysis. I (first author) am a White, queer, cisgender man and a tenure-track faculty member with a professional background in student affairs and diversity and in inclusion work in higher education. Students are socialized to avoid seeing a White man as an expected provider of emotional labor; though I keep tissues on my office table, I have

Table 2
Coding Frame and Themes

Theme/meta-code	Code
Emotional labor in teaching	Bringing emotion into the classroom
	Desiring more emotion/passion
	Emotional labor (EL) connected to course content
	Engaging in EL
	Examples of EL
	Giving feedback to students
	Objectivity/subjectivity
	Self-selection of students into/out of classes
Framing emotional labor	Choosing to perform EL
	Discounting ability to perform EL
	EL as job duty
	EL as others' work
	EL as positive
	EL as burden
	EL as pedagogical tool
	EL in administration
	Establishing boundaries
	Individual choice vs. expectation
	Interrupting student expectations to perform EL
	Tension in performing EL
Limiting emotional labor	Effects of EL
	Externalizing EL
	Not taught how to deal with EL
	Recognition/compensation of EL
	Strategies to reduce EL
	Tone setting
	Turning point in approach to EL
Identity and emotional labor	Age in EL
	Gender (one's own) in EL
	Harder for Whites and/or men to perform EL
	Men performing less EL
	Race (one's own) in EL
	Race + gender (one's own) in EL
	Race + gender (others') in EL
	Sexuality in EL
	Sought out by students of color
	Students of color supporting each other
	White guilt
	Women as nurturers

replaced the box only once in two years. I conducted the 38 interviews and acknowledged that the interview process was shaped in part by participants' reactions to me and perceptions of me. For instance, I found it telling that White and/or male participants felt free to share with me that they avoided emotional labor or thought it was better performed by their colleagues. For me (second author), a White, hetero, cisgender woman, I am aware of the cumulative advantages (earned and unearned) that have positioned me to earn a Ph.D. and work in the academy. In my work, I find myself engaging in "closed door" discussions with teaching assistants and assistant instructors about navigating relationships with advisors, about how graduate students may disclose their interest in teaching rather than research to supervisors, and about general advice for other graduate students from my same program, as I work at the same institution from which I earned my doctorate. For me (third author), I am a Black, hetero, cisgender woman. I am a non-tenure track faculty member at a Predominately White Institution. Much of my work comes from a de-stabilized perspective, in

part due to the time-limited nature of my contract. Emotional labor work for me is being the depository of anger and frustration experienced by students. Students feel liberated to approach me in ways that they would not do to White males or females. To a certain extent faculty are the same. These interactions, with students and colleagues, can be positive while at times emotionally challenging. I was told early in my professional career to never have tissues on my desk as it could be perceived as an invitation for individuals to emotionally disclose. I am currently on my third box of tissues that I used to keep in my desk drawer. I think that I am viewed as a safe person for authentic conversations that may include the nuances of persistence and degree completion.

Delimitations of this study include, primarily, the contexts and participants: instructors of courses meeting general education diversity requirements at three predominantly White liberal arts colleges in the Southeastern United States. One key delimitation is that the colleges have relatively low enrollments and small class sizes, which promote student-faculty interactions on a one-on-one basis and may create favorable conditions for high emotional engagement. While this context offers a window into emotional labor and may offer some transferable insights, further research could focus on other contexts. In addition, all perspectives in this study are from faculty members who discuss their own emotional labor and how they perceived students' emotions and reactions. Future research designs could include the perspectives of students, their own emotional reactions and labor, and the ways they perceive their interactions with faculty members, as well as the perspectives of academic administrators who evaluate faculty and help set policy around rewards and recognition for faculty members.

Results

Engaging in Emotional Labor: Examples in the Classroom and/or with Students

Participants focused their examples and descriptions of emotional labor to two broad environments: in and out of their classrooms. Classrooms were seen as spaces in which students engaged in discussions with each other and learned by example, especially when instructors were responsible for mitigating contentious topics and assuaging upset students. Participants attributed these interactions as examples of performing emotional labor. Kate, a social science faculty member, believed emotional labor is inherent to teaching: "If you're not emotionally invested, you probably need to get into another line of work." Most participants discussed the work they did to set up inclusive classrooms as emotional labor. This included self-disclosure about their own experiences and being vulnerable about their own identities and beliefs as a way to elicit student engagement in class. Laurel, a social science instructor, stated, "I do feel like I do need to share some things from my background and my experience because I'm expecting them to do that...and [let] them know that I'm a real person and I have challenges." At the same time, Laurel, along with others, were conflicted about how much objectivity they should project in class:

> As a Black woman, I want to make sure that I'm presenting ideas in a very open, objective and perceptive way ... because you know, I feel like sometimes the message can get distorted by the messenger sometimes [*sic*], and I'm realistic about that. I don't say it to them, but I think about that a lot.

Faculty members with minoritized identities, such as Laurel, faced difficult choices about how much of their own opinions and emotions to disclose with students who might use the faculty members' minoritized identities as weapons against them in course evaluations or complaints. In the classroom, participants also spoke about the ways they monitored classroom discussions so that students did not feel attacked or harmed. One social science faculty member, Bill, recalled occasions students have "in essence asked me to protect them from other students who they viewed as hostile to their point of view." Most participants weighed how to appear objective while reconciling their own political and social beliefs, all while eliciting different viewpoints from students in class.

Participants described the ways in which they engaged in emotional labor out of the classroom, which included personal advising, providing emotional support, and serving in supportive roles in organizations or service-oriented activities. Veronica, a humanities professor, said that emotion came up, not around course content, but around students' personal lives: "I get to know students well. We're dealing with, 'How do you feel more confident? How do you feel more secure? How do you manage your time, your discipline?'" Joy, a social science professor, talked about the period of time following the 2016 presidential election when some of her students were "grieving." She spent time checking in on her Muslim students, explaining, "I have to email them, like how are you doing? What's going on?" Several participants discussed the fine line of listening to students' problems and deciding when to refer them to professional counselors. Jeanne, a lecturer in a social science, is accustomed to students speaking with her privately after class, especially after sensitive topics emerge out of their classroom discussions. She explained, "[T]hey'll come to office hours ... [It] is

exhausting." She sympathized with students who valued their relationship and would claim, "I know you, I don't know a counselor," because they did not want to talk to a stranger.

Several faculty saw pedagogical benefits to embracing emotional labor. Jeanne experienced some "emotional exhaustion" from teaching diversity courses and the added emotional dimension to her labor but did not see the experience as difficult. She said she encouraged students' emotional expressions by asking "lots of questions and [giving] lots of space and lots of patience. … If you're not willing to walk that growth journey with them, then you shouldn't be teaching this course." Although Elena, a humanities faculty member, discussed performing emotional labor "constantly, excessively, and all the time," she also said that she has learned to "make more room" for emotion in her classroom and to "harness that energy and use it. … better discussions, more probing conversations, students making more connections." Elena believed that emotion in the classroom could increase student interest and engagement, yet also has a spillover effect in that more students seek her time outside of class as well. She also acknowledged, "[I]t is depleting, so I have to keep it under control." Elena also pointed to the institutional context, a liberal arts college with small class sizes and where faculty-student interactions outside of class are encouraged, which she believed helped set the stage for more emotional labor than in other contexts.

Positioning Emotional Labor as Expectation or Choice: Participant Framing of the Concept

Beyond the examples given by participants of their emotional labor in relation to diversity courses, interview transcripts also provided evidence of how faculty members positioned and framed the concept of emotional labor: an expectation of faculty members or a voluntary activity.

Participants who saw emotional labor as an expectation and/or job duty of a faculty position also tended to discuss such work as a burden, and as tense and contested. Participants broadly agreed that faculty members with minoritized racial/ethnic and/or gender identities were much more commonly expected or sought to perform emotional labor. Liz saw emotional labor as an expectation that accompanied her identities as an African American woman; she had been warned by her advisor in graduate school that she would be expected to perform emotional labor and teach courses related to diversity issues: "He said … unless you're at an HBCU [Historically Black College/University], you're most likely going to be a minority faculty member there. You'll be called on to do these kinds of classes." Liz and Jeffrey talked about both emotional labor being

connected to their personalities and the difficulty of disentangling where expectations ended and their own preferences and choices began. Jeffrey discussed struggling with "how I'm perceived" in an administrative position that focused on diversity and the increased expectation to visibly perform emotional labor. Likewise, Kathleen saw it "as kind of inseparable from doing this work" and teaching courses on diversity, and she described being sought out by both students and faculty as expert particularly on diversity issues.

Faculty members who positioned performing emotional labor as, at least partially, a matter of choice often saw the work as valuable and beneficial to their teaching. Several participants saw their labor as both an expectation and a choice or saw choice in embracing the expectation. Despite the difficulty of engaging in some emotionally draining conversations with students in and out of the classroom, Alicia embraced emotional work and reflected on the following:

> [T]he positive emotions that I have about teaching about diversity. I do not feel usually something like emotional exhaustion from it. … I understand how a lot of people might feel like it's emotionally difficult [but] it is not my experience very much.

Alicia framed her emotional labor as a positive force that kept her enthusiastic about teaching but recognized that some colleagues may burn out from excessive emotional work.

Priscilla also embraced emotional labor but recognized the problematic assumptions associated with who can and should perform it. She noted the following:

> I'm looked to [to perform emotional labor], but I also choose to do it, and it's complicated because I know this is deeply gendered. Here I am a feminist, steeped in feminist theory, and doing a lot of handholding of more young women than young men, I think, just because of the kinds of courses that I'm teaching. I don't want to glorify this labor or to suggest that it should come naturally to us.

She tried to remain attentive to student cues that they might need to talk, such as a student slowly picking up his or her belongings after class as others leave. In one such instance, Priscilla stayed behind and a student discussed academic struggles and a recent disability diagnosis. In this way, Priscilla positioned emotional labor as part of the expected work of faculty members:

> I'm going to defend emotional labor as a really legitimate part of teaching and I think that it gets a really bad rap, in especially this current political climate, all this talk about snowflakes and the millennial generation who've never had to work a

day in their life and are all spoiled and they all want trophies. That's not really the students that I know. … To me, emotional labor means treating people like people and being aware that the work that I'm being paid to do as a college professor goes, can and in a lot of cases should go, very far beyond factual knowledge and intellectual scope.

While recognizing the problematic distribution of expectations to perform emotional work, Priscilla firmly positioned such labor as expected of academics.

Bounding Emotional Labor—Or Leaving It to Others to Perform

Participants, particularly women, discussed the need to set boundaries around their emotional labor. Laurel began reflecting on who carries out emotional work during a training for mandatory reporters of sexual assault, and she speculated about a gender gap: "I looked around the room … I was like, I bet that guy doesn't deal with that." She said that he "set the tone in a very different way," and she decided that she needed to set a similar tone to reduce the amount of emotional labor she performed. Following advice she had read in *The Chronicle of Higher Education*, she did not keep tissues in a visible place in her office so that she did not "even invite the opportunity for students to think they can just make that emotional connection" automatically. Laurel still said she struggled with performing less emotional labor: "I don't want to be insensitive. I'm not trying to be detached completely from people, but I also, I need that boundary, too."

Similarly, Alexis shared that she struggled with the following:

. . . how to set boundaries while also wanting to be as supportive of a professor, mentor, and just a citizen, as a person. When my students come to me to my office and they're just in tears, like I don't want to kick them out, like I'm not a monster. And yet at the same time, I know that many of my colleagues who are on the tenure track with me do not deal with that as regularly as I do.

Alexis prioritized discussing course content, but still talked with students about other matters within the boundaries of office hours and length of appointments: "Let's talk about your paper first and your work in my class first, and then if we have time to talk about what else is going on in your life, I'm still here for you." Still, students—particularly students holding minoritized identities—wanted to discuss their experiences on campus:

Because the students who come into my office crying, they're not crying about their papers, or

their grades; like it would be refreshing if that was what they were crying about, I think I could handle that. No, they're coming in talking about microaggressions, about things that happen on campus, things people are saying to them: faculty members and students.

While Alexis did her best to set boundaries and prioritize discussions of course content with students, she recognized that many students, particularly those with minoritized identities, sought her out and felt comfortable sharing their struggles on campus with her. Holding a position of trust was difficult to turn down or escape.

Lastly, several participants (primarily men) discussed awareness of emotional labor but positioned it as work for others to perform and/or discounted their own ability to perform it, thus setting an even clearer boundary by claiming to opt out of emotional labor altogether. James, who said he was "not particularly good at" emotional labor, discussed his detachment from social media, where he believed students expressed themselves emotionally, content which, he said, "I don't read, one, because I don't care, and two because I don't know how, and three, I don't really want to know what their private musings are. I think it's best for our relationship for me not to know." He said that students do not usually approach him to discuss their personal lives. Joshua believed he conveyed he did not have the extra time to engage in emotional work:

As for myself, I'm usually so busy with grading and designing lectures and discussions that deep emotional engagement is something that in a way there's not time for because I've got a stack of midterms on my desk. … I don't want to imply that it's just a job, but it is a job.

Likewise, as a senior faculty member, Jay focused more on junior faculty of color being "disproportionally approached by students of color" to perform emotional labor than on his own labor.

Discussion

This study examined emotional labor of instructors who teach required undergraduate diversity courses. Our findings elucidated the examples these instructors offered of the emotional labor they perform, both in and out of the classroom, and how they positioned emotional labor related to their own professional contexts. Although many participants viewed expending emotional labor as an inherent component of teaching, they differed on the limits to which they believed they should engage in this work, even if it was seen as a pedagogical tool to advance student learning. This study adds to the literature by identifying

examples of emotional labor in the context of teaching diversity courses and what it means for instructors in their professional—and sometimes personal—lives.

Participants from this study emphasized the potential pedagogical benefits in embracing emotional labor, which often centered on bringing emotion into the classroom. Participants chose if and when they offered their own opinions or personal experiences for the purposes of engaging students and connecting with course content. In line with Gonzales' (2018) work regarding the intellectual work of women faculty, this process was similar to what she called "deploying one's subjectivities," whereby women "drew from their experiences, sense of the world, and their cultural and spiritual intuitions as they went about their work" (p. 16). Rather than shy away from their lived experiences, identities, and epistemologies, the participants in our study who chose to bring their subjectivities into the classroom did so because they believed it was a way to connect to their students and, thus, with their subject matter. Because women constantly perform this kind of intellectual and emotional work, Gonzales (2018) went on to say:

[I]t seems unproductive and even hostile to ignore the bodies of knowledge that women bring with them into academe, especially when such knowledges—anchored in childhood, family life, or perhaps in experiences of racism and/or sexism—have stirred their intellectual curiosities. (p. 19)

Roberts and Iyall Smith (2002) stated that when instructors disclose experiences that shape their interaction with topics on hand, disclosure "allows students to see that the classroom is a safe atmosphere in which to share information, and that this process might help their peers understand the course materials" (p. 297). In doing so, these instructors related their own lived experiences as way to build an inclusive and more engaged classroom.

Even if some of the participants consciously decided to incorporate their own emotions— including thoughts, feelings, and behaviors—for pedagogical reasons, they also struggled with the extent to which they should convey objectivity. Participants were engaging in emotional labor strategies such as surface acting and deep acting (Hochschild, 1983). In our study, participants referred to instances where they engaged in surface acting, whereby if they believed students perceived them as impartial, they could create a climate more conducive for learning. The consequences of this can be taxing for the instructor, to "take care" of students in order for their entire classroom to be engaged with course content while outwardly projecting a neutral stance. Lechuga (2012) described how underrepresented faculty sometimes must "remain silent" and act inauthentically, which may

ultimately "restrict one's autonomy because an individual is compelled to behave inauthentically so as to conform to the feeling rules of academe" (p. 94). Lechuga went on to state that remaining silent "may take a harder toll on underrepresented faculty when derogatory remarks are made about them, their abilities, or other minority faculty" (p. 94).

Participants in this study also discussed emotional labor from the stance of caring for their students' emotions in addition to managing their own. There are differing attitudes regarding the level of care instructors owe students in their learning environments. However, we do know that that positive classroom climates can energize students' learning (Pascarella & Terenzini, 2005). Ultimately, an instructor is in a position to create a space for learning and should consider how students' emotional lives interact with course climate, and, thus, learning. This is not to say emotion work in classrooms is easy but considering the climate and how students access course materials, both intellectually and emotionally, has implications for how and to what extent we hope students learn.

Findings from this study reinforce a body of research that has already shown that the strictures of the academy that reinforce particular forms of emotional labor are often devalued and invisible, such as mentoring and advising, committee work, and recruiting underrepresented students (Bellas, 1999; Hanasono et al., 2018; O'Meara et al., 2017a). Moreover, this work is more likely to be performed by women, people of color, and those of other marginalized identities (Baez, 2000; Hanasono et al., 2018; Misra et al., 2011; O'Meara et al., 2017b; Tunguz, 2016). In our study, participants spoke about the disproportionate amount of emotional labor they spent in caring for students who shared underrepresented identities, often because they knew there were not others present or willing to do this work. Others spoke about their decisions not to perform emotional labor because they believed they were ill-suited, for whatever reason, to do so; these participants were often White and/or male and less often sought out by students to perform the work. However, scholars advocate that cross-cultural, cross-gender, and cross-race mentoring relationships are imperative in building a diverse and supportive academic climate in higher education (Reddick, 2012; Stanley & Lincoln, 2005). People who have historically been privileged in higher education spaces must do more and better work, which includes lifting the sole burden of emotional labor off of those who "are good at it."

In addition to the study boundaries (delimitations) we noted in the methods section, this study is also limited by several factors, including participant self-selection and institutional definitions of diversity courses. We contacted all instructors listed as teaching

general education diversity courses at the three colleges. Because only some of the instructors volunteered to participate, we cannot determine whether the participants' viewpoints are representative of all diversity course instructors at the institutions. In addition, we only contacted those instructors designated as teaching courses that satisfied diversity requirements, as determined by the colleges. It is likely that other courses not flagged for this purpose still incorporated issues of equity and diversity and, thus, we could not account for the perspectives of instructors teaching these courses.

Implications

Implications from this study relate to the visibility, recognition, and boundaries of emotional labor, particularly in the diversity course teaching context. Though participants shared examples of their own and their colleagues' emotional work, they also frequently noted the near invisibility of discussions centered on this work on campus. Emotional labor was not discussed in official venues or documents such as faculty handbooks and contracts, tenure and promotion documents, or department meetings, but it was instead relegated to hallway conversations and other unofficial venues. Thus, emotional labor must be first be made visible in higher education institutions by academic administrators and faculty members, including within graduate training and programs preparing future faculty.

If emotional labor becomes visible in official venues on campus, it must then be recognized. Academic leaders, departments, and faculty members should discuss how emotional work is recognized and considered within hiring, promotion, and tenure decisions. Though this labor is often considered to be a form of service work—the type of faculty labor least valued or documented compared to research and teaching—institutions must acknowledge how emotional work can also pervade research and teaching environments. Faculty may become mentors to students in their courses or to research assistants, and such work should be documented and valued.

This study highlights that diversity course instructors may be more expected than those teaching other topics to engage in this work, so faculty and administrators must recognize the differential contexts in which emotional labor is expected and performed, as well as the differing expectations students and faculty may place on instructors minoritized by race, ethnicity, and gender. White women faculty and faculty of color of all genders, particularly those who teach courses on diversity topics, may be unjustly expected to perform the bulk of emotional labor on campus or in a given department. This study points to the potential pedagogical benefits of bringing emotion into the classroom, but such work may still be burdensome. Given the likelihood of emotional labor appearing in conjunction with diversity courses, such course registrations might be capped at a lower number than other courses, or additional support might be provided through teaching assistants or release time. Conversations about such changes will inevitably be charged and controversial, but the current *de facto* policy that some faculty perform invisible labor while others opt out is not sustainable if institutional leaders wish to recruit and retain minoritized faculty.

Lastly, if emotional labor is made visible and officially recognized, institutional leaders must also provide resources to help faculty set boundaries around the work. Institutions can assist faculty in strategizing around their emotional work through educational resources and workshops on the topic, offered through faculty affairs offices, teaching and learning centers, and counseling or human resource offices. Faculty members likely do not receive specific guidance or training in graduate school on these topics, aside from conversations with mentors who are attuned to emotional labor or who perform it themselves. Programs for new faculty in particular may be valuable sites for discussing boundaries and strategies. Instructors in this study shared their strategies for setting limits on emotional work, including limiting office hour appointments to a set period of time and committing to discuss course content first and turning to other matters if time remains. Though it may seem insensitive to refer students to counseling services, instructors must be knowledgeable of available campus resources and of the circumstances when a referral is appropriate or mandated. Because this work is, by its nature, emotionally taxing, faculty must also be aware of and utilize resources to assist in maintenance of their own mental health and personal and professional development.

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An Evaluation of a Course Aimed at Reducing Public Speaking Anxiety among University Students

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Public speaking is a highly important skill for a graduate to achieve, and despite many students reporting high public speaking anxiety, this is rarely addressed in current undergraduate degree courses. The following paper evaluates the effectiveness of a course aimed at reducing students' levels of public speaking anxiety via a relatively simple and resource minimal approach. Twenty-nine students completed 9 sessions aimed to improve public speaking confidence. Across the sessions, students progressed from conducting informal presentations in front of small numbers of students towards formal presentations of academic content in front of increasingly larger audiences. In a latter session, students were also encouraged to reflect on their experience of the course and to note any skills they had developed. Delivery of the public speaking program resulted in significant reductions in scores on two standardized measures of public speaking anxiety, the Audience Anxiousness Scale and the Personal Report of Communication Apprehension. It is suggested that University departments should consider offering courses for students which allow them to practice public speaking.

Public speaking can be a daunting experience for many, and it has been reported that over two thirds of the population experience some level of fear or anxiety related to speaking in public (Furmark et al., 1999). Dwyer and Davidson (2012) found that women are more likely to rate it as their top fear and also that 18% of a student population rate it as more fearful than death. However, being able to speak in public can be especially important for students in preparing for employment (Blume, Baldwin & Ryan, 2013; Johnson & Szczupakiewicz, 1987). It is therefore important for students to be given the opportunity while at a university to gain confidence in public speaking. This is important not only for students, but also for universities since many league tables now incorporate the employability of graduate students as an indicator of success. The current study tested the effectiveness of a simple public speaking course at reducing public speaking anxiety (PSA) among a student cohort. The course was designed to expose students to progressively larger audiences and to deliver increasingly formal presentations, as well to encourage self-reflection. The course was specifically designed for students who experience PSA.

Public Speaking Anxiety

PSA can stem from either general communication apprehension or from general psychological anxiety (Witt & Behnke, 2006). Communication researchers see PSA as a subcomponent of a more general issue with communication in several contexts including group discussions, meetings, dyads, and public speaking (Pribyl, Keaten, Sakamoto, & Koshikawa, 1998). Psychological researchers see PSA as a subcomponent of general anxiety where "anxiety is an aversive, cognitive-affective reaction characterized by autonomic arousal and apprehension regarding impending potentially negative outcomes" (Leary, 1983, p. 67). More specifically, it is seen as a type of social anxiety. Individuals who exhibit high levels of social anxiety tend to hold negative self-perceptions and also perceive others to evaluate them negatively during interactions (Hoffman & Dibartolo, 2000). Leary (1983) distinguishes between two types of social anxiety: interaction anxiety and audience anxiety. The former relates to instances such as talking to others in informal settings, whereas the latter refers to contexts which are more scripted and planned (e.g., a scripted or rehearsed speech). The important difference between these is that at the time of interaction, the individual can withdraw from one easier than the other (e.g., it is easier to withdraw from an informal group discussion with friends than to withdraw from an organized speech). Since audience anxiety or PSA is a subcomponent of social anxiety, people with high PSA will be more likely to feel as though they are being negatively evaluated by their audience and are more likely to be focused on their own performance in a negative way.

