

THE IMPACT OF SOCIAL MEDIA ON SOCIAL PRESENCE AND STUDENT
SATISFACTION IN NURSING EDUCATION

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ABSTRACT

The purpose of this study was to determine if social media has a place within the classroom and can enhance the student's learning experience by tapping into a medium in which they are already comfortable and familiar, and interact with on a daily basis. Social media has the potential to change the overall dynamic of the traditional lecture classroom, opening up new avenues of communication and learning that lecture classes alone are not able to offer. It can enhance the learning of students by promoting a digital learning community. Social media is also a cost effective tool for the institution, as it costs nothing for the faculty or student to join. This study involved assessing 49 nursing students who used social media, or Facebook to be more exact, compared to when they used a traditional online learning platform. A learning community, a place where instructors can be involved in building social presence, which involves instructors and students in a site-based format that helps assist continued collaborative development, was built into the class (Linder, Post, & Calabrese, 2012). Learning communities provide a way for the instructor to provide information to students, and then allows those students to discuss among themselves the subject assigned. A digital learning community may facilitate improvement in the students' online social presence.

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CHAPTER 1

INTRODUCTION

Instructors have always faced the challenge of how to best communicate and reach the students in their classes (Hodges, 2011). The challenges of today's learning environment, "requires that a teacher look at not just course material but the technology involved and the ways in which they will communicate with their students" ("Online teaching strategies," 2011). While it falls on the student to ultimately accept responsibility for their education, the instructor also has the responsibility of trying to create a learning environment that meets students' needs and characteristics. As generations become more and more immersed with technology, and their daily lives become dependent on mobile devices or products such as the iPad, it becomes all the more crucial that instructors become just as familiar with the current technology as their students. It is just as crucial that once the instructor has gained familiarity with technology that they use it not just to disseminate class material, but instead build a community, based around the technology, in which students and instructor have a platform by which to discuss the pertinent information regarding the class.

The use of technology in the classroom is far from revolutionary. Instructors have been using personal websites, wikis, and online tools such as Blackboard, Vista, and Desire to Learn, to assign work, communicate with students, and provide an online platform by which students can communicate, interact, and learn together in one setting (Koeniger-Donohue, 2008). It has become essential for instructors to embrace technology since, as a Pew Research Study (2010) stated, 93% of young people ages 18 to 29 use or access the Internet, and it should be imperative

to adapt to the needs of the students. However, there are drawbacks of websites and wikis, such as students being unfamiliar with the format, subsequently leading to struggling and falling behind due to lack of understanding regarding how to work within the site (Sturgen & Walker, 2009). There has also been little to no improvement in communication between student and teacher, or peer-to-peer, for that matter (Mikol, 2005). For the student and instructor, the primary way for communication outside of the class is still the typical office visit or email, and as for communication between students, often wikis and websites do not offer the ability for real time discussion and interaction.

Learners today have many tools that allow them to use technology to aid in their education. Students are using smart phones, tablet computers, laptops, and numerous other electronic devices every day. They are accessing information for class discussions, doing research for class topics, and receiving pertinent class information. Within certain institutions, the use of these devices is seen as so valuable a tool that they are becoming mandatory for students (Lenhart, Purcell, & Smith, 2010). For instance, one college made the decision that all students must have a personal digital assistant (PDA) while in their nursing program (Koeniger-Donohue, 2008). It is the instructor's responsibility to tap into this technology and harness its potential.

Many of today's students are "digital natives," well-versed in all that technology has to offer them, and for students it opens educational possibilities that oftentimes meet or exceed those found in a classroom setting (Corbeil & Valdes-Corbell, 2007). No longer are students simply taking notes from the blackboard and reading assigned texts, but instead searching for information in real time during class, and accessing information via the iPad, laptops, smart phones, and other wireless devices. While it can be said of most institutions that the use and

implementation of technology is on the rise, no more do you find that to be true than in nursing education. Streubert, Speziale, and Jacobson (2005) pointed out that, “As society finds new and innovative ways to use information to enhance our quality of life, technology will continue to be part of nursing education” (p. 231).

This new use of technology and social media, in particular, is also providing a place where instructors can be involved in building learning communities, which involves instructors and students in a site-based format, such as Facebook, that helps to foster continued collaborative development (Linder et al., 2012). For example, a study to determine if Facebook could improve the process of learning English for 300 undergraduate students found that these communities do foster an improvement in language learning and saw subject retention increase in students (Kabilan, Ahmad, & Abidin, 2010). These communities having the ability to access and immediately discuss important information with each other, share their findings, and as a group come to an understanding on whatever class related issue is at hand has the potential to greatly impact student learning by further immersing them in the material. Social media, for its ability to reach students alone, allows them to utilize a tool many of them frequent daily, warrants examination on the idea of integrating it into classrooms. While wikis and personal websites have been used for years now, they often do not offer the same ease of use, frequency of access, and, most importantly, sense of community that social media sites tend to offer.

The characteristics of social media, which point to its influence and potential use within the classroom, are vast, and, in many cases, astounding (Lenhart et al., 2010). To start, Facebook is currently the second largest website, behind Google, in web traffic, with an estimated 500+ million users worldwide, and an estimated 10 million users joining the site every month (Bullas, 2011). These numbers point to a staggering statistic--1 in every 13 people throughout the world

is a member of the Facebook community. More interesting still is that for 48% of young Americans, Facebook is how they receive their news on a daily basis, with the same percentage of young people saying that the first thing they do in the morning is check their Facebook account. For college students, a survey of Midwestern universities students found that 90% of students used or had used the site, spending an estimated 700 billion minutes per month on the site (Fournier & Clarke, 2011). Due to these statistics, among many other facets that will be discussed later in further detail, a case can be made that the use of social media in the classroom offers a better opportunity to not only reach students and help them expand their studies, but also further open up lines of communication between the instructor and students as well as between the students themselves.

In order to determine if social media has a valued place in the classroom, an experimental study investigating whether social media can be an effective tool in education needs to be conducted so that its potential can be explored. The study involved 64 fourth semester undergraduate students at a small liberal arts college enrolled in Nursing 2904, Tertiary Prevention and Synthesis of Care Across the Lifespan, which encompasses an integrated curriculum of adult medical surgical concepts and prepares the student to synthesize nursing knowledge to meet client needs, with a specific emphasis on needs of the critically ill client. Using a counter balanced design, the class was randomly divided into two groups, with group A (serving during the first part of the course as the experimental group) using social media as the primary online tool, and group B (serving during the second part of the course as the experimental group) using an alternate learning platform. Six weeks through the semester, each group switched formats and continued with their studies. This intervention focused on answering the following hypotheses:

H₁: Undergraduate nursing students who use social media combined with a standard online platform during a segment of the course will have higher grades compared to those using the standard online platform during a segment of the course.

H₂: Undergraduate nursing students using social media combined with a standard online platform will report greater levels of social presence versus those using a standard online platform during the same segment of the course.

H₃: Undergraduate nursing students using social media combined with a standard online platform earlier in the course versus late will report greater course satisfaction compared to those using only a standard online platform earlier in the course versus late.

Theoretical Framework

For the purpose of this study, social presence, with its overall student satisfaction rate, high course retention, and ability to continue to grow among digital natives, harnessed the theoretical framework most appropriate for the work to be done. Biocca, Harms, and Burgoon (2002), in their research regarding social presence, stated that a great deal of what is commonly called social interaction is not with physical others, but with representations of others made accessible to our senses. Examples of these interactions would include collaborative work environments such as teleconferencing, mobile and wireless communication, speech interfaces, and 3D virtual-social environments. Most technology today is created with the goal of improving social presence, which is the “degree of salience of the other person in the (mediated) interaction and the consequent salience of the interpersonal relationships” (Richardson & Swan, 2003, p. 70). Put another way, social presence is the measure by which we discover how much

information is being retained in the environment, as well as the users' experience within the environment.