The literature on PSA has defined two different types: state and trait PSA (Bodie, 2010; Pribyl et al., 1998). State PSA is when PSA is context specific. For example, a student may feel comfortable making a relatively informal presentation in front of fellow students but might feel highly anxious when presenting a piece of their work to specialists. Trait PSA is seen to be more stable: a person feels anxious when asked to speak in public irrespective of the context. Regardless of the type of PSA, there are many symptoms associated with it. Bodie (2010) outlines the three types of symptoms: physiological, cognitive and behavioral. Physiological symptoms can be bodily sensations such as numbness, increased blood pressure, increased heart rate, and sweaty palms. The cognitive symptoms involve negative

evaluation of one's own performance, self-focused thoughts, and perceived negative judgments from the audience. Finally, behavioral symptoms might reflect less fluency in speech (Choi, Honeycutt and Bodie, 2014) or nervous fidgeting while delivering a presentation. Bodie (2010) suggests that the cognitive and physiological symptoms together predict the greatest variance in PSA. Hence, the majority of research on PSA has focussed on the physiological and cognitive effects of PSA with most intervention studies taking measurements of these symptoms to test for the effectiveness of different programs.

Although there is general agreement on the characteristics of PSA, the origins of trait PSA have often been debated, with some suggesting that it may be due to socialization experiences from the early years in life while others argue it could be biologically based (see Bodie, 2010 for a discussion on this). If the biological explanation is accepted, then this would imply that PSA is not able to be changed through intervention or training (Beatty, McCroskey & Heisel, 1998). However, there are many different types of interventions which have been tested with some found to be effective at reducing levels of PSA. Dwyer (2000) suggests that the success of these interventions reflects an improvement in the management of anxieties related to PSA rather than "curing" people of PSA.

Interventions aimed at reducing PSA can include systematic desensitization, cognitive restructuring, visualisation, and skills training (Dwyer, 2000). Systematic desensitization is often used in clinical settings, and its main aim is to reduce the association between a particular experience (e.g., speaking in public) and the resulting anxiety felt from that experience (Bodie, 2010). It gradually exposes an individual to increasingly anxious situations, and the individual can also be taught relaxation exercises such as deep breathing (Docan-Morgan & Scmidt, 2012). Cognitive restructuring involves an attempt to change the way that an individual thinks about public speaking (Ayres, Hopf, & Peterson, 2000). In interventions that use the visualization approach, an individual high in PSA is asked to visualize himself or herself succeeding in a particular situation such as giving a successful speech (Ayres & Hopf, 1985). Skills training interventions provide training on skills necessary to deliver a good presentation, such as effective delivery skills and being able to organize ideas effectively within a presentation (Docan-Morgan & Scmidt, 2012). Most studies examine the effectiveness of one or more of these types of interventions by comparing to either a control/placebo group or by comparing one type of intervention to another. For example, Hunter, Westwick, and Haleta (2014) found a reduction in PSA after individuals received exposure therapy (a type of systematic desensitization) together with skills training

with females showing the greatest reduction in PSA. The visualization technique has also found to be effective particularly when done in conjunction with another form of intervention, imagined interactions (Choi et al., 2014). Whereas visualization involves the person picturing their success in a given interaction, imagined interactions prepare the person for a particular interaction by indirectly experiencing it (i.e., through imagining the specific interaction; Choi et al.). It is argued that this type of intervention allows a person to address issues with nerves, and to become more self-aware which helps in reducing uncertainty about one's thoughts and feelings towards a specific interaction (Honeycutt, Choi, & DeBerry, 2009). Choi et al. found that this type of intervention together with visualization techniques resulted in fewer silent pauses during a speech (an indicator of nervousness) and an increase in the confidence level of the presenter.

Although there is evidence to support the efficacy of these different types of interventions, Duff, Levine, Beatty, Woolbright, and Park (2007) argue that these significant results are simply a result of demand effects. In their study which examined the effectiveness of systematic desensitisation alone versus a "multiple" intervention (visualization, skills training, and systematic desensitization), they found no lasting effects of either of these interventions in comparison to a placebo group. The authors argue that rather than each of the interventions being successful in their own right, it is more that individuals are reporting to be less anxious as a result of being on any course aimed at reducing PSA levels. This study therefore casts doubt on whether it is necessary to include complex techniques in courses aimed at reducing PSA, especially since some of these techniques may require trained professionals to act as instructors on the course (e.g., Fitch, Schmuldt, & Rudick, 2011) or for current staff to take time out from their usual duties to be trained (e.g., Hunter et al., 2014). This latter point might be particularly relevant in higher education institutions where the workload of staff is already high (University and College Union, 2014). Courses which require a low time commitment from staff might be preferred within higher education.

Offering opportunities to university students to gain confidence in public speaking is important. It is especially important for those who may experience PSA to try to gain skills in managing their anxieties. Through gaining more confidence and acquiring anxiety management skills, students are more likely to gain success and be more open to opportunities once they become graduates and hence potential employees. For example, anxieties relating to performance and communication are thought to contribute to overall interview anxieties (McCarthy & Goffin, 2004) and to be negatively related to the outcome of interviews

(Ayres & Crosby, 1995). Moreover, PSA contributes to overall communication anxiety which has been shown to have a negative relationship with adaptability, multicultural appreciation, and leadership skills (Blume et al., 2013): skills which, in addition to public speaking skills, may be particularly attractive to potential employers. The university is one context where students are often required to speak in front of, or present to, fellow students but where many are faced with anxieties relating to public speaking (Dwyer & Davidson, 2012; Hofmann & Dibartolo, 2000). The university is also a context where it is possible to provide students with opportunities to enhance the skill of speaking in public and thus help in the development of their employability skills. In line with the characteristics of systematic desensitisation, Witt and Behnke (2006) suggest that any course or intervention designed to reduce PSA should begin with activities which are low-anxiety provoking and include high-anxiety provoking activities at the end of the course or intervention. Students who experience PSA may not be given opportunities to gradually build up to formal presentations or to practice this activity away from more confident speakers within their normal studies at University. This latter point is especially relevant since many who experience high levels of PSA may be particularly sensitive to the evaluations and reactions of audiences (Fitch et al., 2011; Leary, 1983). Thus, people high in PSA may prefer to practise public speaking away from more confident speakers who are more self-confident about their own public speaking abilities (Ayres & Heuett, 1997).

Current Study

The current study aims to test the effectiveness of a nine session course aimed at reducing students' PSA levels by providing opportunities for students to practice speaking in front of an audience (i.e., the rest of the course attendees). The students were from the Psychology department of a research-intensive institution in the North of England (UK). Students were in the first year of a three-year Bachelor of Science degree in Psychology, and the course on public speaking was optional for students. They received no payment or course credit for attending the course.

The course was designed so that students and staff did not need to invest a significant amount of time to the course (and potentially take their efforts away from their usual studies/duties) and was also designed to be run by instructors who were not trained in any specific intervention. The course was designed around a simplified version of systematic desensitization and the suggestions of Witt and Behnke (2006), whereby the initial sessions were low-anxiety contexts and the latter sessions, high-anxiety contexts. Specifically, it

provided opportunities to speak in public which ranged from informal talks to small audiences in the initial sessions to more formal talks to larger audiences in the latter sessions.

The course also included an element of self-reflection. Self-reflection is an important part of becoming a self-regulated learner (Zimmerman, 2002) and enables students to reflect on their abilities and on what they have learned, which has been shown to contribute to an increase in self-regulation and therefore enhanced performance (Cazan, 2013). Self-regulated learning has been defined as "actions and processes directed at acquiring information or skill that involve agency, purpose, and instrumentality perceptions by learners" (Zimmerman, 1989, p.329), meaning self-regulated learners are more likely to use strategies such as self-evaluation, record keeping and monitoring, and goal setting and planning. Students who possess the skills and ability to self-regulate their learning effectively tend to perform better academically (Zimmerman & Martinez-Pons, 1990).

Students were encouraged to reflect on their experience of the course and to share with each other the strategies they had learned to cope with PSA. Levels of PSA were measured before the start of the course and again at the end of the course from both course attendees and a sample of students which acted as a control group and thus did not sign up for the course.

Method

Participants

Prior to the first session of the public speaking course, 86 students signed up for the course and completed the questionnaire. Just before the first session, 58 students who did not sign up for the course completed the same questionnaire and acted as a control sample. Fifty-nine students withdrew from the public speaking course at some point over the nine sessions and 38 students of the control sample did not complete the follow up questionnaire at the end of the course. This led to a final sample of 47 students: 27 students who completed the public speaking course (Time 1 [T1] Mean age = 19.18 years, SD=0.96; 92.60% females) and 20 students who formed the control sample (T1 Mean age=19.06 years, SD=0.90; 90.00% females).

Design

The study employed a mixed measures design in which the between subjects IV was grouping (course attendees or control group) and the within subjects IV was the two time points. The DVs were the two measures of PSA.

Table 1
Outline of the Course Content for Each Week of the Course, and the Duration of Each Session

Term	Session	Title of Session	Session Activities	Duration of Session
1	1	Introduction	Outline of the course and tips given on how to prepare for a presentation, students wrote down one thing that made them anxious about speaking in public Students in a group of four and each talked about themselves for 1 minute	1 hour
	2	Informal Talk 1	Students sat in a group of four and delivered a 1-2 minute talk about a topic of their choice	1 hour
	3	Informal Talk 2	Students sat in a group of ten and delivered a 1-2 minute talk about a topic of their choice	1 hour
2	4	Formal Talk 1	Students in a group of four and delivered a PowerPoint presentation on a topic of their choice. Students stood at the front of the group to present	20 minutes
	5	Formal Talk 2	Repeat of session four but to an audience of ten	30 minutes
	6	Formal Talk 3	Students presented a 2 minute PowerPoint on a topic in Psychology (their own choice) to an audience of ten	30 minutes
3	7	Reflection and preparation for group presentations	In groups of five, students were encouraged to reflect on their experience on the course so far and to share with each other what they found difficult about speaking in public and how they had learned to cope with nerves over the duration of the course Students were asked to write down one piece of advice they would give to somebody who feels nervous about presenting (these were returned to the course facilitators) Students worked in groups of five to prepare a 5 minute presentation on an academic article (the articles and Powerpoint slides were provided by the facilitators)	1 hour
	8	Group presentations 1	Students took part in a group presentation in a lecture theatre. The group comprised of 5 students. Students used a microphone and presented to an audience of 15 people	30 minutes
	9	Group presentations 2	Course facilitators presented the fears reported in session 1 and the most common pieces of advice that students completed during session 7 Students presented as in session 8 but to a larger audience of 25 people	1 hour
		Total time for students		6 hours 50 minutes

Procedure

Within the first two weeks of the term (October), all first-year undergraduate Psychology students (N= 226) were offered a place in the public speaking course. Students were advised that this course was optional and not a required part of their degree program. They were also informed that the course was not designed to provide any degree of treatment for anxiety issues but was designed to provide opportunities to practice speaking in public across nine sessions which could potentially reduce PSA levels. After the initial invitation to join the course, students who had signed up for the course completed the questionnaire. The remainder of the cohort who did not sign up for the course were also asked to complete the questionnaire to act as a control group.

Students who had signed up for the course then completed the nine sessions across eight months of the academic year (three sessions in each of the three terms). The course was designed so that students were required to speak in public in an increasingly formal way and to larger audiences as the sessions progressed. To reduce the effect of people becoming familiar with their audience and hence the experience becoming less anxious (Duff et al., 2007), students were not in the same group for each session (i.e., group members were different for each session wherever possible). A detailed explanation of the content of each of the sessions is shown below (Table 1). At the end of the course students who had remained in the course completed the questionnaire again. Those who had acted as a control group at the start of the course were contacted again to ask them to complete the same questionnaire. This enabled us to have data from the control group at the two time points (before and after the course). The data for time 2 (i.e. the "after" data) were collected within a week of the final session of the course.

Measures

Two measures were used to ascertain levels of PSA. Both measures are designed to measure the cognitive element of PSA through self-reports. These were chosen for two reasons. First, we wanted to gauge students' own subjective perceptions of their anxiety (rather than taking objective measures such as heart rate etc.). Second, we were interested in measuring the cognitive element of PSA since it has been reported that cognition is an important predictor of PSA (Bodie, 2010).

Audience Anxiousness Scale or AAS (Leary, 1983). This measure consists of 12 statements (e.g., "I usually get nervous when I speak in front of a group") with two items which are reverse scored ("I enjoy speaking in public," and, "I don't mind speaking in front of a group if I have rehearsed what I am going to

say"). Participants indicated the degree to which they felt these statements were characteristic of them by responding on a 5-point Likert scale ranging from "Not at all like me" (scored as 1) to "Extremely like me" (scored as 5). Reliability analyses showed that this scale was reliable at T1 (α=.94) and at T2 (α=.93).

Personal Report of Communication Apprehension or PRCA-24 (Levine and Mccroskey, 1990). The public speaking subscale from this measure was used with slight re-wording (the wording 'a speech' was replaced with 'an oral presentation'). This scale consists of six items (e.g. "My thoughts become confused and jumbled when I am giving an oral presentation"), three of which are reverse scored (e.g. "I have no fear of giving an oral presentation"). Participants indicated their level of agreement with these statements on a 5-point Likert scale ranging from "Strongly Disagree" (scored as 1) to "Strongly Agree" (scored as 5). Reliability analyses showed that this scale was reliable at T1 (α=.88) and at T2 (α= .85).

Results

A Mann Whitney test was carried out to test for differences between those students who remained on the course and those who withdrew from the course to ensure there were no differences in baseline PSA. The analysis showed no difference between the two groups on the AAS measure (U = 524.50, z = -0.36, p = .716) and on the PRCA-24 measure (U = 528.00, z = -0.32, p = .748). The median scores for each group for each measure are shown below (table 2). This demonstrates that the people who decided to withdraw from the course did not feel significantly more or less anxious about public speaking than the students who remained on the course.

In order to test for differences between the course attendees and the control group at the beginning of the course and at the end of the course, two 2 (time point) x 2 (group: control, course attendees) mixed ANOVAs were carried out with the dependent variables being the AAS and PRCA-24 scores in each respectively. The mean scores for each group and at each time point for the AAS and PRCA-24 are shown below (Figures 1 and 2).

For the AAS, there was a significant main effect of time, $F(1,45)$=10.99, p =.002, r = .45, significant main effect of group, F $(1,45)$ = 11.64, p =.001, r = .46 and significant interaction, $F(1,45)$ = 5.49, p <.001, r = .33. Pairwise comparisons showed that there was a significant difference between the two groups at T1, $F(1,45)$ = 25.15, p<.001, r = .60 but no significant difference at T2, $F(1,45)$ = 0.93, p =.339, r = .14. The scores for the course attendees reduced significantly between T1 and T2, $F(1,45)$ = 29.75, p <.001, r = .64 but remained stable for the control group $F(1,45)$ = 0.10, p =.750, r = .05.

Table 2
Average PSA Scores of Students who Remained in the Course and Those who Withdrew

Group	AAS score Median (IQR)	PRCA-24 score Median (IQR)
Students remaining on the course (n=27)	4.08 (1.50)	4.17 (0.67)
Students who withdrew from the course (n=59)	4.00 (1.33)	4.00 (0.67)

Figure 1
Mean AAS scores for course attendees and the control group pre- and post-course
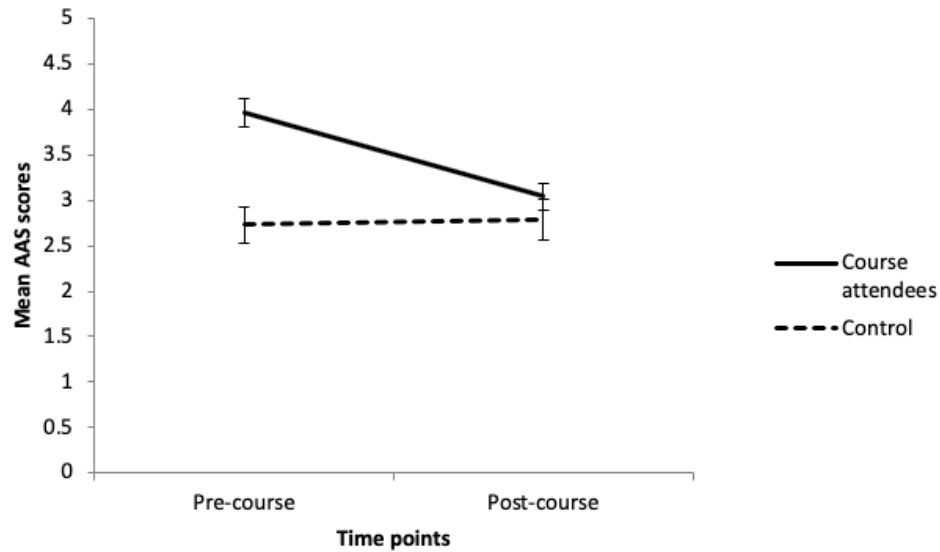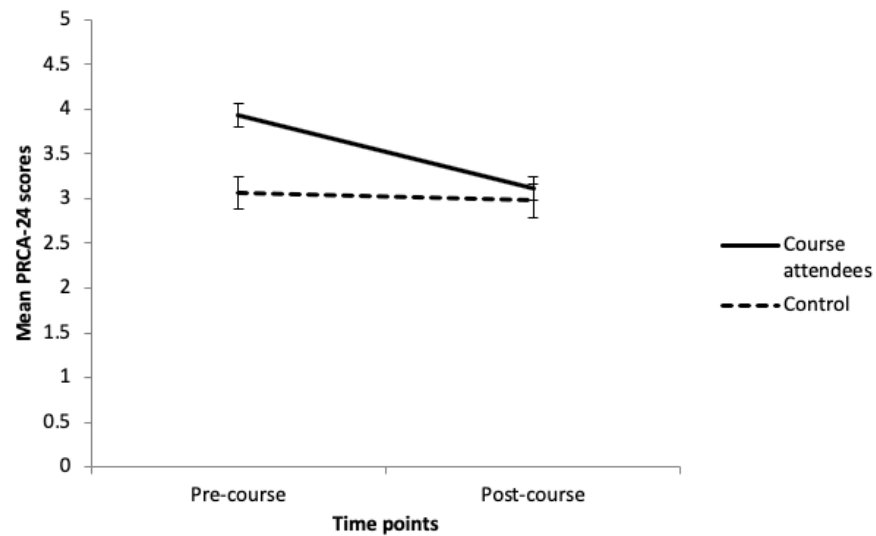

Figure 2
Mean PRCA-24 scores for course attendees and the control group pre- and post-course

For the PRCA-24, there was a significant main effect of time, F (1,45) = 22.96, p <.001, r = .59, significant main effect of group, F (1,45) = 5.74, p =.015, r = .34, and significant interaction, F (1,45) = 15.40, p <.001, r = .51. Pairwise comparisons showed that there was a significant difference between the two groups at T1, F(1,45) = 16.16, p<.001, r = .52 but no significant difference at T2, F(1,45) = 0.31, p =.581, r = .08. The scores for the course attendees reduced significantly between T1 and T2, F(1,45) = 44.63, p <.001, r = .71 but remained stable for the control group F(1,45)=0.33, p =.570, r = .09.

These analyses demonstrate that for both measures of PSA (i.e., the AAS and the PRCA-24), the course attendees scored higher in PSA at the start of the course, but by the end of the course their self-reported PSA levels were comparable to the control group's PSA scores.

To test whether the course attendees' PSA levels remained at this level, a sub-sample of the course attendees (n=12) completed the questionnaire 4 months after T2. This showed that PSA levels did not significantly change between T2 and the follow-up questionnaire (p = .206 for AAS and p =.266 for PRCA-24).

Discussion

The aim of this study was to test the effectiveness of a course aimed at reducing students' PSA. The course significantly reduced the PSA levels of course attendees to a comparable level to that of the control group, as measured by two separate PSA measures. Moreover, in a sub-sample of these course attendees, levels of PSA remained at this lower level four months after the end of the course. This shows support for the suggestion that a relatively simple public speaking course can reduce the PSA levels of students.

Numerous strategies have been developed with the aim of reducing levels of PSA, and these include systematic desensitization, cognitive restructuring, visualization, and skills training (Dwyer, 2000). Many of these approaches require the facilitators to be trained and/or for the course attendees to invest a large amount of time in the course. The course assessed in the current study gave students opportunities to practice public speaking in a graduated way and in a supportive environment with no training required from the facilitators and with little time investment needed. It also allowed students the time to self-reflect on what strategies they had learned and to share these with other course attendees. Testing the efficacy of this study has shown that a simple approach to helping students who may struggle with this important employability skill does not need to involve a complicated, time-consuming course; being able to practice can provide students with the confidence comparable to that of their

non-anxious peers to speak in public. Moreover, the investment of time required from both students and staff is kept to a minimum. Courses such as this can easily be integrated into students' current degree program, thus helping them to develop their employability skills.

The element of self-reflection in the course also seemed to work well. During the first seminar, student reports of key concerns about speaking in public were things such as, "I'm afraid I'll get embarrassed," "Everyone is watching you," "My voice wobbles," and "I go really shaky and red." After several sessions and during the self-reflection stage, students reported, "Practise makes everything easier," "It will NEVER be as bad as you think," and, "Everyone else probably feels the same." They had also developed personal methods such as, "Take your time and breathe," and, "Make sure you're well prepared." From these quotes, it can be seen that although students acknowledged their anxieties, they had learned strategies to cope (e.g., practising, breathing, being prepared). In addition, the experience of presenting and then reflecting had helped them put public speaking in perspective (e.g., other people feeling the same). The element of self-reflection is therefore an important part of the course, in allowing students to take stock and record what they have learned, thus leading to a potential change in how they view public speaking. As Mezirow (1997) points out, "Self-reflection can lead to significant personal transformation" (p. 7) and it can help people to reassess their own beliefs and ideas.

One limitation of this research concerns the high degree of attrition. Of the 86 students who signed up for the course, only 27 completed the full program. Therefore, the possibility cannot be discounted that students who did not feel that they were experiencing any benefit from the course would be more likely to discontinue. However, dropout is also likely to occur due to increasing course demands rather than any systematic dropout from students not making progress in the course. As this course was offered to students in the first few weeks of their degree, students are likely to have been highly motivated to sign up for this extracurricular activity, but they may have then discontinued once the demands of the undergraduate degree become apparent. Although the work demands and time commitments in this course were kept to a minimum, future instructors may wish to see if a full course of nine sessions is required. If reductions in public speaking anxiety can be achieved with fewer sessions, this may lead to a higher number of students completing the course and subsequently a reduction in attrition.