Because this study was working within an online learning environment, the measure of the social presence each student had gained, or not achieved, was a necessity. There have been many studies on this subject, not only in how to improve social presence, but also how to build it and make it stronger. For example, a study by Mazman and Usluel (2010) found that 70% of students felt social media was an acceptable tool on which to build curriculum and the same percentage found that it increased retention in lessons (Mazman & Usluel, 2010). Other studies have been conducted which help to provide the overall framework. The first is a two-part study conducted by Brown, Dennis, and Venkatesh (2010), which set out to examine students using SMS text messaging, and the second being to study the results of setting up a new form of collaboration among employees within a Fortune 500 company that maintains a traditional employee hierarchy (Brown et al., 2010). In both situations, it was found that users had a positive reaction to the study, finding that SMS messaging is indeed a tool that can be harnessed by educators to improve the quality of education they are providing, and that the new social environments set up within the Fortune 500 company helped improve not only customer relations, but business relations within the company. It is a strong indicator as to the success of studying social presence among users.

A second study, by Richardson (2003), was conducted at Empire State College by having students fill out a survey on their thoughts pertaining to online learning and social presence. It was determined that those saying they had a high level of social presence also had a high retention rate in regard to what they had been studying or discussing. It was found that instructor likability plays a huge part as well, finding that students with low social presence also had low

likability marks for their instructor, pointing to the importance of the instructor within the class and the growing of social presence within the students. Also important to note, was how the discovery of age and amount of college time spent had no effect on overall social presence.

In the end, the evidence in social presence studies points to a high likability not only among students but educators as well. As the research has shown, students who inundate themselves in their work and are active in participation during assignments, grow their social presence, and have higher course retention and overall satisfaction.

The Community of Inquiry Framework (Figure 1) ties in with social presence by discussing first, the shift of social presence from the individual to a group cohesion; second, the development of cognitive presence from exploration of an inquiry to a resolution; third, what the role of teaching presence plays in developing social presence; and fourth, the need for a methodological validity about qualitative data analysis (Garrison, 2007). The following figure shows the connection between social presence, cognitive presence, and teaching presence.



Figure 1. Community of inquiry framework.

As seen, all three presences are needed for an optimal educational experience. Garrison (2007) purported that there are three ways by which social presence is successfully established: effective communication, open communication, and group cohesion. Without any of these, the social presence of an individual cannot reach its full potential. In order for these three factors to occur, there must also be a cognitive presence (deliberately moving from exploration of a problem to a resolution) as well as a teaching presence (structure and leadership).

Cognitive presence follows hand in hand with teaching presence. Without structure and leadership (whether by facilitation or direct instruction), cognitive presence invariably fails to impact the social presence. Studies found that students need well-designed prompts in order to proceed to a resolution of the task as delineated by the tutor. If the faculty is not more directive in their assignments, then discussions will not reach the highest levels of inquiry (Garrison, 2007).

However, Garrison (2007) explained the differences of opinion concerning the level of teaching presence in online social presence. Some researchers believe that there should be a distinct difference between the faculty merely outlining the task and facilitating dialogue, and direct instructional discourse to lead the students to the resolution part of cognitive presence. Most agree that these two are crucial to the sense of community and learning. “Facilitation supports dialogue with minimal shaping of the course of the discussion. Discourse, on the other hand, is disciplined inquiry that requires a knowledgeable teacher with the expectation that discourse progresses in a collaborative constructive manner and students gain an understanding of the inquiry process” (Garrison, 2007).

The Community of Inquiry Framework helped guide this study in its exploration of social media as a platform for effective classroom learning and showed how these three factors (social

presence, cognitive presence, and teaching presence) come together to assist in understanding the results of the aforementioned hypotheses.

Problem Statement

The study explored the use of social media as a means to promote higher grades among students, increase student and instructor satisfaction with the course content, and improve peer-to-peer and student/instructor communication when compared to the traditional online learning platforms or course management systems.

Purpose of the Study

The purpose of this study was to determine if social media is an effective learning tool and does indeed have a place within the classroom, and can, in fact, be more effective in enhancing the student's learning experience by tapping into a medium in which they are already comfortable and familiar and interact with on a daily basis. Social media has the potential to change the overall dynamic of the traditional lecture classroom, opening up new avenues of communication and learning that lecture classes alone are not able to offer. Social media is also a cost effective tool for the institution, as it costs nothing for the faculty or student to join.

The idea of social media is an important and valued tool within the classroom. A survey of 606 Facebook users in 2010 found that over 50% of those involved in the study felt that Facebook was an appropriate and comfortable platform by which to discuss education or business, those things which are not for the sole purpose of entertainment. The study also pointed to the high volume of young people, over 70% of those users surveyed, who use Facebook and state they would use it more than just as an entertainment tool (Mazman & Usluel, 2010).

Other studies have found similar findings, all which seek to back the purpose of this study (Borup, West, & Graham, 2011). One study looking at how video, which Facebook allows easily to be placed and used on their site, found that online learners, and learners in general, felt that being able to more openly communicate with their professor and colleagues in the class helped with not only their study but improved communication as well, leaving students with a positive outlook and reaffirmed the idea of social media in the classroom for the author. In another study, 300 undergraduate students at University Sains Malaysia were surveyed to get their responses to social media within the classroom, finding that Facebook, in particular, had the effect of getting 70% of the participants more enthusiastic about their studies, with a majority of participants feeling that they had a positive experience, emotionally and educationally, with social media in the classroom (Marchand & Gutierrez, 2011).

These findings, along with others to come, only hint at the promise of social media being harnessed in the classroom. It seems imperative that further study be done to examine the benefits of bringing this technology into the classroom. The research hypotheses addressed are as follows:

H₁: Undergraduate nursing students who use social media combined with a standard online platform during a segment of the course will have higher grades compared to those using the standard online platform during a segment of the course.

H₂: Undergraduate nursing students using social media combined with a standard online platform will report greater levels of social presence versus those using a standard online platform during the same segment of the course.

H₃: Undergraduate nursing students using social media combined with a standard online platform earlier in the course versus late will report greater course satisfaction compared to those using only a standard online platform earlier in the course versus late.

Key Definitions

Digital Natives--those born into the digital age in which we now live; A person who has been familiar with computers, the Internet, and other digital technology from a young age (www.Dictionary.com). In this study, the students who were studied in order to determine the effect social media has on learning.

Facebook--A social networking website used by more than 500 million people throughout the world where people can communicate via message, video, and text (www.Dictionary.com). In this study, a platform by which the effect of social networking aided in learning and comprehending the material, along with peer interaction and collaboration.

Learning communities--Interactions and relationships formed online that help to foster learning and retention of the subject matter being discussed; A group of people who share common values and beliefs, are actively engaged in learning together from each other. Such communities have become the template for a cohort-based, interdisciplinary approach to higher education. This is based on an advanced kind of educational or 'pedagogical' design. (www.Thesauras.com). In this study, learning communities were formed on Facebook as part of the design process and both groups (Group A and Group B) had their own separate learning community in which they participated and interacted with the researcher.

Social media--Online tools that allow for social interaction, such as sharing and discussing ideas, while on the internet. Web sites and other online means of communication that

are used by large groups of people to share information and to develop social and professional contacts (www.Dictionary.com). In this study, Facebook was the social media used for students to share ideas and interact with others within their own learning community or group as assigned (Group A or Group B).

Social presence--The emotion, interaction, communication, and identity of a person in an online learning platform; A measure of the feeling of community that a learner experiences in an online environment (Tu & McIssac, 2002). In this study, social presence is measured by the Community of Inquiry instrument (COI) ® which assessed direct effects of social presence in an online learning community (Facebook).

Standard online learning platform--These are the currently used, and accepted, methods by which students employ learning strategies in the educational setting today. In this study, the standard online learning platform utilized was one that all students at this college utilize and is required by the college.

Significance of the Study

This study explored whether social media within the classroom is a viable, efficient, easy-to-use alternative, when compared with other online learning methods. In using social media, students were enabled to grow and learn, in an on-line learning community fostered by a faculty, social presence. This interaction allowed enhanced learning through increased faculty support; additionally the growth in the student's individual social presence increased participation in the learning process, thus enhancing the community of learners as a whole.