A further limitation is that the students who attended the course were self-selected. This might imply that these particular students were more motivated to acquire skills

to manage their PSA and/or were more motivated to become more confident in public speaking (Dwyer, 2000). However, these types of courses can only ever be voluntary: students cannot be forced to take a course, regardless of their PSA levels. This might be a problem for students with very high PSA, particularly since there is some suggestion that PSA predicts behaviors related to withdrawal and avoidance (Pribyl et al., 1998). Hence, students with very high PSA may withdraw from or avoid opportunities aimed at helping them to overcome difficulties with anxiety in relation to public speaking. The fact that the majority of course attendees in the current study were not typical of people with very high PSA scores is reflected in the scores at time point one. The average PSA scores at T1 of course attendees were 3.96 and 3.94 for the AAS and PRCA-24 respectively where a maximum score of 5 is possible on both measures. There was a very small number of attendees who scored 4.70 or higher at T1 on these measures (five attendees on the AAS and two attendees on the PRCA). Further work, therefore, needs to be done to encourage students who experience very high PSA to consider attending courses which could help them manage their anxieties. However, this needs to be done with care. Students who report very high PSA may also have general anxiety issues which require intervention from trained professionals (e.g., clinical psychologists), and so staff should be conscious of their own limitations in helping students overcome their fears of speaking in public.

The current study provides some evidence that a simple course offered to students who experience anxieties relating to public speaking can be effective in reducing these anxieties. Providing students with graduated opportunities to practice this skill, as well as encouraging self-reflection while at the university, could help students develop their employability skills, making them more attractive to potential employers by the end of their degree. Moreover, the present study shows that the course does not need to be complex and does not necessarily require trained staff to run the courses or for existing staff to be trained. This might be particularly attractive to universities when thinking about how best to support their students in preparing them for their futures.

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Bringing Reading into the Classroom: Using Active Learning to Practice the Invisible Skill

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Reading is an "invisible" skill, making it challenging to address in a college classroom. Yet, it is fundamental to disciplinary thought. Inspired by the "signature pedagogies" conversation, I wanted to find ways to make more visible in my classroom what I do when I work with readings. This gave rise to several questions: How can I make reading practices in my discipline more transparent to students? How can they develop the habits of mind necessary to link this particular way of reading to a particular way of disciplinary thinking? In fact, how can students be held accountable for doing the reading in the first place? This article reflects on how I placed reading at the core of my class design. I include discussion of the overall purpose of reading, assessment of reading, the reading list, reading logs, and in-class active learning exercises that engage with the readings.

College-level reading is, as Pat Hutchings (2015, p. vii) puts it, "mostly invisible." It is invisible institutionally, in the lack of reading programs as opposed to writing programs. It is invisible in the classroom in the sense that instructors do not see student reading in the same way that we see their written pieces. It is also largely invisible as a skill set to college-level students themselves, as highlighted in a study by Karen Manarin (2012, p. 281). She found that only 40% of students surveyed agreed with the statement, "I am good at writing," likely as a result of faculty feedback identifying areas in need of improvement. However, almost 80% agreed with the statement, "I am good at reading." This may be because the students had *not* received faculty feedback on reading and had not developed metacognitive awareness around it, thus seeing little need to be concerned with this skill. Another recent study found that over one third of undergraduate students scored at or below 50% on critical reading skills, and there was no significant improvement across class levels, i.e., from first-year students to seniors (Gorzycki, Howard, Allen, Desa, & Rosegard, 2016). This study also notes that the lack of mature reading abilities may indirectly contribute to student attrition, insofar as it prevents students from working effectively in different disciplines. We still lack a critical mass of SoTL (Scholarship of Teaching and Learning) work in which instructors discuss college-level reading in their own classrooms, as pointed out by Karen Manarin, Miriam Carey, Melanie Rathburn, & Glen Ryland (2015, p. xi), and there is only a weakly developed conversation around instructional strategies for teaching advanced reading skills to undergraduates (though see Gamel, 2015; Horning, Gollnitz & Haller, 2017).

This lack of visibility, however, does not mean that reading is absent from higher education. On the contrary, college instruction is usually based on the assumption that students will intuit how to use reading proficiently across disciplines. Undergraduate students are expected to engage critically with texts as diverse as historical narratives, theoretical articles, novels, experiment methodologies, mathematical proofs, and statistical overviews, as well as textbooks. Across all disciplines students are expected to employ the skills that make up critical, active reading (or "transactional" reading, using the classic label suggested by Louise Rosenblatt, 1994). They are expected to do what expert readers do, namely to construct an ongoing conversation between themselves, different aspects of a text, other texts, and other readers, that results in deeper and more nuanced reasoning *about* the text. Without these skills, otherwise competent students in college may still approach each reading passively or uncritically and simply take it as the last word (as found by Sam Wineburg, 2001). Mature reading may function, in this sense, as a "threshold concept" (Meyer & Land, 2006) or a disciplinary "bottleneck" (Middendorf & Pace, 2004) that is not an immediately obvious activity, even to competent beginners. If students do not cross this threshold, they fail to enter into the habit of mind that fluently links reading and thinking in their particular discipline.

Against this background, I have become interested in the productive "problem" of college reading (cf. Bass, 1999), and I have wanted to make reading more visible—to students and myself—in the classroom. One of my inspirations has been the conversation around "signature pedagogies" (e.g. Calder, 2006; Gurung, Chick, & Haynie, 2009; Shulman, 2005). The animating idea behind this conversation is the insight that content-focused instruction will be more effective if it is embedded in a broader pedagogical framework that seeks to teach students how to see, think, and act within the discipline—rather than expecting students to intuit this on their own. This instructional article will take the form of a guided tour of how I have sought to place reading at the core of my class design and make it more transparent to students. I will focus here on the teaching

side of the equation; elsewhere I have explored the other side, namely the learning side, to describe whether or not my students have been able to use this focus on reading to build more complex thought (Hovland, 2019b).

The article will draw material from a SoTL project that I conducted in one of my classes at the University of Georgia in Spring 2018 in order to reflect more systematically on student reading in the classroom. I obtained IRB approval for the study and the consent of all the student participants. I used the same class design in all my classes during Spring 2018, including my 40-person introductory religion survey classes, but the class in which I conducted the study and from which I will draw examples was an upper-level 11-student seminar titled "Christianity and Colonialism in Africa." I taught the seminar from the angle of my own disciplinary field, the anthropology of religion. While my discussion here therefore centers on texts that are most commonly used in the humanities and social sciences (academic monographs, articles, and archival sources), my underlying concern—namely to facilitate engaged student reading practices—may find resonance across a diverse range of disciplines.

Starting from the End: What Is the Purpose Of Reading?

Let me follow L. Dee Fink's (2003) suggestion on course design to start from the end and consider the question: What kind of significant learning experience do I want reading to produce? Different instructors will necessarily arrive at different answers to this question. The Association of American Colleges and Universities has developed a VALUE rubric devoted to reading that highlights a list of skills to aim for: comprehension, understanding of genres, relationship to text, analysis, interpretation, and reader's voice. Manarin et al. (2015) move beyond listing of elements and discuss two overarching goals: academic reading and reading for social engagement. In other words, they emphasize both the development of critical reading skills and the importance of allowing students to draw connections between what they read and what they encounter in their daily lives.

I have found that the term "complex thinking" best captures my cluster of aims, and so I shall concentrate on that here, but with the acknowledgement that it has considerable overlap with other labels such as critical thinking and creative thinking. Others have described similar aims. For example, Anthony Ciccone, Renee Meyers, and Stephanie Waldmann (2008) sought to foster "complex thinking" in a class on humor by asking students to dig deeper into the linked layers of meaning in a humorous piece. Similarly, Nancy

Chick, Holly Hassel, & Aeron Haynie (2009) have described how they wanted to encourage students to see "complexity" in a poem by asking them to draw out different possible patterns of meaning, allowing students to grapple with the insight that some of the patterns stood in tension with each other, even as they were integrated in the poem. My own contribution as a teacher, drawing on my field of the anthropology of religion, is to teach students the steps involved in describing and analyzing others' perspectives on the world, as well as to take these other perspectives into account as students describe and analyze their own perspective. This is what constitutes complex thinking in my class, given the intersection of my discipline, my own research approach, and the topic of the class. In other words, I want student reading transactions in my classes to be part of the cognitive development of more complex thinking, which correlates with the development of more complex moral reasoning about the self, the other, and the world. Other instructors may draw on their own disciplinary research and teaching approach to articulate other aims for reading in their classes.

While this brief outline of complex thinking may sound deceptively simple, it requires work that is quite complicated for a traditional-age student. Since this form of mature thought is a goal that students will not reach in the course of a single semester, and perhaps not during their college career as a whole (cf. Magolda 1992; Perry 1998), I break the overall goal into smaller steps that can be made visible in class, as described below. This gives students the opportunity to practice facets of complex thinking and to practice them at a level that corresponds with the cognitive problems they are working on at that moment, in the midst of their overall cognitive trajectory. It seems important to me as an instructor, however, not to lose sight of the eventual goal of mature thinking (for further discussion of this issue, see Hovland, 2019b).

Making it Matter: Assessing Reading

Starting from the end also means starting with assessment, since the structure of assessment is what will guide our students' work in the class. First, I incorporated significant space for informal feedback in the class. I used a flipped class model, which meant that students were introduced to foundational content through pre-class readings and then came to class to work with these readings. As opposed to a traditional lecture model, no new content was introduced during the actual class periods. Instead, class time was devoted to working through reading exercises (which I will describe below). As students worked with these exercises they thought aloud about the readings and shared their evolving analytical arguments with each other in small groups and

with me as I walked around during the exercises, and also with the whole group at the end of the exercises. They thus received continuous informal feedback from their peers and me in relation to their comprehension of the reading as well as their ability to construct analytical lines of thought based on the reading. They continuously refined their reading and thinking skills in class in response to this ongoing feedback.

I also sought to tie reading to formal assessment in a number of ways. First, I made a "workbook" for the class, which students bought from our local print shop. It contained all the reading log forms and pages for our in-class reading exercises for the semester. The students brought their workbooks to class each day, and at the end of each unit (roughly every four-six weeks), I collected the workbooks to look over the logs and exercises. In the interest of grading efficiency, I did not evaluate their quality, but simply checked that they were completed. If they were, I gave 25 points for the logs, and 25 points for the exercises. If only half the questions on the logs were filled in, only half the points were given, and so on. Second, I am still working on assignments that emphasize to the students the importance of formulating their own analyses of the issues in the readings. Toward this end, this semester I included one "quiz" and one "analysis" at the end of each unit, and these were also worth 25 points each. The quiz was open-book, and I gave students ten of the key concepts that we had worked on in that unit and asked them to write one or two descriptive sentences and one or two analytical sentences about each concept. For the analysis I asked students to write a 500-word "analysis for a friend," in which they selected one issue from one or several readings that they had been struck by. I especially asked them to explain to their friend how the issue was presented in the reading, questions about their own assumptions and perspectives regarding this issue, and questions about others' perspectives on this issue.

Finally, for the last unit of the semester I wanted to incorporate a culminating assignment (Fink, 2003). However, as Manarin et al. (2015) have shown, one obstacle to work on reading in higher education is the difficulty of designing effective reading-based large assignments. They found that the assignments that are meant to incorporate reading—especially research papers—are in reality completed by many of the students without engagement in critical reading skills. This was true even for assigned research papers that explicitly asked for literature synthesis and references and which were otherwise well written and coherently argued (for a good discussion of this problem, see Manarin et al., 2015, p. 55-63). As an alternative, I decided to opt this semester for what I called a "book project." During the final unit, students each chose a book to read on Christianity in Africa. They filled out reading logs before each class as they read through

their books, and in class we did reading exercises during which they worked on their own books while in conversation with the other students. During this unit they chose most of the "quizzable" key concepts themselves, based on their book. Toward the end of the unit they each presented their preliminary thoughts on their book in the form of a poster (following the outline in Manarin, 2016). I asked them to include the following elements on their posters: their own title, one key concept that they thought captured what was most important to the people described in the book, a brief explanation of this concept, a visual illustration (such as a diagram, concept map, or picture), some relevant quotes from the book, and some of their own questions. They also wrote a 500-word "analysis for a friend" based on one issue from their book, and they described and analyzed a number of key concepts from their book for the open-book quiz. Instead of a final exam, they wrote a longer 2,000-word "book paper" that presented their final analysis of the book in relation to the other readings and themes of the class and building on their staged work with the book through reading logs, in-class exercises, poster, quiz, and analysis. From both my and their perspectives, this chance to dive into one book proved productive for their thinking, and it seemed to present the right level of challenge as the final project of the class.

The Backbone of the Class: The Reading List

Having considered the goal and assessment of reading, the next question is which readings to assign since the reading list will form the backbone of the class. This was especially important to me because of the flipped classroom format I used, which meant that the readings constituted the foundational content knowledge that students would be introduced to. I therefore put some thought into the selection of readings. One of my sources of inspiration on this front was the work of Gerald Graff (1993), who has argued for the benefits of "teaching the conflicts." The term "conflict" has raised some discussion, as Chick (2009, p. 47) points out, but I will take it to refer broadly to the principle of placing differing perspectives alongside each other. For example, one might pair readings that take different theoretical approaches, address different historical periods, employ different genres, or come from "inside" and "outside" the canon. I found this suggestion useful in my class, as I used different types of reading in each unit of the semester. In the first unit I introduced my own research, and we read through my monograph-length case study of a group of Christian mission stations in Southern Africa in the mid-nineteenth century. The case study has some light theoretical framing, but it is mostly concerned with discussing archival sources from this group of

European Christians and their interactions with the Africans around them, seeking to draw out various European and African perspectives on events as they unfolded in the early colonial period.

In the second unit we read a sequence of three scholars who present markedly different interpretations of the impact of Christian mission in colonial Africa, framing the process variously as missionary imperialism, colonization of consciousness, or a more benignly inflected transfer of knowledge. In my view as instructor, this reading sequence was one of the most generative of the semester in terms of facilitating complex thinking. Reading the articles after the case study allowed students to assess the theoretical arguments based on their own knowledge of one particular case, which they continuously referred back to. The three theoretical interpretations also proved sufficiently challenging that students took some time in evaluating them against each other and reaching their own conclusion about the extent to which they agreed and disagreed with each. The students' own response to this sequence of conflicting readings was somewhat mixed, a point we discussed at the end of the semester when I reviewed the reading list with them in order to seek their suggestions on which readings to keep. Most of them had found the differing theoretical interpretations to be among the most important readings of the semester. However, a minority of students were left with the impression that this reading sequence had been "confusing" (even though these same students had, in my view, developed their thinking based on these readings). This mixed student response alerted me to the importance of including more explanation in future classes of why we read texts that conflict with each other and how experts approach this type of "conflict" productively without becoming overwhelmed or paralyzed by confusion.

Another source of inspiration for me was the work of Sam Wineburg (2001), who has argued for the importance of incorporating the discipline's primary source material—the type of material that experts work with—in the classroom. In history classes, for example, he suggests we should allow undergraduates to grapple with the difficulties of interpreting archival sources that necessarily frame selected events in certain ways and leave out other events. In my class I chose to incorporate selections of primary sources—in this case, excerpts from nineteenth-century missionary letters (translated into English)—in the second unit. The letters were among those I had worked with in my own research, and so the students had already been introduced to the context of these texts. We read these sources in class alongside the theoretical material. During this unit we also read an overview of African traditional religions that, while being a secondary source, incorporated descriptions of myths and rituals that differed considerably from missionary references. In the third unit, I tried an approach that, in my

view, did not work as effectively in linking reading to complex thinking, though again, student feedback differed somewhat from my own assessment. I asked each student to choose a different chapter-length historical overview of the development of a Christian tradition in Africa (such as the historical evolution of a particular Protestant or Catholic mission-based church, or the history of an independent African church). I then asked each student to present their reading in class. The students completed the task itself well, summarizing the content of their chapter proficiently and presenting it clearly. However, this took away from the time we would usually have spent on in-class exercises based on the readings, and, from my perspective, they did not reach the same levels of complex thinking in this unit as in the others. In our end-of-semester review, the students themselves did not register a difference in their cognitive work in this unit. They did, however, flag that they had not found it as satisfactory to be the only person working through a reading, thus not having the chance to discuss it in class as they had been used to in the first two units. In hindsight, I also wondered whether some of the historical overviews I had chosen were not as well written, as well as whether some of them were too long to be used productively as a reading assignment. While I would acknowledge that there are some benefits to assigning long readings (such as giving students practice in strategic prioritization, a useful skill in any career), my own tendency is to err on the side of readings that can realistically be completed before each class period (bearing in mind that students require more time than experts to complete a reading), so as to provide a more reliable basis for collaborative in-class exercises.

In the fourth and final unit we did the "book project." As mentioned above, in this unit the students each chose a book to read on Christianity in Africa, choosing from a list that contained a range of genres (e.g., ethnographies, novels, biographies, collections of academic essays). In this unit the readings were in fact longer, as I asked students to read through their book in two weeks, and in class we discussed the mature reading skills of scanning, skimming, and skipping (drawing on Gamel, 2015, p. 53-54). Roughly half the students read books that others were also reading. The students who had selected books that nobody else read suggested that they had missed the opportunity to read it together with someone, and in the future, I plan to organize the unit so that at least two students read the same book.

Accountability: Reading Logs

For each reading the students completed an individual reading log at home. In considering the format for structuring the students' reading process, I chose not to use the popular 3R format—read, recite, review—that is primarily focused on retrieval (e.g.

McDaniel, Howard, & Einstein, 2009; sometimes it is expanded to SQ3R: survey, question, read, recite, review). I considered adapting Manarin's (2012) reflective log, for which she asked students to write a paragraph once a week in class describing how they read one reading that week, and reflecting on the specific reading strategies they chose (such as predicting, monitoring, questioning, creating mental images, inferring, summarizing, or evaluating). I also considered a format, centered on social engagement, which asks students to write one paragraph about the reading that answers the three questions: "What (is the reading about)? So what (does it mean)? Now what (are you going to do with this information)?" (Manarin et al., 2015, p. 23); though Manarin et al. observe that one drawback of this format is that it does not ask students to make connections (pp. 53-54).

In the end I chose a humanities-oriented format that I thought might scaffold a back-and-forth interaction between the student reader, the text, other texts, and other student readers in the class. I called it an ICE QQ reading log. This is a loose adaptation of the ICE format—ideas, connections, extension (Young & Wilson, 2000)—though I replaced "extension" with "experience" as a more easily accessible term to undergraduate students. I asked students in their logs to note down three ideas from the reading, one connection to something in or outside the course, one experience (either their own or one that is evident in the text), one quote that they found striking, disturbing, important, or similar, and one question (see Figure 1; cf. Hovland 2019a).

Students frequently used the reading logs to develop their thinking. For example, in one of the readings for my Christianity and Colonialism seminar, in which we covered some of the early British colonial claims to land in Southern Africa, one of the students noted in her reading log a connection to what she had previously learned about the Spanish conquest of Latin America, which was also tied to the establishment of missions. Under "experience" she noted, "Native Americans experienced their land being taken away." Another student wrote under experience, "The idea of land and its ties to race still resonate. Society asks itself, who is truly allowed to live where?" Yet another wrote, "If I experienced colonialism, I would be in shock." They are beginning to move away here from viewing the reading as a collection of discrete pieces of information and instead are beginning to place the reading into a connected web of knowledge, whether that knowledge concerns similar processes in other historical periods, a resonance with contemporary issues, or the personal knowledge of what it feels like to have something of yours taken away and how you might respond.

Student responses to the reading logs have been positive on pragmatic grounds. As one student in the Christianity and Colonialism seminar noted at the end of the semester, when I asked them to choose which learning activity had helped them the most: "The reading logs helped me stay on track with my readings and forced me to pay attention to what I was learning." Another wrote, "The reason that the reading logs helped me so much is they forced me to think deeper about what I was reading in order to make a connection to things I had read as opposed to just writing down things that seemed important." Students have generally had the same favorable and practically-oriented response across my classes. No doubt the action itself—the tactile element of holding a pencil in hand and jotting down notes while reading—is helpful to some. More importantly, I think students—like all of us—would like to feel that they are working toward competency, and the logs give them a concrete path to do so in otherwise unfamiliar terrain. While scholars may take for granted the need to consider ideas, connections, experiences, quotes, and questions while reading, most students in my classes would not be able to come up with these prompts on their own since they do not have any obvious means of assessing whether this is the way experts read in the academic study of religion.

During the first ten minutes of each class period, the students then shared points from their reading logs with each other in their small groups (in my seminar, in pairs or threes, and in my larger classes, in groups of four or five). I asked them to note down points raised by their peers during this time in a section at the bottom of their own reading log form (see Figure. 1). Again, this is to strengthen the sense that the interaction between themselves and other readers can enhance their own reading. I circulated among the students during this time to listen to their conversations, but for the most part the students were in the "privacy" of their own groups and could use this time to ask questions and voice thoughts that they might not feel free to do in the class as a whole (or even with me).

Working with the Readings: Seven Types of In-Class Exercises

After students had talked about their reading logs at the start of class, I usually planned two in-class exercises lasting roughly twenty minutes each. These are adaptations of various active learning exercises, and needless to say a great many more exercises can be found and adapted depending on the instructor's preferences (e.g., Angelo & Cross, 1993; Barkley, 2009; Gamel, 2015; Graff & Birkenstein, 2014). In this section I will discuss the seven types of exercises I used most often in the Christianity and Colonialism seminar, beginning with those oriented more toward description, continuing on to those oriented more toward analysis, and ending with exercises oriented toward

Figure 1
Reading log.

READING LOG   Author, pages: _____   Topic: _____

Three important and/or interesting <u>IDEAS</u> in the reading (write them out, or use summary keywords, or draw them, etc.):	A <u>CONNECTION</u> to the reading (connecting to something else in the class, in another class, in your life, in the world, etc.):
	*
*	An <u>EXPERIENCE</u> related to the reading (your own experience, or someone you know, or the experience of the people in the reading):
*	*
	A <u>QUOTE</u> from the reading (that you like, or dislike, or don't understand, or agree with, or find striking, or strange, etc. – just write the page number and first words):
*	*
	A <u>QUESTION</u> related to the reading:
	*

IN CLASS - Important and/or interesting points raised by others:

*

metacognitive awareness of this process. The first, third, and fourth exercises (concept maps on the board, student-made illustrations, and close reading) were the ones that students most often explicitly told me that they found helpful. Again, it is useful to explain early and regularly to students what the reasoning is behind these kinds of active learning exercises (cf. Smith, 2008).

Concept Maps

A first type of exercise is a simple version of a concept map. I write one of our key concepts for the day in the middle of the board. I then ask each student (or, in larger classes, each small group) to think about one interesting or important thing from the reading they would like to say about the key concept, and I give them a minute to share ideas in their groups or, alternatively, to write individually for a minute. Then, as each student (or each small group) shares their point, I write it on the board around the key concept, using their own wording as much as possible. I draw connections such as lines or arrows between different points when relevant. For example, for one class period in the Christianity and Colonialism seminar we

had read an article which argued that missionaries contributed to changes in some of the most basic categories of African life, including what it meant to be a person. We had also read some excerpts from missionary letters that touched on what the missionary author thought it meant to be a Christian. In the middle of the board, I wrote the key concept "Christian personhood." The students shared a range of points from the readings they had found interesting or important, from "sitting like a European" through "steadfast" and "outcast" to "all or nothing." Usually, I would write their points on the board, but as a variation this time I asked the students to come up to the board and write down their points themselves around the key concept. We then had a visible map of the readings on the board. Many students find that this visual representation makes the reading seem more clear in their mind.

From my perspective as an instructor the visible concept map also provides a springboard for deeper analysis. Once we see the concept map on the board, we can take a minute to consider it as a whole and to formulate further questions. For the concept map about Christian personhood, for example, at the end of the exercise one student realized that the point she had written on the board actually contradicted a quote from one of the missionary letters, causing us all to look at the letter again. We were also able to consider to what extent the range of points from the colonial period differed from current understandings of Christian personhood. These types of observations and questions fed into later analytical thinking in the class about historical sources and historical contexts.

Muddiest Point (Extended)

The second type of exercise is an adaptation of what is sometimes called "the muddiest point" exercise. In my adaptation, I ask students to work in their small groups to decide which is the most important paragraph (or point) in the reading, and which is the most confusing paragraph (or point), and why. I ask them to note down the first words of the paragraphs in their workbooks, along with some keywords from each paragraph, and some of the group's thoughts about each. I then ask each group to turn to their neighbor group and explain why they chose each paragraph and to see if their neighbor group can provide a satisfactory explanation of the confusing paragraph. I ask them to note down their neighbor group's thoughts about the confusing paragraph in their own workbooks. If, at the end of this exercise, there are confusing passages that have not been cleared up, we address them in the class as a whole.

For example, following a reading on some of the first Zulus who decided to convert to Christianity at the

nineteenth-century mission stations, one student noted down during her small group work that the most important point in the reading was related to the missionaries' sense that they were getting their "job" done. The most confusing point, she noted, was how to "figure out the sincerity," or, in other words, the European missionaries' sense that they found it difficult to judge whether Africans were thinking, feeling, and believing the same things as them. She wrote at the top of the page: "pietistic perspective." Meanwhile, a student in another group noted down that the most important paragraph was one that discussed how the African converts, from their own perspective, might have framed their move to the mission stations as a "shift in spiritual allegiance." The most confusing point raised by the reading, she noted, was the question of why it took so long before Africans converted to Christianity. One of the keywords she noted down was "Zulu culture." While the first group sought to understand the missionaries' perspective, the second group was drawn to trying to understand the Africans' perspective, thus opening up for a productive conversation afterwards about the concept of "conversion" in the reading and what it might have meant for different actors involved in this historical context. We see here how the exercise, while primarily focused on understanding the reading (and producing descriptive thinking), provides a basis for approaching analytical thinking.

Illustrate-a-Concept

A third type of exercise I use involves different forms of two- or three-dimensional illustrations of key concepts from the reading. To begin, I provide students with a key concept from the reading or ask them to select a key concept from the reading in their small groups. In one version of the exercise, I then ask students to draw a diagram of the concept in their workbook. For example, after a reading on indigenous religious practices in Africa, I asked students to draw a diagram of the key concept "African traditional religions" in their workbook, resulting in a range of different representations, which students then shared with each other. In another version of the exercise, I ask students to work together in their group to "build" the key concept using pipe cleaners or Legos (I hand out bags with some pipe cleaners or Legos to each group). A few students find this activity unnecessarily childish, and I have found it helpful to explain that some people, like me, think better when we work with our hands. I ask them to bear with us, sit back and focus on thinking, and leave the actual building to those of their peers whose eyes have already lit up at the sight of the legos. Other students enjoy it greatly and select it as the best learning activity of the semester.

In one such exercise in my Christianity and Colonialism seminar, I asked each small group to select their own key concept based on a series of readings and then to build it. One small group sought to represent the mission station. They built a house with a wide pipe cleaner arc running over it to indicate how its influence spread far beyond the physical site of the buildings. Another small group built a pipe cleaner person who was trying to reach for a golden star with an object weighing down their foot, thus representing how the missionaries were unsuccessfully trying to reach for some sense of control on the stations. A third group took one gold and one black pipe cleaner and wound them tightly around each other, indicating that the missionaries on the stations were not able to separate Christianity from European culture. As students were discussing and building these visual representations, they were simultaneously working out some of the central lines of thought in the readings. Similar to the muddiest point exercise, this activity too is mainly oriented toward descriptive thinking, but it introduces analytical concerns and forms a basis for later analysis.

Close Reading

A fourth type of exercise emphasizes a classic humanities methodology, namely close reading. Carolyn Medine (2016) has provided a rich description of how this exercise can draw out deeper student thinking about literary texts. She also describes how she sometimes does the same exercise twice, providing a layered understanding of the same text over time. In my classes, I reproduce a few excerpted paragraphs from the reading for that day or some excerpts from a primary source. I then briefly explain a few simple annotation marks the students might use, such as circling key words, drawing arrows between similar thematic terms, drawing question marks and exclamation points in the margin, or jotting down questions or quick comments. I also explain the reason for doing annotation in my class, namely that it focuses our attention on the surface of the text in order to get beneath it. I ask them to read silently through the excerpt and annotate it. This introduces silence into the classroom, offering a different mode of working. Once the majority of students are done, I ask them to explain whatever annotations they have so far to each other in their small groups. I then ask each group to decide on one or two key concepts that, in their view, capture an important underlying concern or pattern in the events described by the text. Each group tells the class which key concept(s) they chose and why.

For example, during one class period in the Christianity and Colonialism seminar I gave the students excerpts from some nineteenth-century missionary letters and asked them to annotate them. A theme 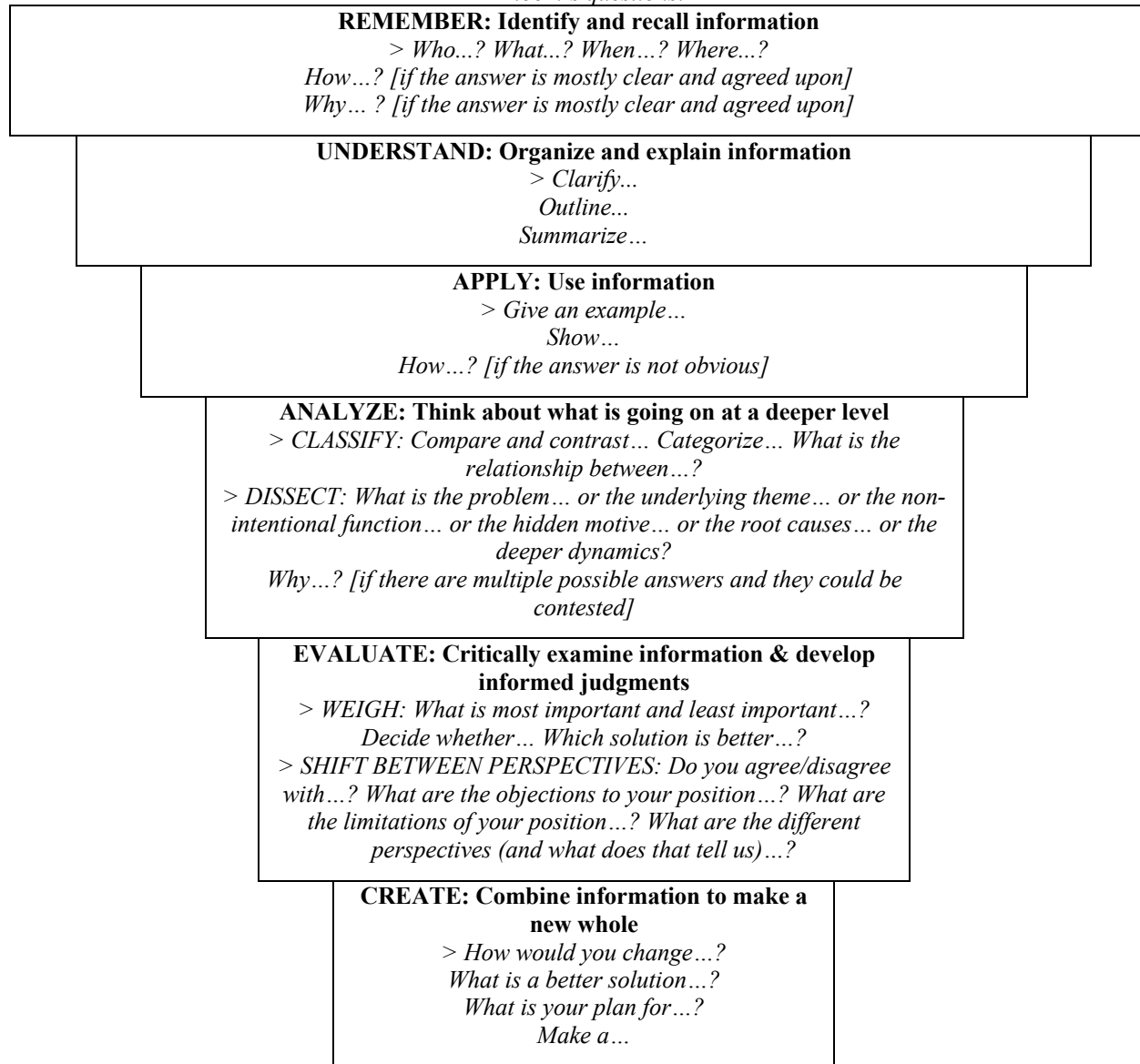in one of the letters was the missionary author's description of the "spiritual dryness" of Southern Africa and his own resulting "dryness." One student noted in the margin, "In order to pour out you must be full," and another jotted down, "Lars [the missionary] is struggling as well." While they had previously raised several critical points in relation to the missionaries' practices, this close reading of one of the missionaries' own words provided a moment of trying to understand this missionary himself and his layered motives, as well as how these impacted the situation.

Bloom's Questions

A fifth type of exercise is one I have called "Bloom's Questions." It involves formulating both descriptive and analytical questions about the reading using the revised Bloom's taxonomy. I make sure to include this exercise during the first few weeks of class in order to begin explaining what I mean by "description" and "analysis" (and to clarify that "analysis" may differ across different classes). I print the revised Bloom's taxonomy in the students' workbook with examples of question prompts at each level (see Figure 2). I ask the students to work in groups to construct six questions about the reading—one at each level of Bloom's taxonomy—and then to answer their own questions. I also explain that in my class the first two levels of Bloom's ("remember" and "understand") are considered descriptive, the third level ("apply") is the turning point between descriptive and analytical, and the last three ("analyze," "evaluate," and "create") are considered analytical. In other words, in humanities classes, descriptive questions are concerned with presenting or synthesizing evidence from the reading, and have reasonably clear and agreed upon answers, while analytical questions are concerned with picking apart the evidence in the reading and assembling it into a pattern that the student has to argue makes sense amidst multiple possible patterns. At the end of the exercise I ask each group to share one descriptive question and one analytical question about the reading.

Students are sometimes not as fond of this exercise, partly, I think, because the distinction between descriptive and analytical thinking is still opaque to many of them at the beginning of my class. If I comment that one of their analytical questions seems to me to be more descriptive, it may take some time and work before they understand what I mean. As Chick (2009, p. 44) observes, an instructor's expert commentary may sometimes seem like "hocus-pocus" to students. At the same time, many students find the Bloom's taxonomy question prompts helpful as a first step toward trying to emulate expert thinking about the reading, and some students get into the habit of referring to the Bloom's diagram quite frequently throughout the semester. From an instructor

Figure 2
Bloom's questions.

REMEMBER: Identify and recall information
> Who...? What...? When…? Where...?
How…? [if the answer is mostly clear and agreed upon]
Why… ? [if the answer is mostly clear and agreed upon]

UNDERSTAND: Organize and explain information
> Clarify...
Outline...
Summarize…

APPLY: Use information
> Give an example…
Show…
How…? [if the answer is not obvious]

ANALYZE: Think about what is going on at a deeper level
> CLASSIFY: Compare and contrast… Categorize… What is the relationship between…?
> DISSECT: What is the problem… or the underlying theme… or the non-intentional function… or the hidden motive… or the root causes… or the deeper dynamics?
Why…? [if there are multiple possible answers and they could be contested]

EVALUATE: Critically examine information & develop informed judgments
> WEIGH: What is most important and least important…?
Decide whether… Which solution is better…?
> SHIFT BETWEEN PERSPECTIVES: Do you agree/disagree with…? What are the objections to your position…? What are the limitations of your position…? What are the different perspectives (and what does that tell us)…?

CREATE: Combine information to make a new whole
> How would you change…?
What is a better solution…?
What is your plan for…?
Make a…

perspective, it is clear to me that with some practice the students do formulate questions that are substantively different at the "descriptive" and "analytical" levels. For example, in my seminar we did this exercise several times. One of these times was after a reading addressing the broader political impact of Western missionaries in colonial Africa. One small group began with the descriptive question, "Who were the chiefs?" and ended with the analytical questions, "What led to missionaries having greater superiority [than chiefs]?," and, "Can you be loyal to the chief and missionaries?" Another small group similarly began with the descriptive question: "What is a chief?" and worked their way down to the analytical questions: "What is the relationship between the missionaries and the chiefs, and how did this affect the African people? If you could change the nature of that relationship, how would you?"

Integration: 4 Statements, Lesson Plan, and Reflection on Learning

A sixth type of exercise involves integrating learning across several readings. I use these exercises at the end of each unit. In one integrative exercise, "4 statements," I ask students to work in groups to come up with four statements about the material in that unit.

As students work together to reconcile the points they consider important, they sometimes attempt to summarize across the readings, e.g., "There is a spectrum of African responses to Christianity." At other times they try to assess what was most important, e.g. "Land was an important factor to increase the sphere of influence of the mission station." Or, in further cases, their conversation results in a type of abstraction that might provide some basis for further analysis, e.g., "Colonialism is a very hard topic to define."

For the exercise that I have called "lesson plan," I ask students to imagine that they have been tasked with teaching the material from that unit to someone else (they can choose whom), but they have only been given two hours. They work in groups to come up with a name for their lesson, a list of three points that they choose to prioritize, and suggestions for learning activities they might use to teach these three points.

In yet another integrative exercise I ask students to work in silence for five minutes as they write answers to the following questions: "What is the most important thing you have learned in this unit, and why?," and, "Which learning activity helped you learn the most, and what is your one-word learning plan for the next unit?" I then ask them to share their answers with the person next to them. This gives students the chance to pull together and articulate a line of thought that has been important to them. For example, one student wrote, "I think discussing Western culture's influence [on colonialism] is important because it's such a tough call to see if it could have been avoided." Another noted, "The idea of a spectrum of responses in general because I think it says a lot about human nature and how differing worldviews and upbringings lead to very different responses." Some students like this opportunity to pause, reflect, and pull together the unit coherently in their minds.

Reading Interviews

Finally, a seventh type of exercise I use are "reading interviews": exercises that aim to facilitate metacognitive reflection around student reading practices. In one of these exercises in my Christianity and Colonialism seminar, I asked students to jot down for themselves the first word or phrase they thought of when they heard the term "reading" and then to compare with the person next to them. In another, students asked the person next to them: "How has your reading changed from middle and high school to college?" This gave rise to a productive conversation about which aspects of reading they felt they had improved in (such as greater ability to assess and compare readings), as well as how they still struggled with some texts (such as dense academic arguments). Following on from this last point, I asked the whole

group, "What is most challenging about college reading?" The first student to respond said emphatically, "Time!," which led us on to a useful discussion about scanning and skimming, whether and how they use these mature reading skills, and how they use different reading skills for different classes.

Conclusion

In conclusion, let me return to some of the questions that I started out with and were inspired by the literature on signature pedagogies: How can I teach students to do what I do? How can I make reading practices in my discipline more transparent to students? How can they develop the habits of mind necessary to link this particular way of reading to a particular way of disciplinary thinking? In fact, how can students be held accountable for doing the reading in the first place?

In my class, the combination of pre-class reading logs together with in-class exercises centered on quizzable key concepts (which presuppose that students have done the reading), seemed to effectively address the issue of the students doing the reading. Moreover, even if reading itself is still an "invisible" skill, some practices around reading became more visible in my class. The reading logs made visible some ways to read—such as looking for ideas, connections, experiences, quotes, and questions—and then attending to other people's readings of the same text. In class, we mapped out visual representations of the readings on the board. Student responses to readings were part of the classroom space, whether in small group discussions, whole class conversations, or in the various representations—diagrams, legos, posters— that they created. I tried to make visible the reasoning behind the exercises we did (though I still need to incorporate more explanations). I sought to make visible one way of thinking about the mysterious term "analysis" through a visual representation of Bloom's diagram. The SoTL project has also helped me to bring student voices and student knowledge into the classroom space more effectively than I was doing previously, including to some extent making students' own thinking about their reading practices explicit (though this too is a point that I wish to incorporate more in future classes).

A final question concerns whether or not the students in this seminar actually improved in their reading skills and to what extent this helped them to move toward the overarching goal of complex thinking. As mentioned in the introduction, in this instructional article I have focused on the teaching side of the equation, though in my SoTL project it was critical to also include the learning side. In brief, my conclusion at the end of the semester was that the sheer impact of sustained and engaged reading over

four months made many students address the material and place it in relation to their own knowledge in ways that began to approach aspects of complex thought. For a full discussion of how some students developed over the course of the semester in the seminar, and the implications for how we can introduce novice thinkers to expert modes of thought, see Hovland (2019b).

Having now unpacked how I sought to bring reading into my classroom—and how this is intertwined with my discipline, my research, and my class topic—I am aware that it will, and must, look different in other classrooms. However, what I hope instructors from across all disciplines might take away from this discussion is the perspective of seeing reading as a productive classroom "problem" (Bass, 1999), in other words a problem that it is possible to work on.

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Developing an Effective Interactive Online Educational Leadership Supervision Course

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Increasing numbers of university students seek to take coursework in an online format. However, it is a challenge to successfully translate a highly interactive face-to-face course, such as educational supervision in the educational leadership preparation program, to the online format. Course objectives require candidates to demonstrate effective interpersonal supervisory skills and behaviors. This article describes the frameworks for designing effective online coursework and how they were applied to develop the supervision course to enable candidates to meet the course goals. Specific types of active engagement strategies, assignments, and technology used are described. The aim of the article is to provide a case study that is detailed and specific to inform others faced with the same challenge of teaching highly interactive, interpersonal behaviors and skills in online courses.

Introduction

Background

Higher education online course enrollment data indicate that every year (since 2002) more students take online courses (Allen & Seaman, 2014). In 2014, 7.1 million students (33.5%) took at least one course in an online format. The reasons students report taking online courses vary, and they include scheduling and transportation convenience, accommodation of the needs of working professionals (Jackson & Kelly, 2002; Sampson, Leonard, Ballenger, & Coleman, 2010); greater independence and control over learning (Merriam, 2001), and lack of bias (Belcher, 1999; Sullivan, 2002). As more and more students take courses online, institutions of higher education are compelled to offer online courses to compete for student enrollment (Sampson, Leonard, Ballendger, & Coleman, 2010).

Graduate programs in Educational Leadership advance the knowledge and skills of experienced educators through degree and certification programs that prepare them to be effective leaders for educational organizations. These programs are targeted to teachers who are currently full-time working professionals in educational settings and who have very busy schedules with many responsibilities competing for their time. It can be a challenge for candidates to find time to attend classes to complete these programs, even when the advanced degrees will enhance their career opportunities. Universities that take these challenges into consideration when designing program offerings are increasingly attractive.

Historically, the University graduate Educational Leadership Preparation program described here was offered only in a face-to-face format, thus limiting the potential candidates to those professionals in local proximity to the University area who have the time and

transportation to come to campus for classes. Although the program included night and weekend scheduling options, the College of Education decided to offer an alternative option in which students could complete the program fully online. It could potentially better accommodate various schedules and provide program access for professionals across the state and the nation.

In addition to building students' knowledge about various aspects of educational leadership, a number of the courses in the program are focused on developing effective interpersonal leadership behaviors and skills. The challenge was to figure out how to translate these highly interactive face-to-face courses into an online format. It was important to ensure the same course content and key assignments across offerings because the specific course of study and content was officially approved for meeting the state requirements for a leadership master's degree, as well as for the College of Education accreditation requirement.

One of the required skill sets of an educational leader is the ability to provide guidance and support to help teachers continually improve their instructional practices and increase student achievement. This includes the leader observing classroom lessons, collecting observation data, facilitating teacher reflection on instructional practices, and providing feedback, thus essentially coaching teachers professionally to reach their full potential. It also involves providing ongoing school-wide and individualized professional development to respond to teachers' needs and to build teacher leaders. In order to successfully perform these functions, the school leader must create a climate of collaboration and build trust (Glickman, Gordon, & Ross-Gordon, 2001; Jean-Marie & Normore, 2010). In the program at the University, these skills are addressed in the Principles and Practices of Educational Supervision course. The concern with an online offering was how to address and develop the affective, behavioral, and interpersonal skills required

when supervising and coaching other professionals as outlined in the course objectives, which align directly to the National Professional Standards for Educational Leaders (PSEL) and the Florida Principal Leadership Standards (FPLS) (Pries, Grogan, Sherman, & Beaty, 2007; Sherman & Beaty, 2007; Sherman, Crum, Beaty, & Myran, 2010; Zhao, Lei, Yan, Lai, & Tan, 2005).

This article describes the development and implementation of the online version of the supervision course. The rationale for the instructional design is explained along with each interactive aspect of the course, the technology used to implement the learning activities and assignments, and the student outcomes. It provides the level of detail needed for other university instructors facing the same challenge: to successfully develop an online course that requires students to demonstrate specific interpersonal skills and behaviors.

Online Course Instructional Design Considerations

The effectiveness of online coursework (in terms of student learning) has been widely studied with mixed results (Boling, Hough, Krinsky, Saleem, & Stevens, 2012; Means, Toyama, Murphy, Bakia, & Jones, 2009; Sampson et al., 2010). These findings could be expected because course design and content vary tremendously across courses and institutions. A more meaningful line of inquiry is focused on identifying the characteristics of effective online instruction/courses. There are a number of different theories or frames of reference for what constitutes effective online instruction that guided the development of the supervision course.

Quality Matters (QM) is a widely used framework for designing and assessing the quality of instructional design in online courses (QM, 2005). QM's research-based rubric consists of standards focused on design principles that are essential to and/or promote learner success in an online or blended (a combination of face-to-face meetings and online content) learning environment. The standards of the quality assessment rubric focus on various key aspects including the following: the course overview and introduction; alignment of learning objectives, activities, and assessments; active student engagement; learner support; and accessibility. This rubric can be used as a holistic framework for online course design. A course can also be submitted to the QM peer review process to receive certification as a high-quality course based on the application of the rubric to the course by the review team. QM as an organization openly acknowledges, however, that the QM framework does not address the quality of the instructional content or course delivery, but primarily assesses instructional design (Swan, Matthews, Bogle, Boles, & Day, 2012). It should be noted that, in accordance with the online course design process at the

University, this course was designed using the QM rubric and was subsequently certified through the QM peer review process in the summer of 2017.