CHAPTER 2

REVIEW OF LITERATURE

In regard to social media and its place in the classroom, there are many examples of literature spanning from medical and educational journal articles, books being written detailing the subject, and the web having a myriad of sources, which speak on how and why to implement social media within the classroom, as noted below. There are also those who speak against the use of social media within the classroom, its disadvantages to faculty and students, and its sometime shaky ethical groundwork. This review of literature will cover social media within the classroom as it pertains to faculty, students, ethics, and, finally, the overall benefits and disadvantages.

A Brief History of Facebook

Facebook was launched in 2004 by Mark Zuckerberg, a sophomore Harvard student who was then 19 years old (Carlson, 2010). By the end of the first 24 hours, over 1,200 Harvard students were registered, and by the end of that first month, more than half of the undergraduates at the University were using Facebook (Phillips, 2007). Following multiple law suits claiming he stole the idea for Facebook and eventually settling each, Zuckerberg continued to grow his company into the second largest website, other than Google, in the world. Just recently, Zuckerberg took Facebook public on the NASDAQ, where the company was initially valued at over \$104 billion (Koba, 2012). Zuckerberg continues to grow and expand Facebook to further meet the needs of the users. Currently Facebook is the most downloaded mobile app in

the world, and in the next few years Facebook plans on jumping further into the mobile phone business, expanding their apps and attempting to start their own mobile phone service (Wood, 2012).

Benefits of Social Media

Social media allows for many benefits, not only for the student, but for the faculty and institution as well. Mikol (2005) stated, “Lecturing, with its emphasis on content and cognitive gain, too often creates passivity in students” (p. 87). This is exactly what the use of social media within the classroom seeks to prevent. Social media taps into a culture in which students are already well versed. Social media, while commonplace for many is still new and exciting, presenting multiple possibilities for educational enrichment and networking that will benefit students in and beyond the classroom. In a survey of students, four technology modules were presented to them. Of the four, the social media session was rated as having the highest impact on students (Rutledge et al., 2011).

Another benefit is that for learners with disabilities and special needs, social media gives them an opportunity to participate equally with everyone else in the class, as noted in a survey done by Kolanko (2003) of 45 nursing programs, with almost 50% having admitted students with learning disabilities. Marks (2007) also pointed to the fact that disabled people also have a tendency to grow up in isolation from their peers, thus failing to gain the chance to develop shared experiences and the aforementioned sense of community. Social media aims to stem that tide by offering that sense of community and shared experience. Through forums, instant messaging, and mail, students will be able to converse with fellow students in ways they might have not been able to before.

Most importantly, social media is a known commodity with familiarity among most students and faculty alike. According to research done by Bullas (2011), Facebook is currently the second largest website behind Google in web traffic, with over 500 million users worldwide, and an estimated 10 million users joining the site every month. Bullas continued by offering more staggering numbers to evidence the popularity of Facebook by stating that 1 in every 13 people throughout the world is a member of the Facebook community, and that for 48% of young Americans, Facebook is how they receive their news on a daily basis (Bullas, 2011). The same percentage of young people stated that the first thing they do in the morning is check their Facebook account. Businesses have also seen the impact of Facebook, which should be of huge importance to all students who are soon to graduate. According to a study done by the University of Massachusetts, 289 (58%) Fortune 500 companies were on Facebook in 2011, allowing companies to further broaden their customer base and provide information on products and services to those same customers on a daily basis (Barnes & Andonian, 2011). With figures such as this, it is no wonder that educational institutions are becoming increasingly interested in how Facebook might be able to improve the educational experience of students. For many students, learning in a digital environment is all they have ever known; therefore, it would be beneficial to continue in a forum with which they are familiar and adept at using. For the ones who are not, it is imperative that students become proficient in the tool as it seems obvious they will be using it long after their education is complete.

Standard Online Learning Platforms versus Social Media

In comparing currently used standard online learning tools with social media, both offer the ability to retrieve information needed for class and both offer the ability for students to

communicate with each other. However, a traditional online learning platform will be less open than the Social media format due to its own limitations, such as no interactive office hours with instructor. Whereas students on social media will have access to virtual office hours with the instructor and the ability to participate in real-time conversations with other students, similar learning platforms are limited in these regards and only provide a place in which students can receive and post assignments and join in on forum posts or discussions that are not typically done live or virtual. Unlike social media, other learning platforms also have the issue of its accessibility, as students are unable to access the site from most mobile devices, giving the student less access and less time to retrieve information. It is precisely in social media's ability to quickly display information, allow for real-time conversation, and branch out into other avenues of the web that gives it a distinct advantage over what learning platforms currently offer today.

Learning Communities

There is one benefit, however, of bringing social media into the classroom that stands above all others, and that is the ability for instructors and students alike to form learning communities that will help facilitate deeper learning and understanding of the course material, as well as increase communication between peers and instructors. Learning communities involve instructors and students in a site-based format, such as Facebook, which helps to foster continued collaborative development (Linder et al., 2012). A recent study looking into the reactions, both positive and negative, of student and faculty responses to learning communities took note of students' reactions to learning communities at their university. It was found that the three highest valued reasons for becoming involved in a learning community were (a) studying a topic in

depth, (b) having more assistance from university faculty, and, finally, (c) the ability to share ideas and results of work with fellow classmates.

Learning communities can also be an important and valued tool to the instructor, as it allows them to post and assign added work, which may enhance deeper learning of the material, but which they might not have had time for in a traditional classroom. Because for some instructors social media can still be new, and they still might be naïveté when it comes to using the tool, learning communities allow them a chance as well to become familiar with social media so that they might better integrate it into their classes. In 2010, the Faculty Survey of Student Engagement (FFSE) found that of 4,600 faculty members from U.S. colleges, over 80% stated they did not know how to use, or either never used at all, social media sites like Facebook (Chen & Bryer, 2012). It is for this reason that faculty have been reluctant, if not static, on the idea of tools such as social media in schools. Not only can students have the benefit of the added work and extra time and communication needed to be successful in class, but the instructor as well has the ability to learn and hone the site so that it benefits all involved.

Social presence is an important aspect of the learning community. As discussed previously, social presence is the emotion and interaction, the overall personality, of the online user. For the community to flourish and grow as it should, it will be dependent on the students to contribute and interact with classmates therefore developing a strong online social presence by which the students are comfortable and knowledgeable about the workings of the class, and thereby enhancing the overall community.

Faculty Considerations

Hodges (2011) believed there is a growing concern among those people who believe that traditional classroom teaching methods are inadequate in preparing student nurses for the high demands and constant changes of the nursing environment. Social media seeks to address those concerns; yet for social networking to gain a hold in the classroom, it is imperative that the instructors who will be using the tool be both proficient in its use, and comfortable with the format. For many instructors, social media is still relatively taboo in the classroom, something kept for the private life, and has no real value to the class. In discussing this exact issue, Siegle (2011) made the case that those who did not grow up using or being familiar with technology are “digital immigrants,” and often are not prone to use newer technologies such as social media. The claim is made that if instructors used this technology they can drastically alter how they teach and interact with students, pointing to social media’s ability to instant message and discuss content in group forums.

There are pitfalls, however, as Siegle (2011) pointed out. These pitfalls include students learning too much about their teachers’ personal life or vice-versa. Studies show that most students prefer to keep their personal life separate from their academic life; however they do not mind having discussions within social media sites on public forums. When it comes to faculty self-disclosure on social media, students feel more comfortable with instructors willing to open up and become more personable. This is backed up by a study done by Mazer, Murphy, and Simonds (2009), which was conducted by the authors to determine how students viewed faculty with high self-disclosure on social media, meaning what information they posted, pictures, and the basic overall layout of the page. Students determined that faculty that utilized social media and had a high self-disclosure page scored higher levels on student assessments of the instructor

than those who had a medium and low self-disclosure page. Students felt more comfortable and relatable to the faculty who opened up and revealed information, which is a two edged sword seeing as just like the students, faculty would prefer, and should, keep their personal life separate from their academic life. This is further backed up in another study by Mazer et al. (2007) dealing with faculty self-disclosure where students were shown three faculty Facebook pages, ranging from high self-disclosure to medium to little disclosure. Both high and medium self-disclosure made the students more at ease, feeling they had established a further connection outside of the classroom parameters with their professor. Students on instructor assessments graded those that did not offer much information poorly.