A second widely applied theory related to effective online instruction is the Community of Inquiry (CoI) approach which defines three aspects that must be present for a successful online experience: instructor presence, cognitive presence, and social presence (Garrison, Cleveland, Innes, & Fung, 2010). According to Rubin and Fernandes (2013), "online classes are more successful in supporting deep learning when they are characterized by a community of inquiry" (p. 125). Instructor presence refers to the degree to which the students perceive the instructor to be actively engaged and responsive to student needs (Swan et al., 2012). Content presence refers to the engagement students have with the content of the course through thoughtfully designed learning activities. Finally, social presence refers to the degree to which students perceive they are part of a real community of learners and are engaged in a collaborative learning process. These three aspects of CoI have been researched in numerous studies (Richardson, Swan, Lowenthal, & Ice, 2016; Shea et al., 2012; Swan, 2004; Swan & Ice, 2010), and an assessment, the CoI Instrument, was developed specifically to measure the degree to which these presences exist and interact in a course (Meyer, 2014). Of the three types of presence, research indicates instructor presence is the most important (Boston et al., 2010).

A similar approach is described by Moore (1989) who categorized, and explained the importance of, three types of interactions in online instruction: student to student, student to instructor, and student to content. Each of these types of course interactions are addressed in the Quality Matters rubric. Like CoI, Moore identified the student to instructor engagement as most critical to a successful online experience.

Other instructional aspects described as contributing to effective online learning are project-based learning (PBL) and student reflection on the learning experience. PBL is described as using real-world problems as the basis of instruction, such as in case studies, and is consistent with adult learning theory which indicates that learners are more engaged when they are able to see the practical connections between instructional content and their own life experiences. Similarly, reflection on learning helps students consciously think about how the content is meaningful to them in their specific settings and circumstances.

Finally, the nature of the knowledge and skills identified in the course goals has been described as a factor in the design of online learning. When the course objectives are primarily focused on acquiring new knowledge, certain instructional activities and strategies may be more effective (Arbaugh, Bangert, & Cleveland-Innes, 2010). However,

when the objectives include gaining new affective, behavioral, or interpersonal skills, then other types of instructional activities and strategies need to be incorporated. For example, if the objectives of the course include learning the principles of education budget, finance, and accounting, instructional activities may focus on acquiring knowledge and applying the specific principles. On the other hand, if the course objectives include demonstrating the use of effective affective/interpersonal skills such as facilitating group meetings, counseling individuals, or providing observation feedback, the instructional strategies and activities need to be designed differently to ensure the leadership behaviors and skills can be demonstrated. (Ascough, 2002; Cicco, 2012; Hockridge, 2013; Trepal, Haberstroh, Duffey, & Evans, 2007).

All of these approaches to develop effective online courses were relevant when considering how to design the learning activities and assignments for the online Educational Leadership Supervision course. Working with the University Online Learning and Instructional Technology Support staff, a number of specific technology tools and design strategies were employed to create a highly interactive course to addresses candidates' adult learning needs as described in each of the previously mentioned frameworks.

Overview of the "Principles and Practices of Educational Supervision" Course

Effective teachers are the most important determinant of student learning and academic achievement (Rowe, 2003). Few teachers start their careers as master teachers and professional growth is key to improving their instructional skills. The educational leader in an organization is responsible for ensuring the highest quality teachers possible for every classroom and each student. As part of preparing individuals to be effective education leaders, understanding and applying best practices of teacher supervision, as well as providing opportunities for teachers' professional development and growth, are critical. At the University, one course, Principles and Practices of Educational Supervision, is devoted to teaching educational supervision. It focuses on developing the knowledge, interpersonal skills, and behaviors of effective educational supervisors who maintain an orientation to teacher growth and reflection, as well as practicing the clinical observation cycle components (Glickman et al., 2001). While technical aspects of recruiting, evaluating, and retaining effective teachers are addressed in the course, the primary approach is one of the supervisor as a facilitator of teacher reflection and professional growth.

Specific course objectives for student mastery, as well as the Florida Principal Leadership Standards (FPLS) to which they are aligned, are included in Table 1 (Hartman, 2017, pp. 1-2).

The planned instructional activities of the supervision course are consistent with adult learning theory that emphasizes the importance of engaging actively with learning content that is highly relevant to current problems of practice, providing opportunities to apply learning in real-life settings, and supporting professional collaboration with peers (Darling-Hammond & Richardson, 2009). For example, candidates observe teachers conducting instructional lessons in core content areas, collect observation data regarding teacher/student behaviors, and then role-play the pre and post observation conferences with a partner (one candidate being the teacher and the other being the supervisor). Candidates not only develop knowledge about effective supervision practices, they also develop interpersonal skills for facilitating teachers' professional reflection and improvement through interaction in mock conferences. Candidates write a clinical observation report with completed data collection tools and artifacts for each of six lessons observed.

Then, in a direct real-life application, leadership candidates conduct an actual observation of a teacher in their schools, preferably accompanied by their own school leader. Specific partner and small-group discussions and activities/assignments in class encourage active engagement with the content and collaboration with peer professionals. Candidates use a specific supervisory practices inventory to assess both their own skills and the supervisory practices occurring in their schools. Finally, candidates also develop a professional development plan to address both school-wide and individual teachers' professional growth needs related to improving instructional practices and student achievement. Given that most candidates have experienced more evaluative supervision than the growth-oriented supervision approach in this course, helping them to move beyond their own evaluation experiences and develop more supportive supervisory behaviors often takes considerable instructor feedback and discussion/reflection in class. The challenge was to translate this highly interactive face-to-face course which is designed to enable candidates to acquire and apply behaviors and interpersonal skills of an effective educational leader, to the all online format.

Applying the Instructional Design Considerations to the Online Course

Course Introduction

In the face-to-face course, a portion of the first class meeting is spent on getting to know each other individually and reviewing course topics, structure, and policies. To provide an equivalent experience to candidates in the online environment, a variety of materials and activities are used. Upon logging into the

Table 1
Course Objectives and Related Florida Principal Leadership Standards (FPLS)

Course Objective	Related FPLS
Demonstrates understanding of the use of motivational theory to create conditions that motivate staff, students and families to achieve the school's vision *(e.g. facilitate collegiality and teamwork, arrange significant work, encourage challenging standards, provide autonomy, support innovation, delegate responsibility, develop leadership in others, provide leadership opportunities, recognize and reward effective performance, provide knowledge of results, provide coaching and mentoring, gain resources, serve as a role model)*	FPLS 6**:** Decision Making; FPLS 8: School Management
Frames, analyzes, and resolves problems using appropriate problem solving techniques and decision making skills *(e.g. identify problem, seek and analyze problem factors, collect and organize relevant information, identify causes, seek creative solutions, apply ethical standards, determine best solution with others when appropriate)*	FPLS 2: Student Learning as a Priority; FPLS 4: Faculty Development; FPLS 7: Leadership Development
Works to create with teachers, parents and students a positive school culture that promotes learning; *(e.g. holds high expectations, focuses on accomplishments and recognition, and promotes a supportive climate)*	FPLS 1: Instructional Plan Implementation; FPLS 2: Student Learning as a Priority; FPLS 8: School Management; FPLS 9: Communication
Demonstrates the ability to employ collaborative strategies that enhance a learning organization that supports instructional improvement, builds an appropriate curriculum, and incorporates best practices	FPLS 1: Instructional Plan Implementation; FPLS 2: Student Learning as a Priority; FPLS 3: Instructional Plan Implementation
Demonstrates the ability to utilize a variety of supervisory models to improve teaching and learning *(e.g. clinical, developmental, cognitive and peer coaching, as well as applying observation and conferencing skills)*	FPLS 1: Instructional Plan Implementation; FPLS 3: Instructional Plan Implementation; FPLS 6: Decision Making
Works with faculty and other stakeholders to identify needs for professional development, to organize, facilitate, and evaluate professional development programs, to integrate district and school priorities, to build faculty as resource, and to ensure that professional development activities focus on improving student outcomes	FPLS 1: Instructional Plan Implementation; FPLS 6: Decision Making
Applies adult learning strategies to professional development, focusing on authentic problems and tasks, and utilizing mentoring, coaching, conferencing and other techniques to ensure that new knowledge and skills are practiced in the workplace	FPLS 2: Student Learning as a Priority; FPLS 3: Instructional Plan Implementation; FPLS 6: Decision Making

course for the first time, online candidates are prompted to watch a video that introduces the professor. The candidates are then asked to introduce themselves in a discussion board assignment utilizing the "Discussions" feature of the learning manage system, Canvas. The discussion board function allows the instructor to create a prompt and students to create a post in response. Other students may respond directly to the prompt

and/or to posts. Within the introduction discussion, candidates create a post on the board to share several unique aspects about themselves, as well as basic information about where they teach. The student introduction discussion is intended to build social presence and provide an opportunity for student to student and student to instructor interaction.

The introductory video presents an overview of the course content outline, structure, and expectations. Candidates are provided access to the course syllabus and a comprehensive set of support materials that include an online learning orientation, academic resources, and technology support. The video and support materials are posted as files embedded on a content page within Canvas. This allows students to view the items on the screen or download them to their computers. Candidates then complete a short syllabus quiz which is intended to actively engage the students in the course content at the very beginning. The quiz utilizes both multiple-choice and short answer questions to emphasize important aspects of the course and its structure. Since the quiz grade is posted the day after it is due, candidates receive immediate feedback from the instructor about any points that were unclear to them. Together, these activities address many of the characteristics of effective courses outlined in the instructional design models that pertain to the introduction to the course such as building a community, instructor presence, and the characteristics outlined in the first general standard of the QM rubric.

Weekly Content Modules and Activities

The course content is organized into ten modules, one module for each week of the online course that mirrors the content layout of the face-to-face course. This is delivered using the "Modules" feature in Canvas. The Module allows the instructor to create segments of content including content pages, files, discussions, quizzes, assignments, websites, and external tools. These content items can be given specific dates for availability or made to appear sequentially when a student completes a prior module. Each module in this course contains learning objectives, assigned readings, and a narrated PowerPoint video of less than fifteen minutes to emphasize key aspects of the module. These include the video-lesson observations and data collection tool to be used, the actual lesson observation video, and any activities or assignments due during the week.

The module learning objectives communicate the learning goals and provide an overview of the module content. Listing learning objectives explicitly for students has been found to be important in helping students know what to focus on in a particular unit of study (Jiang & Elen, 2011). Within the online course,

the learning objectives are listed on the first page within the module and then again within the first portion of the lecture video. The module learning objectives target specific behaviors that, upon student mastery, contribute to the achievement of the course learning objectives. These objectives are supported by the assigned instructional materials and are assessed through the module activities.

The assigned readings for each module in the online course are the same as those used in the face-to-face course. They include both textbook chapters and supporting contemporary journal articles, as well as any additional instructional resources such as other multimedia. The materials are reinforced through their integration into the assignments that take the form of structured partner discussions regarding specific course content designed to provide further student to student and student to content engagement. The Canvas discussion tool is used to create a discussion board that is shared only between the two partners. Examples of these assignments include constructing a professional development plan, responding to conflict resolution scenarios, reflecting on the in-school lesson observation, and conferencing through discussion. In these structured discussions students post their initial submissions by a specific date and then post detailed feedback to their partners by a second specific date. This structure helps ensure both students actively participate in discussions.

Lesson Observations

Modules 3 through 8 contain lesson observation activities, and each observation uses a different tool or method for data collection. Each lesson observation activity provides video of a real teacher providing instruction to a class of students. This video is embedded within the activity page in Canvas. While watching these videos candidates collect data regarding specific aspects of the lesson, such as patterns of teacher-student interactions, positive/corrective teacher feedback, teacher use of open/closed ended questions, teacher use of higher-order questions, and teacher use of culturally relevant instructional practices (Glickman et al., 2001). Candidates upload their completed data collection tool as a document to the assignment submission location in Canvas. The objective of these activities is to provide candidates with practice using the observation data collection tools.

In the face-to-face course, selected candidates teach mock lessons while the rest of the candidates conduct the lesson observations and data collection. It provides a lesson example that the candidates can use to practice using the observation data collection tools. Then the class splits into partners to role-play the "observed teacher" and "supervisor" pre and post observations conferencing to practice specific

conferencing approaches and skills. The instructor moves from group to group to observe and provide feedback. One of the online course challenges was how to enable candidates to observe a teacher conducting a lesson in order to use the observation and data collection tools.

Because of student confidentiality and the time constraints for developing videos of teachers' lessons, recording a lesson within a school setting was not a valid option. YouTube and other public video repositories for videos of teachers delivering instruction were extensively searched, but videos appropriate for these supervisor observations were scarce. Either most of the videos available did not include full lessons, or the actual video was not suitable for collecting observation data (difficult to determine who was speaking or what he or she was saying), or they were offered as exemplary lessons. It was also important to provide candidates with the opportunity to observe authentic teaching situations including non-exemplary teaching practices in order to develop their skills in providing feedback and facilitation that would support teacher growth. A database containing videos of teachers delivering lessons in elementary and middle school settings was located using the internet. This database was created and is maintained by another institution of higher education. Each video presents the lesson from two camera views: one in which the camera is focused on the teacher and the other in which the camera is focused on the class. The audio track was recorded from two microphones, one primarily tuned in to the teacher "talk" and the other focused on student "talk." The viewer can adjust which audio track to listen most closely to, depending on the focus of the observation. Although this was a subscription-based option, the materials it provided were robust enough to justify university purchase. These videos have made it possible to conduct the lesson observations in the online class.

Effective Supervisory Conferencing and interviewing: Synchronous Sessions

In the online course design, another significant challenge was how to replicate the interactivity between candidates, particularly the pre and post conference role-plays along with instructor observation of small group work with feedback. There activities are most effectively implemented synchronously in the online course using a virtual classroom tool, Blackboard Collaborate (BBC). Blackboard Collaborate is a web-based meeting program that allows faculty and students to interact via the following features: video and audio chat, text chat, whiteboard sharing, desktop and application

sharing, file sharing, polling, and breakout rooms for the same interactions with a smaller group of people.

Each of the first five weeks has a BBC session scheduled at mid-week. This tool allows for synchronous audio/video and text chat, breakout rooms, and group work, as well as content sharing. The approximately forty-minute sessions serve several important purposes. First, they provide a virtual face-to-face meeting in which the instructor and the candidates interact. The instructor is able to provide timely comments about trends in candidates' work, positive feedback about general candidates' performances, and guidance on upcoming assignments.

In four of the BBC sessions, the candidates are also sent into virtual breakout rooms in which they are paired with another candidate, and they only see/hear the partner in their room. During this breakout time, candidates role-play the pre- and post-observation conferences for the video lesson in the module. They use the observation data they collect and employ specific supervisory behaviors to provide feedback and facilitate teacher reflection about the lesson and strategies for instructional improvement. The instructor is able to navigate virtually in and out of break-out rooms and listen to candidates' conversations, and candidates are notified when the instructor has entered their breakout room. Following the role-play conferencing, the instructor transfers all the candidates back into the main room and provides general feedback on the conferencing skills observed, as well as reinforces the development of supportive supervisory behaviors to promote teacher growth. This virtual small group work provides extensive, rich opportunities for student-to-student, instructor-to-student interactions, and the building of a community of learners.

Other examples of small group work include one module in which candidates are provided three school scenarios, each containing a different type of conflict (e.g., teacher-teacher, parent-teacher). Their assignment requires them to work in partners to develop conflict resolution strategies that a leader could employ to improve the situation. They use a collaborative tool to share documents via Google Drive. In the Google Docs feature of Google Drive, students can work together on a document, synchronously or asynchronously, from each of their own computers. This tool is hosted in the cloud, saves the work of all contributors in real time, and eliminates the need to email documents back and forth for editing. Candidates work within these documents to develop effective conflict resolution solutions to the scenarios and then submit their final product for grading and feedback.

The final BBC session in module 9 is a mock teacher interview in which the candidates, again in breakout rooms, ask questions they have specifically developed to elicit descriptions of interviewees'

behaviors in prior situations. This synchronous experience requires the candidates to apply learned knowledge of interview question development and to practice effective leadership interviewing skills.

Major Assignments and Assessments

After completing the lesson observations and collecting observation data, candidates write a summary report describing how they would structure the pre- and post-observation conferences using specific supervisory approaches and behaviors, how they would provide feedback to the teacher using the data collected, and how they would facilitate teacher reflection for professional growth. The report also concludes with a brief self-reflection on how the candidate's supervisory skills are developing. This is submitted through a Canvas assignment submission function. The instructor provides timely and specific guiding feedback through comments on the candidates' submissions to assist them in acquiring the supportive supervisory behaviors and approaches emphasized in the course. Using a tablet computer and stylus, the instructor can fluidly enter hand-written comments about various aspects of the observation and conferencing report directly on the report itself upon downloading the submission from Canvas. The comments are saved as a .pdf document and uploaded back into Canvas using the Speedgrader feature. The Speedgrader allows the student to be able to view the original submission, view the annotated version, view the grade, and dialogue with the instructor in comments via text, video, or audio. This enhances the instructor-student engagement.

Other major assignments for the course are conducted and submitted in the same manner for both the online and face-to-face courses. The three major assignments include the creation of a professional development plan to address a need at the candidates' schools, an observation of a teacher conducting a live lesson in the teacher's school setting, and an evaluation of supervisory practices demonstrated by school leaders within their schools. The deliverable for each of these assignments is collected electronically through Canvas and feedback is provided to the candidates through the feedback tools built into the learning management system, including the use of the tablet annotations feature.

At the conclusion of each module, candidates write a brief reflection regarding new course content learning, acquisition of new supervisory behaviors and insights, and any remaining unanswered questions. The instructor reads and responds individually to each reflection in a manner that conveys the instructor's understanding of the specific reflection. This interaction provides critical information about how candidates are learning course content and acquiring supervisory skills, and it frequently provides direction for the instructor to respond to candidates' needs in the

virtual classroom sessions offered through Blackboard Collaborate, the following week.

At the beginning of the course (Module 1) and at the end of the course (Module 10), candidates use a supervisory behaviors self-assessment survey which is administered using a quiz format (the survey function of Google Drive, called Google Forms, for this specific course) in order to reflect on their current understanding of effective supervisory practices and their ability to implement effective interpersonal supervisory behaviors (Glickman et al., 2001). In addition, the candidates are encouraged to use the inventory of behaviors as the basis for the assignment in which they evaluate and report on the supervisory skills and behaviors practiced by their school leader in their own school settings. This activity is designed to engage the candidates with the content in a self-reflective manner.

Additional Instructor Feedback and Engagement

Throughout the course the instructor provides frequent feedback to candidates on an individual basis in relation to assignments submitted through Canvas using the Speedgrader functions mentioned previously. The instructor also provides group and full class feedback through the BBC sessions for the online students verbally when all students are in the main room. The Canvas course Announcements function is used to connect with students and provide constructive and positive feedback to online candidates, particularly in the modules that do not have a BBC session. This function allows the instructor to send a text-based message that can include video or file attachments. It is sent directly to students through their university email account and is also housed within the course for future reference. To further facilitate instructor presence and provide feedback and guidance to candidates, the instructor intentionally responds to candidates' email inquiries within 24 hours. The goal is to maintain frequent individual candidate and whole group communication.

Course Outcomes and Student/Instructor Responses and Observations for Both Formats
Grades

In terms of grades, student outcomes for both supervisory course formats are very similar. The average number of points earned by all 110 students who took the course from Fall 2015 to Fall 2018 was 95.73 (out of 100). For only students who took the course in the face-to-face format (27 students) the average was 95.9, and for only students who took the course in the online format (83 students) the average was 95.68.

Table 2
Anecdotal Student Course Comments

Format	Comment
Face-to-Face	This course helped me develop supervisory skills that I will need in the future. I feel more confident in my ability to collect data and provide purposeful feedback to teachers.
Online	I have learned so much more about being a supervisor than I ever thought I would. I have learned how much goes into being an effective supervisor. I felt very inadequate and a little lost at the beginning of this course. Through the video observations each week, I have learned and developed more of the tools and thought-process that should go into an effective way to collect data for teachers from which to reflect and learn. My skills have developed a lot more during these past few weeks than I thought was possible.
	This course has broadened my idea of what a successful conference and supervision approach can look like. Most of my supervision experience is working with extremely new teachers in the first five weeks of their careers. In these interactions, I have been much more directive than I've been throughout most of this course. Throughout this course, I've gotten a better idea of what it takes to successfully interact with more experienced teachers by taking a collaborative or non-directive approach. In the future, I can easily imagine opening the text for this course to re-center myself in collaborative and non-directive approaches as needed.
	It is important as a teacher and a supervisor to keep the goal in mind of becoming a self-directed learner. As a supervisor that means letting go and as a teacher that means being thoughtful and purposeful in your reflection and next steps. Wow! I cannot believe that this course is over already. I don't feel that I know everything about supervising others and hopefully I never will feel fully satisfied, but I do feel like I now have a wealth of knowledge ready to be put to use.
	The aspect of supervisory analysis that was most interesting to me is how complex it is. I have to say that our administration does not put a lot of effort into pre-conferences and they are only voluntary. I realized after this class how important they are and how valuable it is to review the observation tool so the teacher knows what to expect during the post conference. I thought this was an excellent class. It was full of wonderful information and I am leaving with a much greater knowledge on supervision. Thank you for the class.

Student Course Evaluations

Overall, student ratings of the course in face-to-face and online formats are very similar and from semester to semester range from 4.05 to 4.75 on a 5-point scale. It is important to note that the course evaluation survey used is the same for both formats, and it was originally designed for face-to-face courses. The return rate is generally very low. Anecdotal student comments are included in Table 2.

Lesson Observations

The lesson observations in the face-to-face course were mock lessons presented by a member of the course, and as a result they were not very authentic. The data collection and conferencing also were not as detailed. However, even with those limitations students reported they were valuable activities. In the online course, observations and data collection for actual lessons were authentic, and the conferencing in breakout synchronous sessions was reported to be valuable as well. Given these improvements, the videotaped lessons are now used in the face-to-face class. Student comments are in Table 3.

Effective Supervisory Conferencing and Interviewing: Synchronous Sessions

Conducting the pre-observation and post-observation conferencing is a key component of developing effective supervisory skills to help teachers improve their instruction. Doing this in the face-to-face class was not difficult to implement. However, in the online course, use of the Blackboard Collaborate tool for partner/small group synchronous interactions was essential to provide this learning experience for the

Table 3
Anecdotal Student Lesson Observation Comments

Format	Comment
Face-to-Face	Through this process I learned many valuable lessons about performing clinical observations. First, and most importantly, I learned that the collaborative supervisory approach should be used whenever possible. It is important for teachers to feel like their opinion is valued and part of the decision-making process. My strength in this process is communicating with teachers and helping them identify ways to grow professionally
Online	While working on my clinical observation I learned how important it is to document the lesson with data. As I started to think about holding a post conference with a teacher I realized I had better have accurate data to support my evaluation in case the teacher were to question my evaluation. This never really occurred to me before as I have never questioned my evaluation but thinking about what I would say to the teacher, I realized I had better have support for my reasoning.

Table 4
Anecdotal Synchronous Student Conferencing and Interviewing Comments

Format	Comment
Face-to-Face	One thing I learned from this module is don't miss class! Although the reading and the powerpoints are available to me, I really missed the discussions we have in the classroom. That being said, I also had difficulty with the observation report as I again missed the discussions from my classmates. I'm enjoying supervision because I find our assignments relevant to the classroom as well as my future leadership role.
Online	Using the observation tool was easy. It was really messy in my notebook, but I could easily reflect back on my notes to analyze the data and plan for my post conference. I loved the role play with my partner in the Collaborate session. It was helpful to see another person's take on how the conversation might go before writing my observation report. I didn't realize before how important it was to consider my supervisory approach. Prior to this module, I think I may have just told the teacher to use small groups and partner work in addition to whole group instruction. I definitely would have used more of a directive informational or even a directive control approach. Putting myself in the role of this teacher's supervisor made me consider his years of experience and our relationship.

Table 5
Anecdotal Student Major Assignment Comments

Format	Comment
Face-to-Face	I thoroughly enjoyed having the opportunity to observe in a classroom. I am thankful for the teacher who allowed me to pre/post-conference and observe with her. I did not find this intimidating. However, if I had chosen someone different, someone I don't know as well, the situation may have been quite different. I may not have felt at ease as I did with the teacher i observed or I may have stumbled over my words more.
Online	I really enjoyed doing a "real" observation. I felt like I was prepared to hold a pre-conference and helped the teacher to identify a skill to focus the observation on. The modified scripting tool I used is still very time consuming, so I want to hone that to have more attention on the teacher and class. The post conference went really well too and it was nice to use the collaborative approach. I felt very prepared after doing the 6 video observations in the course.

participants. Student comments in Table 4 indicate the importance of this activity for both course types.

Major Assignments and Assessments

The major assignments and assessments were the same in both the face-to-face and online courses, and students submitted them online in the same manner. Overall, in both formats students report that the clinical observation they conduct in their school setting is one of the most valuable learning experiences in the course. See Table 5 for sample student comments.

Additional Instructor Feedback and Engagement

In the face-to-face courses there are many opportunities to engage with students, discuss various aspects of the course, answer questions, and provide individual and group feedback. Instructor-student relationships develop conversationally and naturally in this format. However, in the online course this aspect represents one of the major differences. It takes considerably more instructor time and effort to develop student relationships. Developing the nuances of conveying 'caring' for the students is a challenge in the online format, and that is indicated in one of the evaluation items. Answering questions and providing feedback in writing takes considerably more time and requires additional thought to ensure the responses are clear and precise. Since most of the course is asynchronous—that is, students log on to the course at different times—the instructor needs to be "available" more frequently. In general, the recommendation is that the instructor will respond to student inquiries within 24 hours.

Conclusion

The instructor of the supervision course was initially skeptical that candidates would be able to develop effective supervisory interpersonal skills and behaviors to support teacher growth in an online format. Considering how to apply adult learning theory to an online course design to build specific behavioral and interpersonal skills was a challenge. The instructor worked closely with the University instructional designer for online learning to translate the active engagement aspects of the face-to-face course to an online format.

With the use of a variety of technologies to actively engage candidates in different types of interactions (student-content, student-student, student-instructor), the online version of the supervision course has been successful in enabling candidates to acquire and demonstrate effective supervisory practices. Students'

responses to, and comments about, the courses are very similar, and they provide evidence that it is possible to translate a course focused on developing specific interpersonal behaviors and skills to the online format. This has implications for developing online courses for similar highly interpersonal fields of study such as counseling, conflict resolution, and group facilitation. A critical element to ensure success for these types of courses is incorporating technologies, such as the synchronous tools, to promote high levels of interactivity and to build strong instructor-student relationships.

The technologies implemented within this course were selected based on the required features for course delivery and evaluation of the technology currently available through the university. Many alternatives to these technologies exist and could be incorporated for a similarly engaging experience for learners. Some of the virtual classroom or virtual meeting platforms with functions similar to Blackboard Collaborate include Adobe Connect, Google Hangout, Skype, GoToMeeting, and Zoom. Virtual tools for document collaboration similar to Google Drive include EtherPad and Microsoft 365. Some alternative options for Learning Management Systems like Canvas include Moodle, Blackboard, and Desire2Learn. The list of available potential tools is extensive. It is highly recommended that instructors who are designing online courses work closely with their university's teaching and learning support networks to explore the many options available.

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The Oaks Leadership Scholars Program: Transformative Leadership in Action

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Transformative leaders are committed to values and outcomes that serve the long-term interests of society (Caldwell, Dixon, Floyd, Chaudoin, Post, & Cheokas, 2012). The Oaks Leadership Scholars Program is rooted in the premise that the transformation of self, required to become a transformative leader, can be supported through development of active and public identities of learner, ally, advocate, and activist through engagement in related behaviors and participation in Communities of Practice surrounding social justice causes. Students are nominated for the program, proceed through the application process, are interviewed, and are selected from throughout the College of Agricultural and Life Sciences at North Carolina State University based on their ("their" will be used interchangeably in this manuscript as both a singular or plural pronoun) engagement in learner and ally identities and their interest in, and commitment to, issues of justice and equity. Included in this article are the program's learning objectives, teaching component examples, evaluation results, and a description of future directions for the program.

Introduction and Issue Statement

Our world faces tremendous challenges of justice, equity, and liberation. Those challenges are evident in the United States as we become one of the most ethnically and religiously diverse countries in the world (Miller, Donner, & Frasier, 2004). "Due to historical legacies and current social realities, differences in power and privilege are manifest in diverse groups. In these dimensions diversity in the U[nited] S[tates] is not just a source of difference, but also a font of inequality" (Miller et al., 2004, p. 378). It becomes incumbent then that as a people, we create space to interface with each other in meaningful ways across and among these differences. Miller et al., (2004) noted that to avoid these conversations can lead to dire consequences that on a global scale include violence and war, and on a more localized scale include:

- "...[T]he utilization of developmentally immature defense mechanisms" which including denial and projections like *I don't see color* and *I don't care if you're gay*" (p. 379).
- Tension and anxiety leading to changing the subject to discount the importance of discussions by disavowing the social identity of others: *This is a class about leadership, not about race* (p. 380).
- "Reinforc[ing] the privilege of agents... *We hold people of color responsible for their mass incarceration* (p. 381)
- "Classroom climates of resistance, paralysis, rage…" leading to a lack of authenticity (pg. 382).

Several years ago, leadership faculty at North Carolina State University saw an increase in students in our leadership classrooms who wanted not only to talk about these issues of inequality, but also to be a part of the solution to these pressing problems. Extending from these classroom discussions, an increase in students using faculty office hours to extend those conversations, and perhaps most exciting, students who expressed interest in being part of the solutions, our conversation began about what we might do as faculty to facilitate these discussions. However, an identification of need wasn't enough to start a new program on campus.
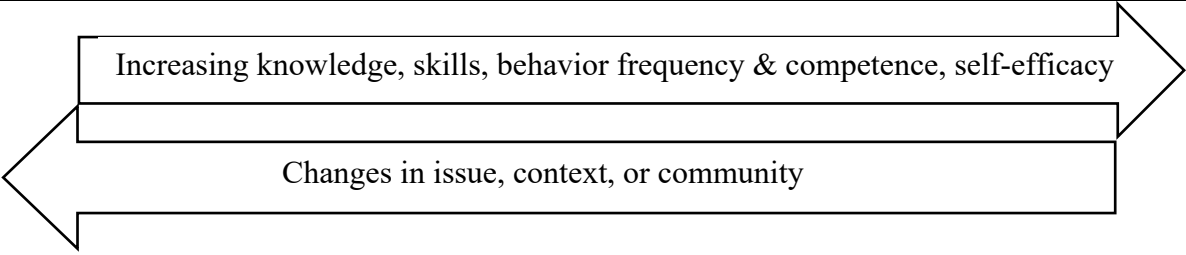
While we were experiencing these interactions with our students, agricultural and natural resources related companies began acknowledging and identifying their own needs to confront issues of justice and equity. During this time, the numbers of those companies appearing on the Human Rights Campaign's equality index with 100% ratings were increasing, and employers specifically began searching for employees (our college graduates) with the skills to be part of solutions that will transform our communities. It became clear that, beyond our seeing a need among students in the classroom, companies hiring our graduates were also declaring their need for employees with these skills and identities. As leadership educators who believe that in teaching leadership we are encouraging more just and equitable societies, we saw a way to create a space where students could intentionally discuss systems of inequality and put to use the skills of transformative leadership to be agents of positive change not tomorrow, but today. Thus, the Oaks Leadership Scholars Program (The Oaks) was born.

Review of Related Scholarship

Transformative Leaders

Transformative leaders are committed to values and outcomes that serve the long-term interests of

Figure 1
The student leader activist identity continuum

Learner	Ally	Advocate	Activist
Open to new experiences; curious; willing to hear and learn	Supports a group's rights & equality; shows up for individuals and groups experiencing marginalization; recognizes own privilege	Aims to influence others & public policy or resource decisions	Campaigns to bring about political and social change; organizes others to generate change
Increasing knowledge, skills, behavior frequency & competence, self-efficacy → ← Changes in issue, context, or community			
Listens, reads, observes, asks, believes; continues these behaviors throughout development of subsequent identities	Goes with an impacted person to an event or service; supports an individual or organization materially or emotionally; attends events, carries signs, wears the t-shirt	Engages in media campaigns; speaks or writes publicly, conducts research or polling and shares results, issues briefs; participates in phone banks/letter-writing/canvassing; donates or participates in fundraising	Lobbies; organizes fundraisers; organizes teams and events to address issues

society (Caldwell et al., 2012). As leadership faculty, we believe when using the skills of transformative leadership to confront the pressing issues of justice, equity, and liberation, individuals are on a continuum (figure 1) where they start with the identity of learner and work toward ever increasing active and visible identities (ally, advocate, activist). However, as students become aware of different justice issues and needs or changes within issues, the students can shift back and forth along the continuum. Pedagogically then, it makes sense to employ a project-based learning paradigm where students can engage in identities while confronting these issues in real world ways. While students take these journeys and develop skills and identities, faculty and peers provide communities of practice to surround and support them. To understand how the program works, it is important to understand the foundational paradigm of transformative leadership, the identities students enact as they explore their leadership transformations, and the ways in which we teach skills to enact those identities: the pedagogies of project-based learning and communities of practice used in the program.

Transformative Leadership

The Oaks Leadership Scholars Program is rooted in the paradigm of transformative leadership. "Transformative leadership begins with questions of justice and democracy, critiques inequitable practices, and addresses both individual and public good" (Shields, 2010, p. 558). According to Astin and Astin (2000), transformative leadership is explained by recognizing

...the value ends of leadership should be to enhance equity, social justice, and the quality of life; to expand access and opportunity; to encourage respect for difference and diversity; to strengthen democracy, civic life, and civic responsibility; and to promote cultural enrichment, creative expression, intellectual honesty, the advancement of knowledge, and personal freedom coupled with responsibility, (p. 11).

In order to make and uphold commitments as mentioned in Caldwell et al. (2012), transformative leaders must re-frame their world views and their senses of self in order to re-think assumptions and develop new solutions and systems (Christensen & Raynor, 2003; Pava, 2003; Quinn 1996).

Furman's (2012) conceptual framework, created to engage learners in developing the necessary capacities to become leaders of change in their communities, has three prongs: 1) praxis, 2) dimensions, and 3) capacities. Furman explained praxis must involve both reflection and action that spans across the dimensions including the personal, interpersonal, communal, systemic, and ecological. While engaging in reflection and action across these dimensions, we see the continuum of learner to activist emerge. This continuum allows students to see a path for engagement and goals to work toward. This continuum also offers a way for students to put their skills to use in ways that are meaningful for them and impactful for their communities.

Ally, Advocate, and Activist Identities

When we conceptualized this program, we envisioned those who begin this journey start as learners. Learners have an awareness of self and of others, a willingness to uncover internal "records" related to oppression and to engage in critical reflection, possess an understanding of control and cultural domination, and possess a budding ability to expose their own thinking (Brown, 2006; Dunn, 1987; Senge, 1990). While being a learner is an active position, it does not need to be a visible, or public, one. Learners can do so in relative privacy, without alluding to others that they are gaining knowledge. A student is enacting a learner identity when reading, listening to speakers, friends, or media, or viewing media about social justice issues, individual stories or marginalization, or leadership theories to be applied.

When learners are ready to put their skills to use, such practice inherently makes the individual more visible and moves the learner to an ally identity. An ally is an individual from a majority group who personally supports those who are in an oppressed population with the goal of ending the oppression (Washington &

Evans, 1991). These identities are rooted in the public enactment of one's knowledge and to position oneself as an agent for change (Trueba, 1999). While allies are visible and public, ally work can be performed within a tighter circle. Students enacting ally identities participate in marches and rallies with or for their marginalized friends; join organizations; engage in public displays of support such as t-shirts and bumper stickers; go with friends to meetings, events, or services; support friends who are talking with others about the personal impact of issues; and listen to friends talk about an issue (McKee & Bruce, 2018). Allyship serves as a bridge between private and public engagement in social justice-oriented identities as one begins to "show up" for impacted people.

When learners and allies move into more visible roles, they become advocates. An advocate communicates the urgency of a call to action rooted in shared values (Ganz, 2009), which necessitates a much more public and visible role. One advocates while working on committees (often with non-allies) to change policy or when making phone calls and knocking on doors to get others to mobilize. Advocates engage in fundraising, speaking, and writing about causes, as well as speaking on behalf of impacted people in spaces that are not accessible to them. People engage in advocate identities when they voice what they have learned to encourage others to engage in learner, ally, advocate, or activist identities.

The most visible of these identities is the activist. Activists organize others to mobilize and deploy resources to support that call to action to remove forms of injustice (Ganz, 2009; Trueba, 1999). An activist plans phone banks, neighborhood canvasses, events, letter-writing campaigns, and social media efforts to lobby for legislation and to influence policymakers and the public alike. Activists develop response teams for social justice issues and maintain networks to engage others in developing change. People enact activist identities when they organize – or *activate* – others to engage in learner, ally, advocate, or activist identities.

The development of ally, advocate, and activist identities requires the willingness to engage in "critical and constructive inquiry" (Sirontnik & Kimball, 1996, p. 187). The Oaks Leadership Scholars Program is rooted in a pedagogy of project-based learning with specific activities designed to stimulate the necessary inquiry for identity development: provocative class discussions, reflection on critical incidents, controversial readings, dialogic teaching, discourse communities, a pedagogy of hope, and action plans (Brown, 2004; Brown, 2006; Trueba, 1999).

It is essential for students to understand that addressing issues of justice and equity requires engagement in all of these identities to varying degrees and in consideration of the context of the issue and one's

personal position. Within an issue or context, a student must know the appropriate identity to enact. This is rooted in one's knowledge, skills, and desired outcomes, as well as one's position relative to the existing communities working to address the issue. It may be far more important and appropriate to serve as an ally to an impacted person than it is to be the one speaking. By facilitating student involvement in existing communities, the program is fostering the ability to know one's role and support the work of others.

Project-based Learning

Project-based learning employs a driving question to position students to solve a real-world problem with guidance from faculty and experts but through their own initiative (Adderley et al., 1975). The curriculum for The Oaks employs Morgan's (1983) project component approach in which the project is interdisciplinary and addresses real world issues that require independent work and problem-solving abilities while the course addresses parallel content. The intent is to develop a three-way partnership among students, faculty, and people impacted by the issue (Guile & Griffiths, 2001). Project-based learning facilitates the development of critical thinking and understanding of subject matter (Heitman, 1996). Further, by positioning students to address real-world problems, project-based learning can facilitate the development of identities in line with those issues. However, as Dewey (1938) cautioned, it is essential that educators emphasize the process of learning over the product, so the role of the program mentor becomes more important as a mechanism for cementing the learning component of the program and for ensuring that students are applying leadership theories and best practices to their work.

Communities of Practice

In order to emphasize process and facilitate the engagement with experts necessary to understand these complex, real-world justice, equity, and liberation issues, as well as to enact the learner, ally, advocate and activist identities, Oaks scholars build a community of practice. Communities of practice engage newcomers with near peers – those who are slightly further along in their journeys – and experts (Lave & Wenger, 1991). Participation in a community of practice allows individuals to develop skills and ways of being necessary to feel a sense of belonging and an identity in line with the practice (Lave & Wenger, 1991; Wenger 1998). To facilitate the development of a community of practice, The Oaks program is structured so students enter with a group of newcomers and have regular, intensive formal and informal interactions with each other, peer mentors, faculty members, and experts. The peer mentors are

students who completed the program in the previous year and choose to return to continue their development and support others in their learning. The faculty are leadership educators and teacher educators who have engaged in justice and equity work. The experts are members of the larger community who engage in justice and equity work professionally. The community of practice supports the project-based learning by providing access to authentic problems, roles, and practices (Lave & Wenger, 1991; Wenger, 1998).

Description of Application

The Oaks Leadership Scholars Program, housed in the College of Agricultural and Life Sciences at North Carolina State University, is directed by faculty in the Department of Agricultural and Human Sciences. This one-year, co-curricular program engages students in the study and development of transformative leadership skills while encouraging the enacting of learner, ally, advocate, and activist identities for those who are interested in social justice causes. Currently in its third year, the program is jointly funded through grants, departmental support, and corporate and private funds. Program objectives guide the learning of transformative leadership skills and the development of active and public identities related to social justice work:

1. Increase participants' knowledge of social justice issues in a global sense and in the specific context of agriculture or natural resources.
2. Provide participants opportunities to develop understanding of transformative leadership and its requisite skills so they may define a leadership role for themselves in the processes of social justice and inclusion.
3. Increase their awareness of personal biases, injustices, and exclusions.
4. Develop the "systems thinking" skills to see how injustice is furthered by systems of institutions and policies.

To facilitate learning and growth, program scholars engage in action and reflection as described by Furman (2012). Using Furman's framework, scholars are immersed in project-based learning where they engage in leadership community, confront issues of justice and equity, read extensively and reflect, travel to explore justice and equity in issues in other settings, and finally, put the skills developed into action with their final projects.

We introduce the social justice issues globally, and the students conceptualize them within the context of agriculture or natural resources. Student will choose one issue about which they are passionate to direct their program efforts. Once they have their issue, they create a project that allows them to enact a public identity to

tackle that issue. Students target either advocate or activist identities which encourage growth, and they work with their program mentor and issue experts to develop and enact their plan to address the issue. The development of an artifact as a result of their plan—a policy memo, a phone banking script, tweet-storm strategies and hashtags, an organizing strategy and resulting team, an educational program, etc.—is an essential benchmark and prompt for discussion among participants and between participants and mentors (Boland & Tenkasi, 1995; Star, 1989). For example, after introducing the issue of heterosexism, a student chose to explore and compare benefits available to same sex couples in agriculture and non-agriculture industries with the intention of driving industry policy changes and suggestions for national level legislation. Another developed and delivered an educational program for small farm operators on reducing gender-based violence and health issues among female-identifying field workers.

Mentors are an essential part of engaging in communities of practice for the scholars. Scholars have access to near peers, (program peer mentors), experts (program faculty mentors (FMs), and community partners (CPs) who guide and advise the scholars through their year. Program peer mentors (PMs) are outstanding former scholars who choose to come back to the program for a second (or third) year. PMs are provided a deeper and more intense course of study to encourage further learning and more active and public identities, while also being engaged with the current scholars. PMs host reading circles and documentary film nights and provide one-on-one and group goal check-in sessions and reflection times. FMs and CPs provide content for learning sessions; connect students with socio-cultural events around campus and in the surrounding communities; host one-on-one monthly meetings with scholar mentees to monitor progress toward goal completion; provide strategic direction and assistance for final projects, debrief readings and learning sessions; and foster relationships among and between faculty, scholars, peer mentors, and social justice professionals.

The Oaks Leadership Scholars Program Learning Sessions

We believe, inherently, that leadership is meant to move communities forward toward a more just and equitable place. Without leadership, justice and equity do not exist. Leadership is one mechanism used to enact positive change. But to lead, we must first recognize the world in which we live for all of its advantages and its challenges. Oaks Leadership Scholars Program Scholars study the institutions and systems in which we live and work. Scholars acknowledge that these systems

do not occur in a vacuum and therefore spend time learning about the intersection of these systems and the ways in which they act on (and for) people. At its heart, the Oaks Leadership Scholars Program is a leadership and social justice program, so time and effort are heavily weighted toward participants' building of transformative leadership skills to address these issues of justice and equity. Scholars actively participate in two formal cohort meetings each month devoted to learning these skills.

Reading is one of the most powerful tools available to gain knowledge, and scholars read extensively throughout their program year. Participants are provided with contemporary scholarship readings related to positionality, leadership, and equity work, and they discuss readings in larger cohort learning sessions and in smaller reading circles. Formal cohort sessions and reading circles engage students in learner identities and foster relationship building for a robust community of practice.

Table 1 outlines program content including the barriers to social justice addressed, the readings provided, and the transformative leadership skills developed.

In addition to the training participants receive, scholars are required to seek out one external socio-cultural experience each month on their own to experience learning opportunities outside of the Oaks Leadership Scholars Program Circle. These experiences could be attending a workshop, cultural event, speaker, art exhibit, etc., on campus or in the local community. A snapshot of some events students have participated in include campus workshops on the following:

- *What is Racial Justice? Recognizing Our Role in Classism*
- *Creating Accomplices: Supporting Queer and Transgender Students of Color*
- *Pulse of the Pack: A Native American Drumming Workshop*
- *Addressing Harassing Behavior*, and
- *Recognizing and Responding to Micro-aggressions.*

Campus ally programs include *The GLBT Center Advocate Program,* and community workshops include those in the *Islamic Center of Raleigh Open House.* Also, triangle learner/ally opportunities include *Red for ED Rally @ the Capital, March for our Lives Rally,* and the *HKonJ March/Rally.* These experiences allow students to affirm ally identities – showing up for others – while continuing to engage in learner behaviors.

Program Travel

Oaks Leadership Scholars Excursions are some of the most impactful parts of the Oaks experience.

Table 1
Program Content

Month	Barrier to Justice/Equity	Transformative Leadership Skill(s)	Program Readings
August	Intersectionality	Questions of justice & equity	Intersectionality
September	Heterosexism	Systems thinking	Right Side of History
October	Sexism	Deconstruction & Reconstruction of systems; visioning equitable futures	We Should All be Feminists Feminism is for Everybody
November	Racism	Practicing critical social theory	New Jim Crow Between the World & Me
December	Maintaining enthusiasm and energy	Knowing your position and role	Hope in the Dark
January	Faithism	Advocacy in action	
February	Classism	Activism & activating others	The Working Poor
March	Ableism and Ageism	Forming alliances while representing your group	No Pity
April	Ethnocentrism	Meeting with officials	Inconvenient Indian The People's History

Scholars travel two times during their program year in order to connect in real-world leadership, justice, and equity settings. The first excursion is a North Carolina-centered experience where scholars spend the day at the International Civil Rights Museum in Greensboro and work with individuals and non-profits from the surrounding community. At the end of the program year, Scholars travel to Washington, D.C. This year scholars visited the African American History Museum, attended the Leadership Conference on Civil & Human Rights, and met with icon of justice and equity work Congressman John Lewis of Georgia, and met with Senator Cory Booker's legislative aides who work on agricultural issues. Excursions promote engagement in learner identities (Congressman Lewis and museums), ally identities (supporting organizations), and advocate identities (discussing issues and their resolution with policymakers). Further, the excursions provided access to people who are engaged in activist identities (e.g., The Leadership Conference on Civil and Human Rights and Congressman Lewis) and allowed scholars to discuss their own work with these experts.