Though there are many steps instructors need to take in order to assure that social media sites are used properly within the classroom, overall, evidence suggests that social media sites benefit more than harm in regard of the feelings of faculty. Recently a study looking at how social media, such as Facebook, twitter, and blogging, all help to improve the mentoring process of nursing faculty (Bassell, 2010), found that with shortages in the workforce, it has become imperative to try and discover new ways to educate nurses. Training on these tools is vital. It was also discovered that the communication aspects and the sense of togetherness it brought about among the nursing faculty were well reviewed.

What continues to be suggested through these studies is that while there are complications to using social media in the classroom, especially in regard to faculty, they are not necessarily obstacles that are difficult to overcome. With proper professionalism and oversight, social media can be a very useful and beneficial tool within the classroom. If student preferences on the subject are any indication, then it should be encouraged that more faculties look into the potential use of social media tools within the classroom.

Student Considerations

In a study conducted by Mazer et al. (2007), students were also asked for their response to how they felt about using social media as a tool within the classroom, including their opinions overall, and if it helps in building rapport. It was determined that social media is an appropriate tool for learning, with students citing familiarity, ease of use, and the ability to make a connection with the faculty and with fellow students. Because it was found by Hanson, Drumheller, Mallard, McKee, and Schelegel (2011) that students spend on average only 13-14 hours studying, which is only half of what educators recommend, why not tap into what they are spending their time with, like social media, and see if it can be used to increase education as well as entertainment.

One of the primary benefits for the student is the ability to have a more open line of communication with the instructor. In a study done by Sturgeon and Walker (2009), the authors looked at the impact social media sites have on the student/teacher relationship. One of the interesting findings was that 90% of the combined students and faculty surveyed said that Facebook and other social media provide an open line of communication, and allow for a connection between students and faculty. However, while there may be better communication, the study warns of the same pitfalls faculty must face regarding how much information to put out about oneself.

This is shown in more detail by Finn, Garner, and Sawdon (2010) in an article that deals with how students conduct themselves online with sites such as Facebook, and the limitations and positives working within this online environment can have. Undergraduates at two United Kingdom medical schools participated in a focus group and seven themes were discovered that influence professionalism: (a) context, (b) role-modeling, (c) scrutiny, (d) sacrifice, (e) identity,

(f) switching it on, and (g) leniency. All seven themes were factors in how students perceive professionalism. The study pointed to a lack of understanding of just what constitutes professionalism and when it should be applied. It also provided guidelines on how to maintain professionalism within key areas such as social media. An example would be one given by Sturgeon and Walker (2009), which suggested creating a “persona” that is professional on their social media page and separate from the one they would have for personal use.

Ethical Considerations

Because students are the first concern, there are many ethical questions that need to be addressed before continuing with social media in the classroom. As mentioned before, personal information on the page should be limited. Lehavot (2009) expounded on this issue in studying graduate psychology students. The author worried that their privacy could be invaded on a more personal and not professional level. The question of ethics comes into play and whether the principles and standards of the Ethics Code of the American Psychological Association are needed to help keep personal information private.

Also of concern is what the students post on the site and what consequence there might be for doing so. As Lee and Bacon (2010) suggested, although the use of social networking sites has grown immensely in the last few years, students and health professionals need to carefully consider their future employer prior to ever posting anything personal; posts regarding an actual work day or just about something personal in general can have repercussions on current or future employment. The authors warn that many employers view the use of these “sites” as unprofessional, even if used for personal reasons and will look at someone’s social networking site if warranted.

Considerations must also be made in regard to the regulations set forth in the Health Insurance Portability and Accountability Act (HIPAA), which maintains the “required protection and confidential handling of protected health information” (HIPAA, 2007) of subjects. This topic is broached in more detail by Hader and Brown (2010) who talk about that with today’s exponential growth of the use of social networking sites, specifically Facebook and Twitter, there continues to remain ongoing privacy and liability concerns related to healthcare providers and/or facilities. Any individual, especially those in the healthcare industry or even in the business world should always remain mindful of not only professional boundaries, but also of patients’ privacy rights and information. Protected Health Information (PHI) includes a multitude of certain personal facts related to an individual. Any disclosure of these facts except in cases of medical necessity and/or patient emergency is a violation of HIPAA and could result in disciplinary action. An example of just that can be found in an article by Freeman (2009) in which he talked about how one nurse went so far as to post a picture of a patient’s x-ray on her social media page, but in a derogatory way. The article further discussed ways in which to deal first hand with issues of this kind, or those that have yet to occur through the use of good privacy training upon new employment in a specific setting. Freeman stated that good training can seek to deter these kinds of events from happening in the first place if the issue is addressed from the start.

Summary

Previous research on the subject of social media and its potential usefulness, and in some cases lack thereof, suggests how it potentially can meet the needs of newer generations of digital learners. Potential specific benefits of using social media in teaching include positive perceptions

of instructor involvement, increased student achievement, and promotion of a learning community.

Research Hypotheses

H₁: Undergraduate nursing students who use social media combined with a standard online platform during a segment of the course will have higher grades compared to those using the standard online platform during a segment of the course.

H₂: Undergraduate nursing students using social media combined with a standard online platform will report greater levels of social presence versus those using a standard online platform during the same segment of the course.

H₃: Undergraduate nursing students using social media combined with a standard online platform earlier in the course versus later will report greater course satisfaction compared to those using only a standard online platform earlier in the course versus later.

CHAPTER 3
METHODOLOGY
Research Design

A counterbalanced research design, where participants are randomly assigned to systematically varying sequences of conditions, was used for the study, allowing for two groups of students to experience both social media and a traditional online learning platform over the course of 12 weeks of the 15-week semester. Both groups experienced the traditional online learning management system or platform. Group A also used social media during the first 6 weeks, and both groups changed to the opposite condition after 6 weeks. This means that Group B only used the online learning platform for the first 6 weeks and then began using social media; Facebook, to be more exact, combined with the traditional online platform for the last 6 weeks.

Sample

For this study, a random numbers table assigned participants to one of two groups, 25 in Group A and 24 in Group B, for a total of 49 out of 64 fourth semester undergraduate nursing students at a small, liberal arts college that participated in the study. A random numbers table assignment is defined as, “subjects that have ‘randomly’ been drawn from the potential pool of subjects so that each member of the population has an equal chance or known probability of being selected” (Rudestam & Newton, 2007, p. 27). The class was open to all students within the

fourth semester from all demographic backgrounds; and it was encouraged that all interested students enroll and participate.

Procedures

On the first day, students were divided into their assigned groups--to either the A group, experiencing both social media (Facebook) and a standard online learning platform, or the B group experiencing only the standard online learning platform. Class content was the same, the exception being the way students were accessing the course content. If a student chose not to participate in the study for any reason, such as them not agreeing with or to the idea of social media, then the student was excluded from the study all together (14 of them actually declined), and participated in only the online learning platform the entire time.

Group A used social media (Facebook) in combination with the online learning platform for the first 6 weeks and answered four discussion questions with personal interactions from the researcher during set times. The second group (Group B) spent that same 6 weeks using only the online learning platform with no personal interaction with the researcher. On week 3 of 6, each group took the same course exam and the groups remained the same--Group A continued to work with social media (Facebook), and Group B continued on with the online learning platform for another 3 weeks. At the end of week 6, the groups swapped formats and Group B began using social media (Facebook), while Group A switched to the online learning platform only. Both groups continued using the online learning platform throughout the 12 weeks of the 15-week semester, even when using social media (Facebook), thus allowing each group to have an equal amount of interactions with the researcher via Facebook. Switching the formats allowed for both

social media (Facebook) and online learning platform users to have the same opportunities within the course.

Utilizing a counterbalanced design allows for recurring measurements or observations to be realized by the researcher, and can offer an overall comparison of grades at the end of the course between both groups. The researcher had an opportunity to look at and compare course grades of the groups at the end of the study to examine the success of each format and make a determination on what was, and was not, successful (Fraenkel, Wallen, & Hyun, 2012). Should a student not have had access to social media (Facebook) or find they were not familiar with, or a current adopter of the tool, they were excluded from the study. This random assignment and time series design helped ensure that results were as clear and concise as possible.