Action

Scholars are tasked with setting two goals for their Oaks Leadership Scholars Program Year to advance their knowledge, skills, and position and keep a learning journal to gauge their own development. At the end of their year, scholars complete a final project demonstrating the impact they are making in our world, and the project is presented to campus and community partners at the end of the spring academic term prior to the May Excursion. Each student identifies a justice/equity issue about which they are passionate and where they believe they can make an impact. Every project does the following:

- Identifies and works toward an identified outcome(s) (e.g., Legislation or policy change).
- Demonstrates a connection to the transformative leadership skills and the associated academic theory related to the issue.
- Dequires significant outside research. Students provide a minimum of 10 outside sources related to the issue including both popular press and academic sources.
- Documents the time students have connected with groups outside the Scholars program doing similar work. Students are required to connect with campus and community partners to leverage resources in meeting project objectives. Examples of campus organizations include the GLBT Center, the Women's Center, the Multi-Cultural Student Center, Student Ombuds, and Student Health. External partner organizations include the GLBT

Center of Raleigh, NC Commission on Racial & Ethnic Disparities, Campbell University School of Law and NC ACLU.

- Ends with a task or tasks for the audience (ex. phone calls, awareness postcards, social media campaigns, legislative meetings, fund raising). Students engage with the projects of other Scholars, but Scholars also engage their peers and communities.

The project is intended to promote engagement in each of the identities on the continuum as scholars must define and refine a problem and desired outcome (learner), connect to people impacted and organizations doing related work (ally), speak or write about the issue and ask for change (advocate), and organize others to create change and support it (activist).

The Scholars have a very busy year. Formal cohort meetings happen twice monthly for a total of 6 hours. Required readings average 2-4 hours per week, and Scholars can attend an optional weekly reading circle that is another 1.5 hours. External events can be anywhere from 2 hours in length like a GLBT Center workshop to an all-day event like the HKonJ Rally. Many of the Scholars equate the time they spend with The Oaks to the kind of time they would spend in an intense upper level course.

Discussion of Outcomes/Results

The program has grown since 2016, its first year. The first year, program faculty invited nominations from faculty and staff throughout the College of Agriculture for undergraduate students who might be interested in or passionate about, social justice and equity issues. Program faculty utilized college email announcements, and list serves for college undergraduate program coordinators and directors of graduate programs, and they approached campus partners to solicit student nominations from the GLBT center, the Women's Center, and campus Scholars programs. All undergraduate majors in the college are eligible. Further demographic criteria for selection is student academic level (they must have at least 1 full year left on campus). Nominees were invited to complete a short application, five students were nominated and applied, all five were accepted, and one completed the program. In year two, 2017, the program received 11 student nominations, eight applied and were accepted for the program, and five completed. In year three, 2018, the program received 51 student nominations and 24 applied, yielding a substantial increase in the number of applications. The highly competitive nature of this third-year pool necessitated an interview component. For year three, our current year, nineteen students interviewed, and 11 were

accepted into the program. Additionally, a graduate student track was added, and two graduate scholars joined the program after the application and interview processes. The graduate students, like their undergraduate counterparts, must have been in degree programs in the college and have at least one full year left on campus. Finally, the College of Natural Resources asked to send students to the program, so our cohort will include 2 students from that college. Across the applications, across all years, it is evident that all students applying represent the overarching criteria that the program directors desire in applicants: the students who apply are all engaging in or desire to engage in learner and ally identities and express a concrete interest in, and commitment to, issues of justice and equity. While some are farther along in this journey than others, and some can identify immediately the issues about which they are passionate, others are still exploring, and all desire to be positive agents of change and can articulate that both in their applications and, in the most recent cohort, in their interviews.

In short, the program has seen tremendous growth in a very short time. But beyond our programmatic growth, program faculty completed several pieces of evaluation for the Oaks Leadership Scholars Program during the 2017-2018 program year.

Evaluation One: Enacting Learner, Ally, Advocate, and Activist Behaviors

The first evaluation was an assessment of the students' growth along the learner, ally, advocate, activist continuum. We posed the question: Does the program provide the students with opportunities to grow more visible and active in their social justice work? Program faculty created a short assessment identifying behaviors indicative of each identity of the continuum and then asked participants to log their behaviors (while faculty also logged) throughout the year.

Prior to the start of the program, all students had participated in learner identity behaviors including attending a workshop or watching a movie related to an issue of social justice. After the program all students had continued their participation in learner behaviors and extended those behaviors to include reading books.

Before the program only one-quarter of the students had engaged in ally behaviors including wearing clothes or displaying bumper stickers for a social justice cause, participating in marches or rallies, going with a friend to a social justice-related service, or attending cultural events for cultures not their own. After the program all of the students engage in ally behaviors as listed above with the exception of participating in rallies or marches.

At the start of the year all of the students had interrupted someone who was making an insensitive or

offensive joke, an advocate behavior. However, most of the students had not engaged in other advocate behaviors. After the program, all of the students reported engaging in advocate behaviors including meeting with an elected official about a social justice issue, participating in a fundraiser, creating media, and speaking to a group about a social justice issue.

At the start of the year none of the students had engaged in activist behaviors including organizing a march or rally; organizing a speaker or meeting related to an issue of justice or equity; organizing an email or letter writing campaign, a phone bank, or neighborhood canvas related to an equity or justice issue; organizing a fundraising campaign for an issue; or leading an organization. After participation in the program, all students had engaged in activist behaviors including organizing speakers, email/postcard campaigns, and phone banks.

Students enter The Oaks Leadership Scholars Program in the learner and ally stages of the continuum. As the students have all engaged in learner and ally behaviors, program faculty can assume that the students have some exposure and experience in social justice issues before entering the program. This provides a baseline on which faculty can build a more focused and specialized programmatic experience for students. The Oaks' curriculum focuses on helping students learn about a wider range of issues, as well as on engaging in advocate and activist behaviors through the lens of transformative leadership, more specifically.

Evaluation Two: Final Projects

All of the students in the 2017-18 cohort completed projects that enact either advocate or activist identities:

1. A review of policies for non-discrimination in youth-serving agricultural organizations and recommendations for policy change and training,
2. A review of the inclusion of LGBTQ employees in family leave policies at agricultural corporations and recommendations for policy change and training, as well as a call to action for companies not yet on the HRC Equality Index,
3. A postcard party and social media campaign related to a state legislature bill on class size mandates and how they will impact rural communities,
4. A postcard party, social media campaign, and public comment campaign on proposed changes to the USDA's regulations on poultry line speeds and their impact on workers, and
5. The development of an educational program on the health and safety needs of female-identifying farm workers for small farm operators.

Evaluation Three: Student Reflection Data

Students were asked to reflect holistically on their experiences in the cohort. The following excerpts are a small sample of the reflection data collected:

- "The Oaks Leadership Scholars Program is special because it is allowing students the opportunity to establish space to develop and grow simultaneously in both leadership and social justice academic work while also offering professional development opportunities. This multidimensional approach enables students to be able to continue their personal and social growth while also growing into competent and well-rounded prospective employees. We develop skills that make us change activists in politics, industry, education, and our personal lives."
- "The biggest thing I get from participating is the opportunity to grow my understanding of social justice and to grow myself. I not only get the chance to understand social justice and different identities through an academic perspective, I also get to take that perspective and apply it within the real world and within myself. Understanding myself as a gay man has taken on an entirely new dimension and perspective from learning about queer theory and heteronormative systemic barriers, and it gives me the chance to understand both the oppression I face, but also the privilege I benefit [*sic*], and how I can leverage that to support myself and other marginalized communities."
- "One of the many comments that comes up in our program is, 'There can never be too many people doing this work.' As leaders, we often talk about wanting to make a change through the world, but we rarely know how to do that. The Oaks Leadership Scholars Program gives us both the knowledge and skill set to go out and make a change. If you want to be an activist, a scholar, a leader, or just someone who wants to know themselves better, then the Oaks Leadership Scholars Program Scholars is the place to develop those passions, skills, and journeys to help ourselves grow and change the world."

Practitioner/Participant Reflections

The Oaks Leadership Scholars Program is unique in many ways. Its home in a college of agriculture in and of itself makes it one of a kind, for the present. However, the program directors hope quite sincerely that one day, programs like The Oaks will be obsolete. But for now, The Oaks has created a practical space for

the kinds of leadership conversations that are not found in traditional colleges of agriculture. After two successful program years, some things have crystalized that bear sharing here for those interested in creating similar programs.

Plan to Meet Students Where They Are

Even students who self-identify as learners and/or allies have quite a bit to learn as they move along the continuum toward advocate and activist. This will require time and effort on the part of the practitioner to get to know the students who are coming to the program. Plan plenty of both formal and informal times for discussions—large and small group and one-on-one time—in order to get to know from where the participants are coming. In the case of The Oaks, formal time includes selection interviews, program orientation, cohort meetings, reading circles, and mentor meetings. Informal times include attendance at workshops/events on campus together with students, student driven meetings, and coffee talks.

Be Nimble Enough to Frame (and/or Re-frame) Curriculum and Pedagogy in Order to Meet the Needs of Participants

One size does not fit all in this work, so program facilitators must be able to forecast the needs of participants and adjust accordingly. In one cohort you may have a wide variety of experiences and passions, which would look quite different from the delivery of the content to a group who were more homogenous in their experiences and interests. For example, our first full cohort of students were all very much learners, so the curriculum was very basic in both areas: leadership and justice/equity. Our second cohort of students are all coming to the program with substantially more knowledge and experience in both realms. Faculty reframed the curriculum so that students would be more challenged in both content areas. Readings are denser, and reading circles are more focused on the synthesis and application of the material for problem solving versus the ensuring of comprehension. Final projects include a greater amount of research and a larger activist component. Excursions will have a self-directed component, allowing students to have part of each travel experience as time to pursue avenues of their own choosing and to relate to their identified problem. The second piece of this is the need to help contextualize these issues for the students coming to us from outside the college. While we teach the barriers to social justice, globally, we work with the students to conceptualize them locally to agriculture. When students from outside the college join us, it requires work on our part to help the students operationalize the barriers to their own

contexts. Spending time working with Natural Resources faculty, reading scholarly and popular press literature from natural resources disciplines, and connecting to organizations that work in the areas of environmental justice have all been a part of our process as we work with our Scholars from CNR. The process would be somewhat similar when inviting Scholars from other educational contexts across campus.

Adopt the Dichotomous Position of Learner and Advocate

Program faculty find that they spend a tremendous time learning themselves. As a learner, schedule time for your own continuing education in order to provide the relevant content for program participants. As an advocate, have more than one elevator speech. While all faculty are able to articulate what programs are all about, it is important for programs like these to also plan ahead and have ready a short exposition about WHY the program exists. In the case of the Oaks, because the content of the program is (seemingly) so divergent from the mission of the College, faculty spend significant time explaining the history of community development and leadership education through the mechanism of the Cooperative Extension Service (also housed in the College of Agriculture). When we're helping communities thrive through leadership development programming, inherently we are also working (hopefully) for more just and equitable systems. The Oaks Leadership Scholars Program faculty commit to extend their own learning, and so spend approximately 10-15 hours each semester in workshops and seminars offered by campus and community partners to do so.

Plan Experiential Learning That Stretches All Participants

Leadership learning is often very abstract for students, especially those who have little real-world experiences. In the case of this content, it is imperative that students have the opportunity to experience the enacting of these identities while using the leadership tools learned.

Program Improvements

In addition to our reflections, we continue to (think about and) refine the program to better meet program objectives. As we look ahead to our next cohort, several items are on our list to improve the program.

Additional formal cohort time to address readings. While the program has optional reading circles, because of busy schedules, not all students can attend consistently. Program faculty have decided to

add an additional cohort meeting each month (bringing total monthly cohort meetings to three) to have focused reflection and debriefing time on the readings.

Reflection prompts. In order to more appropriately gauge the student development in the written reflections, instead of providing writing prompts that change each week, faculty decided to instead offer a single consistent prompt that allows students more freedom to write and reflect on their unique journeys.

Movie Nights. Movie nights have, so far, been hit or miss. This was an addition asked for by the Scholars, and so it becomes incumbent on the Program Directors to figure out how and when to schedule these activities to make the most of the opportunity for our scholars.

Resource List. Throughout the year(s) we have compiled a significant resource list (readings, documentary films, etc). We need to cultivate a resource list in a permanent location that is easily accessible to our scholars and can be easily refined as we continue to add resources while removing those that become outdated.

Implications of the Practice

The potential benefit of a program like the Oaks Leadership Scholars Program is the increased ability for students, committed to creating positive change in their communities, to develop advocate and activist identities for transformative leadership. Further, students refine the ways that these identities and transformative leadership are conceptualized so that there is intentional facilitation of student leadership development.

The Oaks Leadership Scholars Program operates with the intention of preparing students to apply a transformative leadership lens to their lives and careers long after they have left the institution. In order to achieve this, it is necessary to see the work as facilitating the scholars' identity development toward becoming advocates and activists so that it becomes a part of the core of how they see and represent themselves in all of their work. It is our intention that these students will be agents for change in the agricultural organizations and industries they will lead so that these organizations and industries orient themselves toward increasingly just and equitable work and practices.

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Designing Online Courses in Teacher Education to Enhance Adult Learner Engagement

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Online courses are now a significant part of the higher education landscape. Faculty awareness of the needs of the changing population served, the inherent challenges in learning online, and the importance of enhancing student engagement are of paramount importance to successful online course design. Knowledge of theory and research in adult learning and student engagement, as well as Communities of Inquiry, provide a foundation for understanding teaching and learning in this context. This foundational knowledge has been synthesized in this article into a framework of critical components for engagement of adult online learners that can be used to inform development of online course assignments and activities that maximize student engagement and learning. A tool for embedding the critical components for student engagement is provided to support instructors' development of online courses.

With the advances in technology, colleges and universities have moved toward online course delivery to more efficiently disseminate programs and to provide greater access through distance education. Online courses are now a significant part of the higher education landscape, with colleges and universities across the United States (US) continuing to increase online course offerings. According to a report of distance education enrollment at US institutions of higher education (IHE), the rate of increase in the percentage of students learning online was 9.6% in 2002 and up to 29.7% in 2015 (Allen & Seaman, 2017). Furthermore, of the students who took at least one online course, 48.2% of the students were exclusively taking online courses (Allen & Seaman, 2017).

This increase in online education has resulted in a substantial change in faculty responsibilities in course design and instruction. Not only must faculty become proficient in using the requisite technology, but they must also conceptualize their course design and instruction for the online environment. Technological innovation challenges adult educators to refine instructional practices in order to engage online learners and best support their professional growth and development (Cercone, 2008). Not surprisingly, Allen and Seaman (2013) indicated that 44.6% of faculty agreed that teaching an online course takes more time and effort than a face-to-face course.

As IHEs shift in the medium of instruction from face-to-face to online environments, concern has been expressed about the quality of student learning outcomes in online courses. Although perceptions of the quality of online instruction vary, findings reveal that student learning outcomes are largely similar between the two modes of course delivery (Robinson & Hullinger, 2008; Shea, Hayes, & Vickers, 2010). However, higher first year drop-out rates have been associated with online courses (Kahu, Stephens, Leach, & Zepke, 2015), making retention and completion a concern. Understandably, students' perceived and actual learning outcomes, as well as satisfaction with online education, have received much attention in the literature. The purpose of this article is to integrate research, theory on student engagement and adult learning, and the Communities of Inquiry framework (CoI; Garrison, Anderson, & Archer, 2000) into the design of online courses for learners in the field of education (i.e., pre-service and in-service teachers).

Online Learner Characteristics

In the findings from a national survey of online students, Clinefelter and Aslanian (2016) reported that only 26% of online graduate students are below 25 years of age. Adult learners aged 25 and older are primarily enrolled in degree programs. In addition, an increasing number of individuals are completing their initial teacher licensure programs through post baccalaureate or master's degree programs, with many attending programs that are partially or fully online (AACTE, 2013).

Yoo and Huang (2013) reported the primary motivation of adult learners enrolling in online courses was career-related, i.e., to advance in their current career or prepare for a career change. A major factor impacting their choice of online learning was the opportunity for balancing their family and work responsibilities with their education. Being able to study anytime and any place was very important to them, as was the convenience of the course formats. There were, however, features of online education that concerned adult learners. Aslanian and Clinefelter (2012) reported the following concerns that made up 81% of those reported by respondents on a national survey: (a) lack of direct contact with their classmates and instructor, (b) inconsistent or inadequate communication with instructor, and (c) difficulties related to motivation, attention, or focus.

Park and Choi (2009) reported that course design strategies and student motivation were critical for student participation, interest, and engagement in an online course. Jackson, Jones, and Rodriguez (2010) indicated that poor course design was found to have a negative impact on students' behavioral engagement in a course. Specific faculty behaviors that were associated with students' perceived satisfaction and course value were the timeliness of instructor feedback, instructor availability, clearly stated expectations, instructor enthusiasm, and creating a positive, comfortable course climate.

Mazer (2013) claimed that specific instructor practices in course design and instruction resulted in increased student emotional interest and were a strong predictor of student engagement and learning. Faculty-student interactions most predictive of a student's perceived satisfaction with a course were, in order of most to least: (a) the opportunity for questions and provision of satisfactory answers; (b) a positive sense of the instructor's presence in the course; and (c) support and management of course content, including feedback from the instructor (Kang & Im, 2013). It is apparent that understanding and employing the necessary types and levels of interactions to support student engagement are clearly an imperative regardless of the medium of instruction.

Theoretical Frameworks

Arghode, Brieger, and McLean (2017) found that all facets of online instruction for adult learners have not been accounted for in a single theory and that components of different theories may be useful when examining online learning and course design. With the shift towards online learning, several theories have emerged that seek to explain the complexities within online learning environments, such as connectivism (Siemens, 2004) and generativism (Carneiro, 2010). Connectivism extends the learner's opportunities to form connections and make meaning based on information obtained from virtual communities and other entities which may be non-human (e.g., databases or information sets). There is emphasis on the individual as the main locus in the learning process. Generativism has a social learning focus within technology rich environments and emphasizes that the learner produces new knowledge by deriving new meaning from experience (Carneiro, 2010). Although these more recent theories have been developed in response to a shift from more traditional face-to-face instruction to online learning environments, the foundational premise of what influences adult learning continues to have relevance for the adult learning experience (Tainsh, 2016) in the context of teacher education. Thus, we have drawn on the frameworks of

student engagement (Kahu, 2013), adult learning theory (Knowles, 1980), and CoI (Garrison et al., 2000) in the conceptualization of an instructional design framework and course instructional design tool for use in creating or improving existing online courses to enhance the engagement of adult learners

Student engagement framework. The extant literature is replete with the importance of student engagement as a significant factor influencing student outcomes. In a study linking emotions to student engagement, Kahu et al. (2015) found factors that positively impacted student engagement included (a) personal interest in the topic, (b) course content aligning with their life, and (c) choice in assignment topics to include their interests. Strong correlations have also been found between student satisfaction and high levels of student-faculty and student-student interactions (Shea et al., 2010). Positive outcomes correlated with student engagement include "achievement, satisfaction, and retention" (Kahu et al., 2015, p. 481).

There are many conceptualizations of engagement in the literature. In response to concerns regarding the risk of using a simplistic, one-dimensional perspective of student engagement, Kahu (2013) developed a conceptual framework that identified the factors impacting student engagement. Kahu's framework has the student at the center with two dimensions: those that are external to the student and related to their IHE program (e.g., course instruction, faculty, support, and workload) and those that are internal to the student (e.g., motivation, skills, identity, and self-efficacy). In this framework, student engagement itself has three facets: (a) affect, including enthusiasm, interest, and sense of belonging; (b) cognition, including deep learning and self-regulation; and (c) behavior, including time and effort, interactions, and participation. Regardless of the perspective, student engagement is clearly complex, dynamic, and situation specific, and it varies across contexts (Kahu, 2013). This is especially significant for today's online adult learners whose unique needs have been conceptualized through theories reflecting adult learning.

Adult learning theory. Knowles (1980) described six core principles of adult learning theory which included (a) learners' need to know, (b) self-concept, (c) prior experience, (d) readiness to learn, (e) learning orientation, and (f) motivation to learn. Caruth (2014) summarized Knowles' six principles and suggested that engaging adults would more likely occur if learning were directly applied to an individual's life. Learners' engagement is enhanced when learning is purposeful, and the utility of knowledge and skills drives their need to know. Immediacy of application and relevance of knowledge and/or skills may influence the learner's investment in their learning, and consequently, they may be more apt to persist and initiate efforts to acquire

information. As learners mature, they develop a self-concept based on autonomy (i.e., the desire to act independently) and self-direction (i.e., the desire to select learning opportunities that are applicable to their lives) (Ozuah, 2005).

One distinction that characterizes adult learners is that life experiences influence their thinking and contribute to their developing frames of reference (Snyder, 2012). Learners' prior experiences can serve as resources for learning and influence how they respond to events (Knowles, 1975). The connections made between new learning and prior experiences may lead to application and deeper critical thinking since the learner has a frame of reference from which to draw upon. Conversely, prior experiences can also inhibit learning as the learner may reject new ideas that challenge or differ from existing personal beliefs or views that are strongly ingrained in his or her ways of thinking and knowing. Receptivity to learning may occur when the individual recognizes the need for additional knowledge or skills to meet the challenges that they are facing.

Knowles, Holton, and Swanson (2015) recognized that adult learners' readiness to learn is fueled by life events requiring them to solve problems that arise in their personal or professional lives. Thus, a learning orientation that is problem-centered and situated within relevant contexts has potential to actively engage adult learners and sustain their interest and motivation to learn. Personal goals, interests, attitudes, and beliefs that drive internal motivation may compel the individual to seek sources of information and engage others. Ultimately, these self-initiated experiences enable the individual to develop more effective problem-solving skills (Caruth, 2014).