Instruments/Assessments

Facebook offers the ability to create a space within the platform specifically to be used by only those people asking or wanting to be involved. This is called the group page. Creating a group page is a simple matter of the instructor constructing it, then inviting the students to come and join. Once joined, students have the ability to communicate with peers, communicate with the instructor, post relevant information to the class, and access any information pertaining to the class through the group page. Creating this group followed the idea of creating a learning community where participants can join together to accomplish the learning goals. It also allows students to create a social presence by putting them directly into the conversation (Shea & Bidjerano, 2010). Students not only post their own ideas, but also respond to peers so as to further the discussion. The group page provided the perfect template by which to utilize social media (Facebook) in the classroom.

There were eight weekly assessments throughout the semester, which consisted of daily work, such as independent homework and study, as well as group participation on forums and any other assigned work as needed throughout the class. Examples of weekly work included discussion questions, a primary variable used in grading that consisted of lecture content covered during that week, group discussion in forums, and any given daily work determined to be relevant to the class by the instructor. Participation was part of the graded work as well. These scores were combined to offer weekly assessment scores and provided the opportunity for the instructor to note patterns of success and those areas that may need to be explored or corrected to fit student needs. Following these assessments, a unit exam was given every 3 weeks, on weeks 3, 6, 9, and 12 covering the topics discussed in the previous 2 weeks of study. Exam scores were also evaluated so that a comparison of overall grades from both Group A and Group B could determine if one format produced higher overall scores than the other and increased student retention of the information. The repeated measures ANOVA was done to help determine the outcome of this as stated in Research Hypothesis 1.

Social presence was measured using *The Community of Inquiry Instrument (CoI)* ®. (CoI) encompasses both a blended (hybrid) learning environment versus a fully online learning environment utilizing the CoI Model, which includes direct effects of social presence and teaching presence on cognitive presence, mediated by self-efficacy. This instrument was used to assess students' perceptions related to faculty presence of the quality of their online learning experiences. The original 34-item instrument labeled responses on a 5-point Likert-type scale ranging from 1 = *Strongly Disagree* to 5 = *Strongly Agree* (Arbaugh et al., 2008; Shea & Bidjerano, 2008; Swan et al., 2008). Previous studies aimed at validating the measure have found that the variance among the items is best explained by three overarching traits: teaching (13

items), cognitive (12 items), and social (9 items) presence. The Chronbach's Alphas of the three subscales, based on the current samples from the study, which assessed students' perceptions of the quality of their online learning experience, were .95, .92, and .93, respectively. The results of the CoI indicated a p value of $< .001$ for a blended learning environment with teaching presence on cognitive presence via self-efficacy, and social presence on cognitive presence via self-efficacy at .037. A p value of $< .001$ for a fully online learning environment comprised both elements above thus showing that students prefer the blended (hybrid) to fully online (Shea & Bidjerano, 2010). The CoI sample is listed in Appendix A. For this study, permission was obtained from the originators of the survey and revised to encompass what was hoped to be seen measured by the researcher thus assessing student and faculty communication by discovering what learning style or method the student preferred. This survey was given at the completion only of each 6-week period to both groups: Group A after the first 6 weeks and Group B at the end of the second set of 6 weeks, or 12 weeks. A t test was performed to evaluate the results of this assessment and help determine the outcome of Research Hypothesis 2.

The second survey, which was used to address student satisfaction of the overall course, was one that was currently utilized at this liberal arts college. Student satisfaction related to the course was measured with an end-of-course evaluation that the institution currently used to assess overall course satisfaction. It is given at the completion of every semester to each and every nursing course and student. The researcher posited that this tool was relevant to the study because it is used routinely and completed by most participants. Several additional questions were added to ensure adequate measurement of the hypotheses. This survey was completed at the completion of the semester to all students that partook in the study and was administered in person via the researcher. A duplicate second survey was administered to the participants again,

however this time via email and one month after graduation for more accurate data entry into SPSS. This entailed a good indication of adequate results and elicited whether students perceived that the addition of social media (Facebook) was helpful in conjunction with the online learning platform, as opposed to the online learning platform only. A copy of this survey is listed in Appendix B. Another *t* test was done for this assessment also to help evaluate the outcome for Research Hypothesis 3.

During the semester, the fourth semester course coordinator had no access to all of the material being discussed in the course. A separate Facebook account was opened so that the primary researcher could interact and monitor the students' activity and the study itself. The coordinator was involved in grading discussion questions and other work for the course and was responsible for the overall grading of coursework and the scoring of the overall class.

Setting/Instructional Method

The setting was a small, liberal arts college and took place in the class of Nursing 2904: Tertiary Prevention and Synthesis of Care Across the Lifespan. It was held over the course of 12 weeks of the total 15 weeks of the semester for fourth semester undergraduate students at the college.

Because many Georgia Colleges utilized a standard online learning platform, students accessing this platform saw no real change in how the site functioned within the classroom. Students had access to pertinent information to the class, such as schedules and the syllabus, could participate in forum discussions over the topics being discussed in class, and access their discussion questions for the week. Forum discussions consisted of students participating in a dialogue concerning any relevant topic the instructor, or the students, might pose regarding a

subject being discussed in class. These forums provided the opportunity for students to offer their own feedback to other students as well as benefit from what others had learned and shared. These online learning platform students also had access to normal office hours with the instructor in their office to address any needs the student might have had. Instructor/student communication for the online learning platform users was done after each discussion question was submitted individually and graded (as is the typical format) for that particular week and the instructor assessed any needs this group of students may have had as indicated in their actual discussion question responses and overall grade. Any problems posed were handled individually with the instructors, the researcher and the course coordinator, and the student(s) from that group.

For those using social media (Facebook), they found that private messages and the class group page was where information was posted pertaining to the class. Students were able to access the schedule and syllabus on the regular online learning platform, as well as any changes to the class such as content or assignment due dates for example. Forum discussions were made available on the group discussion page with the added benefit of them being in real time, similar to that of a chat room. Students were able to log on to the class discussion through an invite on Facebook, the topic was posed by the instructor and/or primary researcher who was participating, and the students then took lead of the discussion. The social media (Facebook) students also had the benefit of links and relevant media, such as videos or journal articles, which could be useful to the student. Those students using social media (Facebook) also had virtual office hours set at particular times with the instructor, allowing for the ability to Skype face-to-face, speak through instant messaging, or simply send a private message.

While each platform offered the student the ability to access class information, the primary difference in the two was in the real-time aspect social media (Facebook) offered in

terms of communication, as well as the ability social media (Facebook) offered, which the current standard online learning did not at the time of this study, to accessing differing forms of media. Facebook students found they had more access to the instructor, be it through the virtual office hours or the fact the instructor was more hands on due to participating in forum discussions and the possible posting of relevant media that online learning platform users did not do.

Data Collection and Instruments

Table 1

Research Hypotheses and Data Collection

Research Questions	Analysis	Sample Power
Undergraduate nursing students who use social media combined with a standard online platform during a segment of the course will have higher grades compared to those using the standard online platform during a segment of the course.	Repeated measures ANOVA	Sample power was calculated using IBM SPSS SamplePower 3.0. It was determined that for a large effect size (.40 Cohen's f) that a sample of 70 yields a power of .91 at $\alpha = .05$
Undergraduate nursing students using social media combined with a standard online platform will report greater levels of social presence versus those using a standard online platform during the same segment of the course.	T-test CoI Survey/ Assessment (Appendix A)	Sample power was calculated using IBM SPSS SamplePower 3.0. It was determined that for a large effect size (.40 Cohen's f) that a sample of 70 yields a power of .91 at $\alpha = .05$

(table continues)

Research Questions	Analysis	Sample Power
Undergraduate nursing students using social media combined with a standard online platform earlier in the course versus late will report greater course satisfaction compared to those using only a standard online platform earlier in the course versus late.	T-test Standard course evaluation (Appendix B)	Sample power was calculated using IBM SPSS Sample Power 3.0. It was determined that for a sample of 70 yields a power of .84 at $\alpha = .05$

Data collection for the study entailed repeated measures ANOVA and a *t* test. The *t* test encompassed a series of eight discussion questions, half of which were done on social media and the other half on the online learning platform. Each of the eight questions was worth 12.5 points for a total of 100 possible points. There were also four written, multiple choice, unit exams taken in the classroom that equated to 400 total points, or 100 points for each exam. These points aided in determining the student's success at the end of the semester. Also used was the ANOVA (analysis of variance). ANOVA is a more generalized version of the *t* test and involves looking at the differences both between and within the two groups and analyzing them statistically so that an *F* value can be yielded (Fraenkel et al., 2012). The *F* value can then be checked on a table to discover its significance. Along with these tests, other instruments used for the study included asking students to participate in two non-graded, formative surveys--once at the 6-week interval (Group A) and once at the 12-week interval (Group B)--on their feelings regarding the class and the platform they used, social media or the online learning platform. The second survey was completed at the end of the course only, and strictly related to the course itself. An example of the surveys are included in Appendices A and B.

Data Analysis

After data collection was complete, analysis then had to be conducted to determine the results of the study. For this study, the exam scores of students using social media at weeks 3, 6, 9, and 12 were compared to those using the online learning platform, allowing for an examination as to which group succeeded or struggled, and in which areas of the class. This comparison was done not just at the end of the class itself, but every 3 weeks as students took a unit exam, and then at the halfway mark, or 6 weeks, as the students swapped formats. The goal in this was that each student, and, in turn, each format, had an equal opportunity to be used and evaluated by the student. Evaluation of the CoI survey/assessment (Appendix A) also allowed for a broader idea of students' thoughts and feelings regarding instructional activities and provided an opportunity to offer their insight into what is positive and negative about their experience. The overall course evaluation (Appendix B) assessed student satisfaction of the overall course and was given at the end of the semester. Based on the evidence found at the conclusion of the study, a recommendation can be made as to which format is more conducive to student learning. It seems to be clear from multiple studies and the opinions of students that social media can be a positive within the classroom. As long as they are informed of the boundaries they need not cross and maintain the ethical guidelines set at the start of the class, then social media should continue to be explored, if for no other reason than that the students seem to agree it is worth researching.

CHAPTER 4

RESULTS

Introduction

The purpose of this study was to determine if social media is an effective learning tool, and can, in fact, be more effective in enhancing students' learning experience by tapping into a medium in which they are already comfortable and familiar and interact with on a daily basis. Social media has the potential to change the overall dynamic of the traditional lecture classroom, opening up new avenues of communication and learning that lecture classes alone are not able to offer. Social media is also a cost effective tool for the institution, as it costs nothing for the faculty or student to join. By using social media, students will be enabled to grow and learn in the community fostered by a teaching method that potentially enhances learning. This interaction hopes to grow the student's social presence and enhance the community of learners as a whole.

A counterbalanced research design, where participants were randomly assigned to systematically varying sequences of conditions, was used for the study. This allowed for two groups of students to experience both social media and a traditional online learning platform over the course of 12 weeks of the 15-week semester. Both groups experienced the traditional online learning management system or platform. Group A also used social media during the first 6 weeks, and both groups changed to the opposite condition after 6 weeks. This means that Group B only used the online learning platform for the first 6 weeks and then began using social media--Facebook to be more exact--combined with the traditional online platform for the last 6 weeks.

There were eight weekly assessments throughout the semester, which consisted of daily work such as independent homework and study, as well as group participation on forums and any other assigned work as needed throughout the class. Examples of weekly work included discussion questions, a primary variable used in grading that consisted of lecture content covered during that week, group discussion in forums, and any given daily work determined by the instructor to be relevant to the class. Participation was part of the graded work as well. These scores were combined to offer weekly assessment scores and provided the opportunity for the instructor to note patterns of success and those areas that may need to be explored or corrected to fit student needs. Following these assessments, a unit exam was given every 3 weeks, on weeks 3, 6, 9, and 12 covering the topics discussed in the previous 2 weeks of study. Exam scores were also evaluated so that a comparison of overall grades from both Group A and Group B could determine if one format produced higher overall scores than the other, and increased student retention of the information.

Groups	Weeks 1-6	Weeks 6-12
A	Traditional online learning + Social media	Traditional online learning only
B	Traditional online learning only	Traditional online learning +Social media

Research Hypotheses

Three research hypotheses were formulated for investigation. The research hypotheses addressed included the following:

H₁: Undergraduate nursing students who use social media combined with a standard online platform during a segment of the course will have higher grades compared to those using the standard online platform during a segment of the course.

H₂: Undergraduate nursing students using social media combined with a standard online platform will report greater levels of social presence versus those using a standard online platform during the same segment of the course.

H₃: Undergraduate nursing students using social media combined with a standard online platform earlier in the course versus late will report greater course satisfaction compared to those using only a standard online platform earlier in the course versus late.

Chapter 4 is organized by a discussion of the sample demographics, descriptive statistics, data screening, reliability analysis, research hypotheses testing, and conclusions. Data were analyzed with SPSS. Following is a discussion of the sample demographics.

Sample Demographics

Two groups of students participated in the study: Group A had 25 students (51%) and Group B had 24 students (49%), for a total of 49 participants. The majority of participants were females (95.9%, $n = 47$) and 4.1% ($n = 2$) were males. Regarding age, 57% ($n = 28$) were 18-30 years old, and 43% ($n = 21$) were 31-55 years of age. Age group is presented in Table 2.

Table 2

Age Group

Age Group	<i>N</i>	%	Cumulative %
18 to 21	6	12.2	12.2
22 to 25	11	22.4	34.7
26 to 30	11	22.4	57.1
31 to 35	10	20.4	77.6
36 to 40	5	10.2	87.8
41 to 45	2	4.1	91.8
46 to 50	2	4.1	95.9
51 to 55	2	4.1	100.0
Total	49	100.0	

Regarding class rank, 44.9% ($n = 22$) of the participants were sophomores, 2% ($n = 1$) were juniors, and 53.1% ($n = 26$) were seniors. In terms of employment status, 38.8% ($n = 19$) were employed part-time, 8.2% ($n = 4$) were employed full-time, and 53.1% ($n = 26$) were not employed. Most respondents (89.8%, $n = 44$) were registered as full-time students, and 10.2% ($n = 5$) were part-time.

Descriptive Statistics

Participants scored the highest on Exam 3 ($M = 78.95$, $SD = 6.30$), followed by Exam 4 ($M = 77.55$, $SD = 7.36$) and Exam 2 ($M = 75.75$, $SD = 6.88$). Scores were the lowest on Exam 1 ($M = 74.65$, $SD = 5.99$). Descriptive statistics are presented in Table 3.

Table 3

Descriptive Statistics

Scores	<i>N</i>	Minimum	Maximum	<i>M</i>	<i>SD</i>
Exam 1	49	62.35	89.06	74.65	5.99
Exam 2	49	63.53	90.24	75.75	6.88
Exam 3	49	66.35	93.41	78.95	6.30
Exam 4	49	59.65	92.24	77.55	7.36
Social Presence Total	49	115.00	180.00	162.02	16.66
Course Evaluation Total	49	53.00	70.00	62.57	5.14
Discussion Total	49	94.25	99.75	97.62	1.17

The data were screened for normality with skewness and kurtosis statistics. In SPSS, skewness and kurtosis values that are within two times the standard error are considered to be normal distributions. Skewness coefficients were within normal range for all the variables with the exception of discussion total, which had a significant, negative skew. Skewness and kurtosis values are presented in Table 4.

Table 4

Skewness and Kurtosis Values

Scores	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Exam 1	.407	.340	-.095	.668
Exam 2	-.038	.340	-.840	.668
Exam 3	.063	.340	-.348	.668
Exam 4	-.400	.340	-.642	.668
Social Presence Total	-.647	.340	-.236	.668
Course Evaluation Total	-.064	.340	-1.23	.668
Discussion Total	-.886	.340	1.46	.668

A histogram for the discussion total is presented in Figure 2.