Community of Inquiry (CoI) Framework. The CoI Framework (Garrison et al., 2000) including three dynamic structural elements—(a) social presence, (b) cognitive presence, and (c) teaching presence—has been used to examine online and blended learning environments. Social presence emphasizes the development of group cohesion and participants' ability to openly communicate their thoughts and emotions. Indicators of social presence were categorized as: (a) emotional expression, (b) open communication, and (c) group cohesion. Group cohesion includes activities that build, as well as those that sustain, a sense of commitment to the group. Furthermore, cognitive presence highlights students' critical thinking in order to construct meaning through interactive learning activities. Finally, the element of teaching presence has a central role within the CoI model in enhancing social and cognitive presence. Indicators of teaching presence include: (a) instructional management, (b) building understanding, and (c) direct instruction. The construct of direct instruction in this framework includes a wide

range of teaching and administrative activities, including (a) presenting content, (b) scaffolding learning experiences, (c) conducting assessments, (d) providing feedback, and (e) responding to technical concerns (Akyol & Garrison, 2008). The CoI model stresses the importance of instructors designing and facilitating a learning environment that provides both instruction and activities that foster critical discourse.
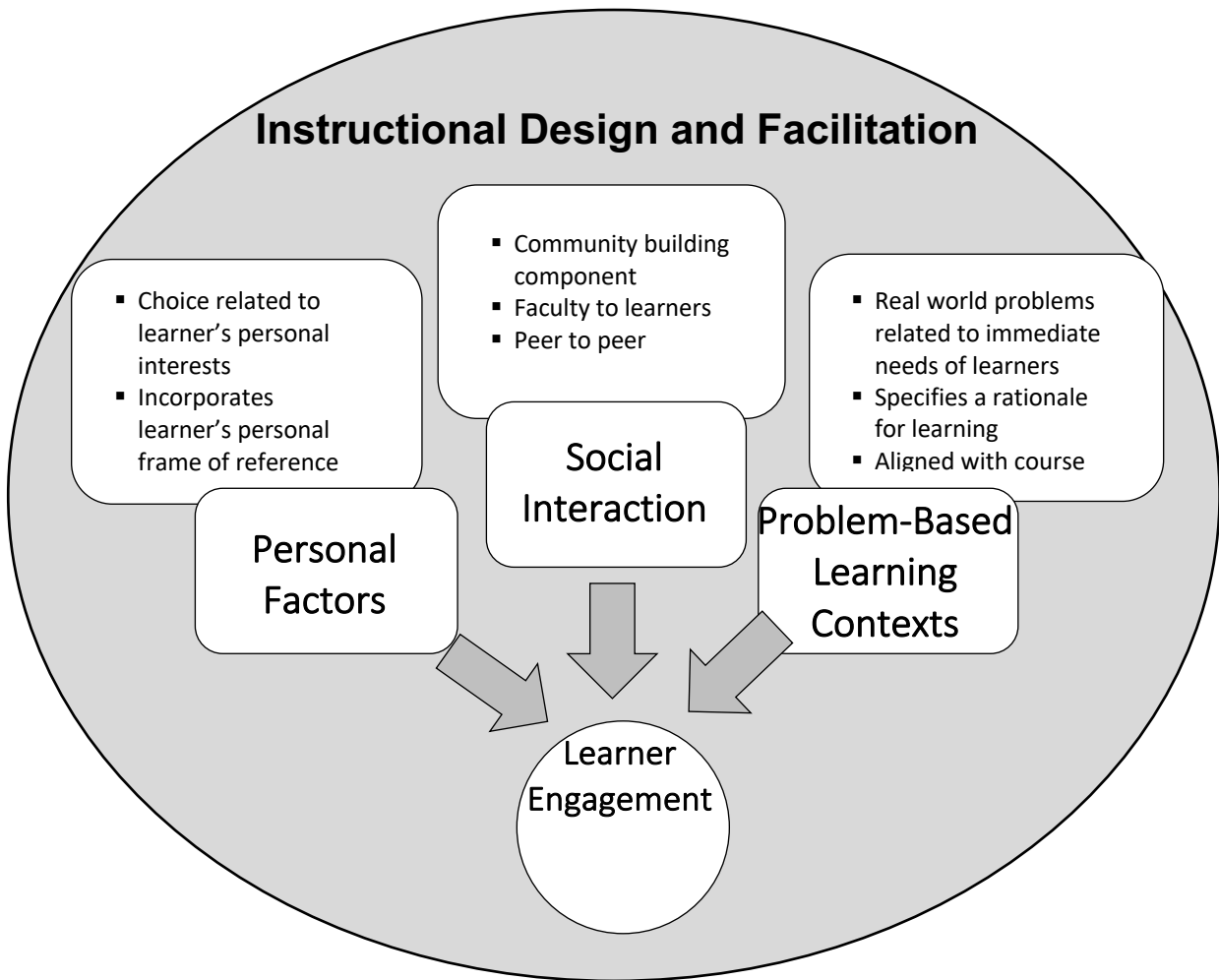
Shea and Bidjerano (2010) suggest an additional dimension of learning presence, which reflects the learners' self-regulation and self-efficacy and which extends the CoI framework. Research has indicated an interconnectedness between the three presences: social, teaching, and cognitive. Shea and Bidjerano (2010) reported that the establishment of social presence was contingent upon the establishment of teaching presence and that teaching presence was predictive of perceptions of cognitive presence.

Instructional Design and Facilitation

The instructor's role. The instructor has a vital role in structuring learning activities to maximize learners' engagement and interaction with material and with others. Thoughtfully designed activities and assignments can provide substantive and provocative learning opportunities that ignite learners' interest, desire, and motivation to delve deeply into content. The principles of adult learning (Knowles, 1980) and student engagement (Kahu, 2015) provide the foundation for design of robust learner-centered activities. Our proposed design framework draws from the CoI Framework, which underscores the direct relationship between learner engagement (i.e., cognitive and social presences) and teaching presence. The focus for this article is to provide a means for activating and sustaining learner engagement by establishing a strong "teaching presence" in online course design.

As instructional faculty we have been tasked to develop and design numerous courses for online delivery. Arghode et al., (2017) acknowledged a need for more qualitative studies to explore instructors' use of theoretical principles to improve online learning. As we each struggled to translate theory into practice, we recognized the need for conceptualizing a practical instructional design tool to facilitate the design process. Caruth (2014) purports that major design steps applicable to online instruction include establishing a learning climate that values trust, support, collaboration, and respect, as well as aligning course content with learners' needs. Based on our examination of the research on online teaching and learning, three critical components—personal factors, social interactions, and problem-based learning context—appeared foundational for guiding instructional design and facilitation to maximize engagement of our students and to achieve desired course outcomes (See Figure 1).

Figure 1
Instructional design and facilitation to enhance student engagement.

Instructional Design and Facilitation

- Choice related to learner's personal interests
- Incorporates learner's personal frame of reference

- Community building component
- Faculty to learners
- Peer to peer

- Real world problems related to immediate needs of learners
- Specifies a rationale for learning
- Aligned with course

Personal Factors

Social Interaction

Problem-Based Learning Contexts

Learner Engagement

Personal factors. Personal factors are at the core of learning experiences. In terms of a learner's self-concept, in adulthood there is an increasing tendency toward self-direction and independence in decision making and problem solving. Encouraging adult learners' active involvement is critical and providing them with opportunities for self-directed learning (e.g., mutually identifying with the instructor how learning objectives will be met and assessed; self-monitoring and self-evaluation of progress) further strengthens their course experience. The adult learner's proclivity towards self-direction is aligned in many respects with the demands of learning in an online course where the structure and nature of the course may require self-managing different aspects (e.g., viewing critical resources and materials, engaging in group online discussion, completion of group and/or individual assignments, etc.).

Drawing from adult learners' background and prior experiences can serve both to personalize and validate a learning experience. All facets of an individual's perspective—their expertise, talents, and personal interests—can support development as a teacher. Providing opportunities for adult learners to reflect and draw upon their existing frames of reference allows them to apply information in personally meaningful ways. This promotes their retention and use of information.

Adults' intrinsic motivation to learn is high when they are problem-solving real-life situations and involved in defining the focus of their learning (Caruth, 2014). Sogunro's (2015) study identified factors that contributed to adult learners' motivation, which included relevance, pragmatism, and self-directedness (i.e., learner's autonomy). The adult learner's attitude,

interests, beliefs, and personal goals can influence their desire to initiate and persist when faced with thought-provoking topics or tasks. Structuring online learning opportunities in ways that encourage learners to analyze and think deeply about critical issues, such as inclusion and collaborative practices (e.g., co-teaching practices, supporting and involving families), can inspire their personal commitment to addressing these vitally important and challenging aspects.

Overall, personal factors including self-concept, life experience, and motivation to learn have a significant impact on learners' engagement. Although learners draw from personal factors and apply what they know to new situations, their attitude and ultimately their response to learning can be considerably affected when they engage with others. Thus, embedding social interactions into an online course can have a positive influence on learners' active involvement (Tsai, 2013).

Social interaction. The value of online learning experiences can be further enhanced through social interaction as learners draw from the ideas and knowledge bases of others; however, the very nature of online learning may be antithetical to social engagement. The online environment has the potential to be impersonal, and individuals may not feel part of a cohesive learning community. In order to maximize meaningful social interactions, the instructor needs to structure experiences to support social exchange between the instructor and the learner, as well as between learners (Huang, 2002; Sogunro, 2015).

The instructor-student relationship can be strengthened when the instructor personalizes feedback to each student. Actionable feedback is valuable as adult learners can directly apply information to their practice. Furthermore, the nature of feedback provided by the instructor may serve to strengthen adult learners' abilities to critically engage with content and to develop in areas, such as complex problem-solving. The instructor may opt to provide feedback that focuses on content, promotes connections across ideas, and encourages deep thinking versus feedback that is closed-ended or that focuses on technical aspects, such as mechanics and writing accuracy. The instructor is instrumental in guiding learning through provision of critical feedback and facilitating interactions between learners in an online community (Covelli, 2017).

Joint or team activity can also be encouraged through assignments that align content with personal factors (e.g., the learners' experience, environment, interests, and expertise). Strategically requiring collaboration between adult learners through discussions (i.e., virtual discussion, both synchronous and asynchronous) has the potential to enhance and extend deeper understanding of course material (Davis, 2013). Interacting with others may broaden an individual's view and enable them to acquire strategies or ideas that may in turn be applied in teaching practices. The instructor may intentionally plan focused opportunities for adult learners to engage others on critical topics. Adult learners may work together on a thematic group project and examine key components or elements that contribute to critical or deeper understanding of the content. They may post essential questions or responses to their peers, and ongoing online discussion may enable learners to formulate a more complex and thorough understanding for key topics. Small groups can be assigned to meet virtually (e.g., through Zoom, Google docs, Skype) to discuss and collaborate.
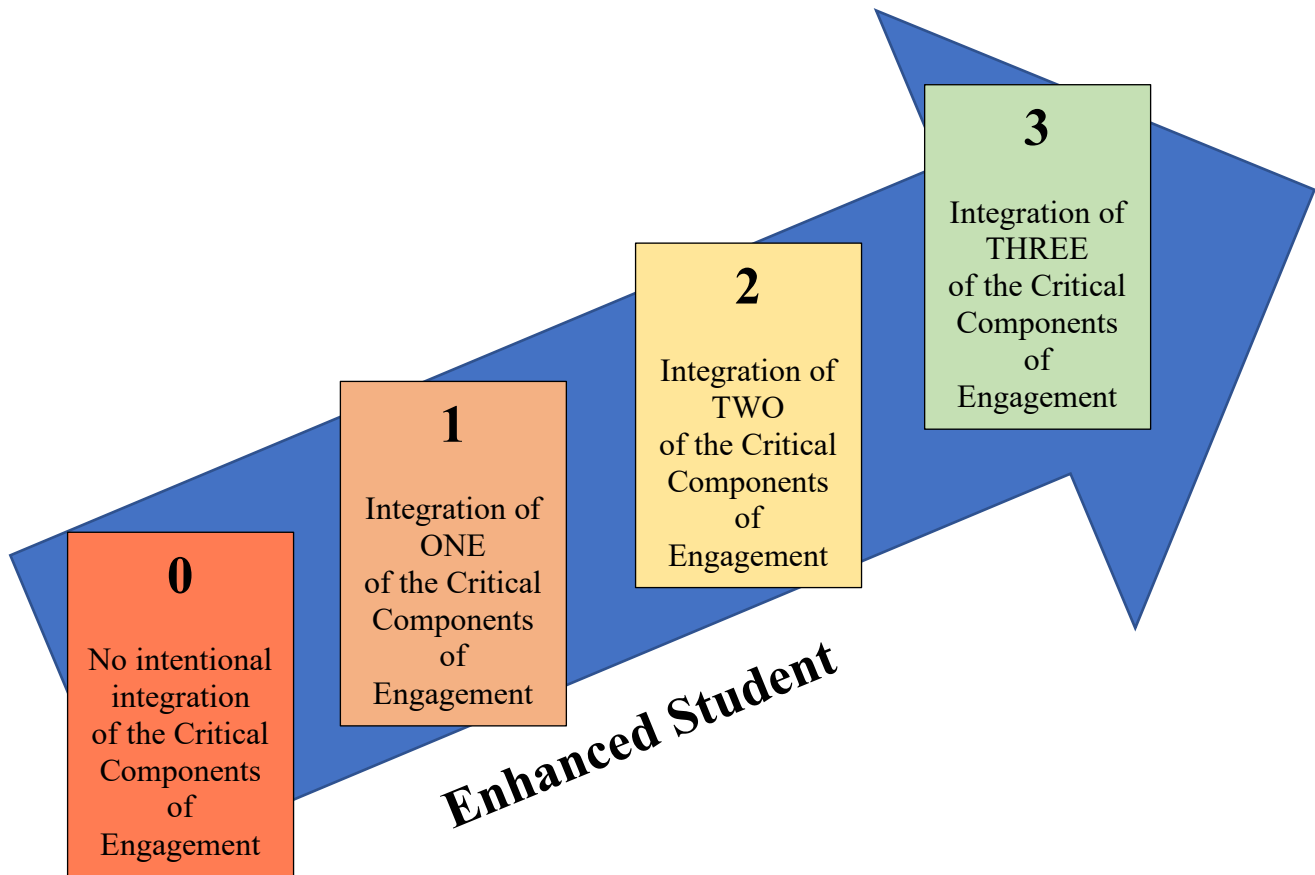
There also may be informal opportunities for interactions that benefit adult learners. For example, the instructor may designate online space for students to post creative ideas, share resources, and discuss course-related questions with one another. Adult learners may also be involved in identifying the purpose for designated spaces to address their interests and needs. Each member of the course is an invaluable human resource as each individual has the potential to strengthen the learning community. Adult learners' interactions spur the generation of multiple solutions to challenging issues and numerous ideas offered by members ultimately support richer experiences in the problem-solving process.

Problem-based contexts. Adults' learning orientation is influenced by personal and contextual factors which drive them to seek information to problems or challenges that they have prioritized. The direct correlation between the knowledge and skills addressed through a course and the specific needs of the adult learner provokes their readiness to attend to, and to absorb, the content of a course. Using a problem-based learning approach by situating concepts and content in real-life situations supports critical thinking (Lopez Brown, 2017).

Assignments can directly address these kinds of areas and allow adult learners to design and implement projects that are responsive to their needs. Adult learners may also role-play the collaborative process and discuss how to more effectively involve and engage members of the team. Lastly, learners may share information with each other about students who are struggling with accessing the general curriculum. Acquiring and refining problem-solving skills that address real-life issues may motivate learners and offer them opportunities to deepen their learning and critical thinking skills.

Connecting the three critical components. Incorporating personal factors, social interaction, and problem-based contexts when designing a course enhances the engagement of students online. Taylor (2007) recognized the importance of personal and socio-cultural contextual factors in adult learning. Maximizing productive interactions between faculty and learners

Figure 2
Critical components of engagement continuum scale.

0

No intentional integration of the Critical Components of Engagement

1

Integration of ONE of the Critical Components of Engagement

2

Integration of TWO of the Critical Components of Engagement

3

Integration of THREE of the Critical Components of Engagement

Enhanced Student

contributes to learners' satisfaction, deeper engagement with course content, and retention. Providing access to course material and opportunities to delve into problem-based learning contexts equips adults with strategies and tools that can be directly applied in their professional practices. In addition, course assignments with clear expectations that connect the content of study with hands-on experiences provide learners with authentic opportunities to apply knowledge and skills. Embedding these components in the design of course activities or assignments increases the likelihood of learners' engagement with others and with course material. While not all course activities will address each of the components, when the instructor is able to meaningfully integrate two or even three of the components in an assignment, the potential engagement value of that assignment is heightened (See Figure 2).

Online Course Assignment Examples Reflecting Critical Components of Engagement

Through course structure and instructor facilitation (See Table 1), faculty develop engaging learning opportunities in an online environment for adult learners. Within an online course there are a variety of learning activities that instructors may assign learners. Instructors must also determine whether an assignment is best suited for individual completion or peer collaboration. Strategic selection of group activities and assignments increase the opportunity for student-to-student interaction which may deepen student learning. Instructors must also consider the following elements when designing online courses: (a) creating community, (b) content acquisition, (c) content application, or (d) evaluation and/or culminating activities. A detailed example is provided for each, thus illustrating how activities and assignments can incorporate the three critical components of engagement.

Creating community. The first activity in many online courses focuses on learners getting to know the instructor and one another. One way to do this is by having individuals represent themselves in a shared document or PowerPoint. Learners can be instructed to add a photo and a list of information about themselves. The information could include their name, where they

Table 1
Examples of Enhancing Student Engagement Through Course Design and Instructor Facilitation

Online Course Elements	Example Activity	Course structure and Curriculum	Instructor Course Facilitation
Creating Community	Introduction of Yourself	• Content is self-selected and generated • Summary provides a brief description of each member in the class • Link made to creating a sense of community	• Create Google doc or Google PowerPoint • Contributes a personal example • Post instructions and link on course platform
Content Acquisition	Readings, Virtual Group Meetings, and Discussion Posts	• Students meet virtually in small groups to respond to questions based on personal experiences and a problem-based learning scenario • Students post group discussion summaries on an online discussion forum page • Students respond to peer's posts on discussion forum	• Assign readings • Establish groups and post on forum • Create discussion forum aligned with the readings • Provide personalized feedback to students

Content Application	Lesson Plan	• Incorporate choice:
		  • Grade level
		  • Content
		  • Population (GEN, SPED, ELL)
		  • Lesson plan format
		• Peer review of lesson plans with feedback
			• Post assignment description incorporating target content, scoring rubric, and example
			• Instructor established or peer selected peer review dyads
			• Provide personalized feedback to students

Group Project	Evidence-Based Practice Research Project	• Virtual meetings with group
		  • Share resources
		  • Discussion
		• Incorporate choice:
		  • EBP to research
		  • Presentation format (Power Point, Prezi, Video, etc.)
		  • Format for flyer about EBP
			• Post assignment description incorporating target content, scoring rubric, and example
			• Instructor assignment of groups
			• Provide personalized feedback to students

Culminating Activity	Case Study	• Completion within current teaching context
		• Incorporate choice:
		  • Grade level
		  • Content
		  • Population (GEN, SPED, ELL)
		• Submit sections of assignment for instructor feedback:
		  • Participant selection
		  • Assessments on performance
		  • Implementation
		  • Analysis of results
			• Post assignment description incorporating target content, scoring rubric, and example
			• Provide personalized feedback to students on components of assignment as completed and final submission

are from, educational experience, and hobbies or interests. This assignment focuses on personal factors as learners are sharing their life experiences, personal interests, and photos of themselves with the class. Social interaction occurs through sharing of the document. Additionally, learners have the opportunity to familiarize themselves with their class members.

Content acquisition. A common individual activity to enhance learners' foundational knowledge is to assign readings from journal articles or chapters from a textbook. For instance, learners could be assigned to read about two different methods for teaching writing (e.g., self-regulated strategy development and a writer's workshop). To engage learners through personal factors, one or more reflection questions could ask learners to make connections between the readings and their life and practicum experiences. A final reflection question could provide learners with a classroom scenario and then ask the learners to decide which methods for teaching writing they would incorporate and defend their answer. This provides learners with an opportunity to engage in problem-based learning. Furthermore, having learners meet virtually in small groups and/or having learners read and respond to their peer's postings enhances their engagement by incorporating a social interaction component.

An example of a group assignment that can deepen learners' knowledge is a collaborative research project. For instance, learners could be assigned to research an evidence-based practice (EBP) that they could implement in their future or current classrooms. Learners' personal factors, such as their life experiences and current or past classroom practicum experiences, will influence group discussions and the determination of the EBP they select to research. Allowing groups to work together to determine the EBP, to choose the articles and resources to read, and to task analyze the project integrates social interaction within the project. The project is problem-based because the group must work together to discover the required information (provided by the instructor through the assignment description and rubric) about an EBP. Additionally, the group then needs to synthesize their knowledge in a user-friendly way to share with their classmates in the form of a one-page flyer.

Content application. Teachers are constantly adding to their pedagogical content knowledge. To help in this development, course instructors frequently assign learners to write a lesson plan based on newly learned knowledge from the course. For example, after learning about the components of Universal Design for Learning (UDL), learners may be assigned to write a lesson plan that incorporates UDL components. Within this assignment, learners are able to draw upon their life experiences to design their lesson plan. The assignment also allows for learners to make decisions based on

their personal interests by choosing the grade level and content area for their lesson plan. Furthermore, the assignment is problem-based as learners are required to determine the appropriate resources to use and how to effectively implement UDL components within their lesson plan. After completing the lesson plan, social interaction can be incorporated by having learners exchange lesson plans with a peer and provide their peer with feedback based on the assignment rubric.

Culmination activity. Finally, a case study is an assignment that is often utilized to assist learners' in applying and analyzing all their newly acquired knowledge from the course. This assignment heavily relies on the integration of personal factors. Learners are assigned to select a student they are currently teaching, assess the student's performance, determine and implement an intervention, and then analyze the results. This project requires learners to utilize their practicum experience to select a student who is in need of an academic or behavioral intervention and then assess the student's current performance level. Based on social interactions, the learner will choose the student and skill to focus on within the intervention. Through analyzing the student's current performance and the knowledge learned throughout the course, the learner will be solving the problem of how to address the target skill and implement the intervention.

Critical Components Course Design Matrix

The *Course Design Matrix for Embedding Critical Components of Engagement* (Table 2) is a tool for online course instructors to use in course design and for assessing the degree to which individual assignments and the course as a whole are inclusive of the critical components for engagement of adult learners in an online environment. Assignments and synchronous course activities can be examined by listing each in a column of the matrix and identifying whether the individual critical components of engagement can be identified within the assignment or activity. This process takes the instructor through an examination of whether, and to what extent, the three critical components—(a) personal factors, (b) social interaction, and (c) problem-based learning—are evident within each assignment and activity. Examining the critical components across the full range of assignments and activities within a course enables an instructor to locate gaps and make changes to existing assignments or construct new assignments that increase the degree to which the critical components are embedded within the course. Increasing the critical components of engagement integrated within and across course activities will enhance student engagement which has been shown to lead to improved student outcomes, satisfaction, and retention (Kahu et al., 2015).

Table 2
Course Design Matrix for Embedding Critical Components of Engagement

Critical Components of Engagement		List of Course Assignments and Activities Directions: For each assignment identify if and how each component is incorporated.				
		1.	2.	3.	4.	5.
Personal Factors	Choice related to learner's personal interests					
	Incorporates learner's personal frame of reference and context					
	Encourages active reflection					
Social Interaction	Community building component					
	Faculty to Learners					
	Peer to Peer					
Problem-Based Learning Context	Real world problems related to immediate needs of learners					
	Specifies a rationale for learning					
	Aligned with course content					

Conclusion

In today's environment of increasing online courses at IHE's, faculty awareness of the needs of the changing population served, inherent challenges in learning online, and the importance of enhancing student engagement are of paramount importance to successful online course design. Knowledge of theory and research in adult learning and student engagement, as well as CoI, provides a foundation for understanding teaching and learning in this context. This foundational knowledge has been synthesized in this article into a framework of critical components for engagement of adult online learners that can be used to inform development of online course assignments and activities that maximize student engagement and learning.

Enhanced learner engagement has been indicated as essential to the success of students in online courses. Course design and instruction have been clearly linked to student engagement and learning (Mazer, 2013). Thus, intentionally designing courses so as to embed the three critical components of engagement of adult learners (personal factors, social interactions, and problem-based learning) within courses is necessary to enhance students' engagement and their subsequent learning outcomes.

A tool to facilitate instructor assessment of the degree to which existing courses embed the critical components of engagement within course assignments and activities is provided. This tool may also be useful in designing new course assignments and activities that maximize student engagement. As faculty understanding increases regarding how to design courses that actively engage learners online, improvements in course design and student learning outcomes should occur. In addition, increases in retention of online students, as well as greater student and faculty satisfaction, may also be realized.

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