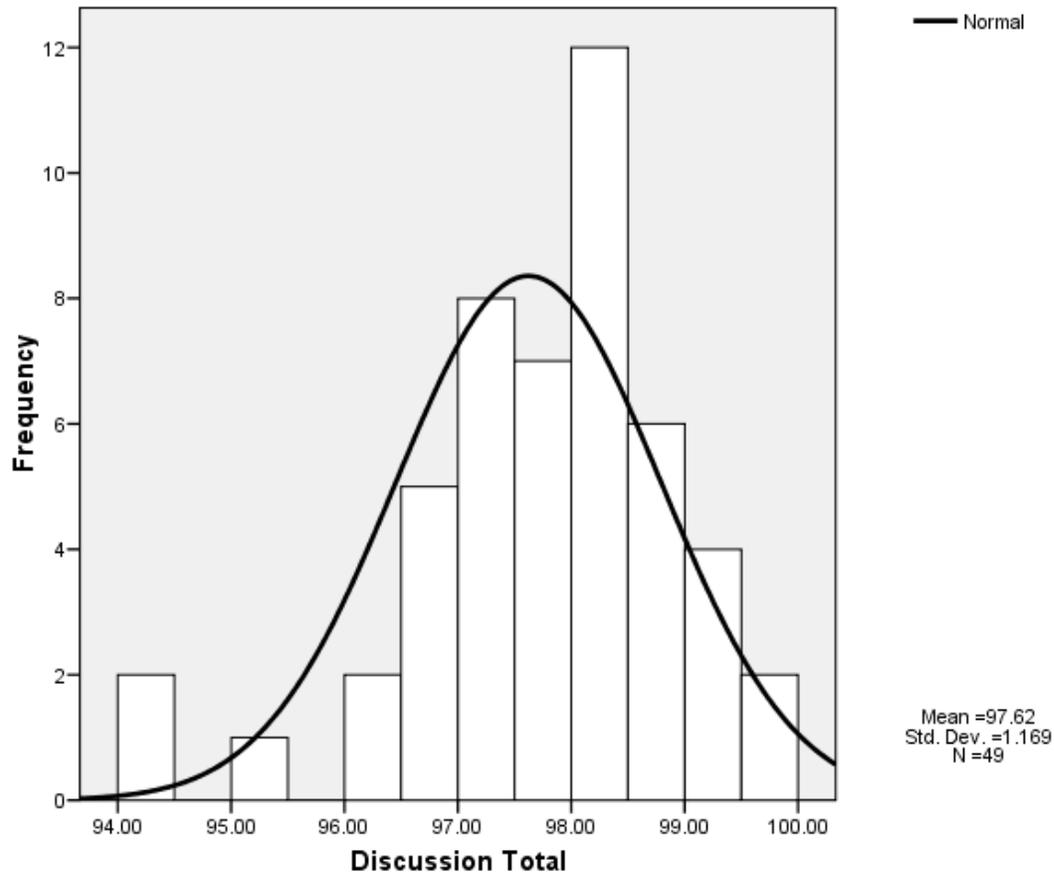


Figure 2. Histogram of discussion total.

In order to correct the negative skew for discussion total, the scores were raised exponentially to a power of three. While this reduced the negative skew, the resulting values produced digits with scientific notation and the transformations did not alter the outcome of the hypothesis testing. Therefore, the original values were retained and used for analysis and interpretation.

Instrument Reliability

Instrument reliability was examined with Cronbach's alpha. For social presence, as measured by the CoI, $\alpha = .973$. For course evaluation, $\alpha = .913$. The minimum acceptable reliability is .70 (Brace, Kemp, & Snelgar, 2009). Based on the review of literature, the internal consistency of the CoI has ranged from .93 to .95. Therefore, the reliability of the CoI for the sample is consistent with prior research.

Research Hypotheses

Research Hypothesis 1

H₁ stated that undergraduate nursing students who use social media combined with a standard online platform during a segment of the course will have higher grades compared to those using the standard online platform during a segment of the course. Because the same unit exam was administered to both groups every 3 weeks as part of the course, it was theorized that Group A would show better scores on Exams 1 and 2, and Group B on Exams 3 and 4. H₁ was investigated with two mixed design ANOVAs and one independent samples *t* test. The repeated measures for the mixed design ANOVAs were test performance on Exams 1 and 2 for the first ANOVA, and test performance on Exams 3 and 4 for the second ANOVA, which were the dependent variables. The discussion score total was the dependent variable for the independent samples *t* test. The independent variable was group assignment for all of the analyses. Group means for the first mixed design ANOVA (Group A, or weeks 1 to 6) are presented in Table 5.

Table 5

Group Means for Exams 1 and 2

	Group	<i>M</i>	<i>SD</i>	<i>N</i>
Exam 1	Social Media (Group A)	75.12	6.90	25
	Control (Group B)	74.16	4.97	24
	Total	74.65	5.99	49
Exam 2	Social Media (Group A)	74.82	7.62	25
	Control (Group B)	76.73	6.01	24
	Total	75.75	6.88	49

The ANOVA summary table for Exams 1 and 2 is provided in Table 6.

Table 6

ANOVA Summary Table for Exams 1 and 2 by Group

	<i>df</i>	<i>F</i>	<i>p</i>
Within-Subjects Effects			
Exam	1	1.09	.302
Exam * Group	1	1.75	.192
Error(Exam)	47		
Between Subjects Effects			
Group	1	.101	.752
Error	47		

There was no significant within-subjects effect for exam, $F(1, 47) = 1.09, p = .302$. In other words, for both groups, there was no significant change from Exam 1 to Exam 2. There was no significant within and between group interaction, $F(1, 47) = 1.75, p = .192$. In other words, the degree of change from Exam 1 to Exam 2 did not significantly differ by group. There was no significant, between subjects effect for group, $F(1, 47) = .101, p = .752$. This means that there was no significant group difference relative to Exam 1 or Exam 2.

Group means for the second mixed design ANOVA (Group B, or weeks 6 to 12) are presented in Table 7.

Table 7

Group Means for Exams 3 and 4

	Group	<i>M</i>	<i>SD</i>	<i>N</i>
Exam 3	Control (Group A)	77.68	6.27	25
	Social Media (Group B)	80.27	6.18	24
	Total	78.95	6.30	49
Exam 4	Control (Group A)	77.86	7.63	25
	Social Media (Group B)	77.23	7.22	24
	Total	77.55	7.36	49

The ANOVA summary table for Exams 3 and 4 is provided in Table 8.

Table 8

ANOVA Summary Table for Exams 3 and 4 by Group

	<i>df</i>	<i>F</i>	<i>p</i>
Within-Subjects Effects			
Exam	1	1.60	.212
Exam * Group	1	2.04	.160
Error(Exam)	47		
Between Subjects Effects			
Group	1	.372	.545
Error	47		

There was no significant within-subjects effect for exam, $F(1, 47) = 1.60, p = .212$. In other words, for both groups combined, there was no significant change from Exam 3 to Exam 4. There was no significant within and between group interaction, $F(1, 47) = 2.04, p = .16$. In other words, the degree of change from Exam 3 to Exam 4 did not significantly differ by group. There was no significant, between subjects effect for group, $F(1, 47) = .372, p = .545$. This means that there was no significant group difference relative to Exam 3 or Exam 4.

An independent samples *t* test was conducted for discussion total by group. Group A ($M = 97.79, SD = 1.12$) did not significantly differ in points earned for their discussion from Group

B ($M = 97.45$, $SD = 1.22$), $t(47) = 1.02$, $p = .156$, one-tailed. Because none of the statistical tests was significant, H_1 is not supported.

Research Hypothesis 2

H_2 stated that undergraduate nursing students using social media combined with a standard online platform will report greater levels of social presence versus those using a standard online platform during the same segment of the course. Social presence was measured with a specific assessment regarding student perceptions and online learning, *The Community of Inquiry Instrument* (CoI) ®, that the researcher administered. This assessment was given at separate times to both Groups A and B and only when each group completed the social media intervention, so Group A at 6 weeks and Group B at 12 weeks. H_2 was investigated with an independent samples t test. The dependent variable was social presence measured using *The Community of Inquiry Instrument* (CoI) ®. Group B ($M = 167.63$, $SD = 13.77$) scored significantly higher in social presence than Group A ($M = 156.64$, $SD = 17.67$), $t(47) = -2.42$, $p = .01$, one-tailed. Therefore, H_2 is supported. There was a mean difference of 10.99. Group B, which only used the online learning platform for the first 6 weeks and then began using social media combined with the traditional online platform for the last 6 weeks, scored significantly higher in social presence than Group A, which used social media during the first 6 weeks.

The significance seen between Groups A and B could be attributed to how the (CoI) ® assessment was administered by the researcher. Each group received this assessment, which again, is relative to students' perceptions related to faculty presence of the quality of their online learning experiences, at the completion of each social media intervention (Group A at 6 weeks and Group B at 12 weeks), but neither group received it prior to the start of the intervention, or

simultaneously. Group A received the survey after the first 6-week period, while Group B continued with the traditional or standard online learning platform, and Group B obtained the assessment at the completion of the study, or at 12 weeks. Both groups received the survey at differing times throughout the study, and at the conclusion for each. Had the researcher administered the assessment before the intervention also, as opposed to just after, these particular results may in fact have been more accurate. Although H_2 is supported, it may be the result of other underlying factors that helped to support this hypothesis, those of which will be discussed in Chapter 5.

Research Hypothesis 3

H_3 stated that undergraduate nursing students using social media combined with a standard online platform earlier in the course versus later will report greater course satisfaction compared to those using only a standard online platform earlier in the course versus later. H_3 was investigated with an independent samples t test. The dependent variable was course satisfaction as measured by a student course evaluation survey. Group A ($M = 62.64$, $SD = 5.37$) did not significantly differ from Group B ($M = 62.50$, $SD = 5.00$) relative to course satisfaction, $t(47) = .094$, $p = .463$, one-tailed.

The survey was administered to both Groups A and B at the same time by the researcher at the completion of the overall study, or 12-week period. The survey had to be administered twice to the participants. The first time, it was conducted in person via the researcher and was done anonymously by each participant. This was not useful to the researcher for purposes of entering and then analyzing the data into SPSS. The same student end-of-course evaluation survey was then emailed individually to each participant in June (1 month after graduation) and

asked them to please complete the survey a second time; however, this time included the last four digits of the student’s assigned identification number in order to help the researcher identify them. Participants were assured again that only the researcher would view these surveys and the importance of how they pertained to the study. A turnaround time of 4 days was given for completion of the survey. All participants completed the survey and emailed it back to the researcher as instructed within the 4-day timeframe. The introduction of social media earlier in the course versus later did not impact course satisfaction. Therefore, H₃ is not supported. Table 9 provides a summary of the research hypotheses and outcomes.

Table 9

Research Hypotheses and Outcomes

Research Hypothesis	Statistical Test	Significance	Outcome	Observed Power
H ₁ : Undergraduate nursing students who use social media combined with a standard online platform during a segment of the course will have higher grades compared to those using the standard online platform during a segment of the course.	Mixed Design ANOVA, Independent Samples T-Test	p-values ranged from .156-.752	Not Supported	.176 to .287 for the ANOVAs, and .26 for the T-Test
H ₂ : Undergraduate nursing students using social media combined with a standard online platform will report greater levels of social presence versus those using a standard online platform during the same segment of the course.*	Independent Samples T-Test	$p = .01$	Supported	.772, Effect size, Cohen’s $d = .027$
H ₃ : Undergraduate nursing students using social media combined with a standard online platform earlier in the course versus late will report greater course satisfaction compared to those using only a standard online platform earlier in the course versus late	Independent Samples T-Test	$p = .463$	Not Supported	.060

Note. Group B, which only used the online learning platform for the first 6 weeks and then began using social media combined with the traditional online platform for the last 6 weeks, scored significantly higher in social presence than Group A, which used social media during the first 6 weeks.

Conclusions

Three research hypotheses were developed for investigation. One was supported and two were not supported. Undergraduate nursing students who use social media combined with a standard online learning platform during a segment of the course did not have significantly higher grades compared to those using the standard online learning platform during a segment of the course.

Undergraduate nursing students using a combination of social media and a standard online learning platform will differ in terms of social presence from those using social media first, followed by only the standard online learning platform during the same segment of the course. Specifically, Group B, which only used the online learning platform for the first 6 weeks and then began using social media combined with the traditional online platform for the last 6 weeks, scored significantly higher in social presence than Group A, which used social media during the first 6 weeks. This significance may, however, be related to the times at which the (COI) ® assessment was administered by the researcher.

Undergraduate nursing students who used social media combined with a standard online learning platform earlier in the course versus later, or for the first 6 weeks, did not report significantly greater course satisfaction compared to those using only a standard online learning platform earlier in the course versus later, or during the first 6 weeks. The results were congruent in the first (given in class by the researcher) and second identical course evaluations administered via email for student identification purposes. Implications of these results, as well as supportive research for each hypothesis, will be discussed in chapter 5.

CHAPTER 5
DISCUSSION AND CONCLUSIONS
Hypotheses

Research Hypothesis 1

H₁ stated, “Undergraduate nursing students who use social media combined with a standard online platform during a segment of the course will have higher grades compared to those using the standard online platform during a segment of the course.” Undergraduate nursing students who use social media combined with a standard online platform during a segment of the course did not have significantly higher grades compared to those using the standard online platform during a segment of the course. Prior research has suggested that incorporating social media with a standard online platform improves academic performance (Kabilan et al., 2010).

For example, a study to determine if Facebook could improve the process of learning English in 300 undergraduate students found that these communities do foster an improvement in language learning and saw subject retention increase in students (Kabilan et al., 2010). This was not supported in the current study. Perhaps academic improvement is dependent on the type of course being taught. The setting for the current study was a small, liberal arts college and took place in the class of Nursing 2904: Tertiary Prevention and Synthesis of Care Across the Lifespan, which is more technical than learning English.

While social media taps into a culture in which students are already well-versed, cultural differences may have also played a role in the improvement in language learning in the Kabilan et al. (2010) study, and may also have influenced the lack of improvement in grades in the

current study. Culture encompasses race and ethnicity, which were not collected in the current study.

Research Hypothesis 2

H₂ stated, “Undergraduate nursing students using social media combined with a standard online platform will report greater levels of social presence versus those using a standard online platform during the same segment of the course.” Undergraduate nursing students using social media combined with a standard online platform reported significantly greater levels of social presence versus those using a standard online platform during the same segment of the course. Specifically, Group B, which only used the online learning platform for the first 6 weeks and then began using social media combined with the traditional online platform for the last 6 weeks, scored significantly higher in social presence than Group A, which used social media during the first 6 weeks. The significance shown between the groups was discussed in chapter 4 regarding the validity of the actual results based on researcher administration of the assessment. Each group received this assessment at the completion only of the social media intervention, and not prior to (Group A at 6 weeks and Group B at 12 weeks), nor did they receive it concurrently. The outcome of this hypothesis, although favorable, is supported by prior research; however, the differing times as stated above at which the COI ® assessment was administered to both groups by the researcher could have made an impact on the results and their overall validity.

A study by Richardson (2003) was conducted at Empire State College by having students fill out a survey on their thoughts pertaining to online learning and social presence. It was determined that those saying they had a high level of social presence also had a high retention rate in regard to what they had been studying or discussing. It was found that instructor likability

plays a huge part as well. Finding that students with low social presence also had low likability marks for their instructor, points to the importance of the instructor within the class and the growing of social presence within the students. This suggests that undergraduate nursing students using social media combined with a standard online platform will have higher retention rates than students using only the standard online platform, and will also have greater likability marks for their instructor. Although Richardson (2003) found that age had no overall effect on social presence, age cannot be ruled out as a possible contributing factor in the significant results in the current study, because the majority of respondents were 18-30 years of age, and they were presumed to be more tech savvy than older students (Pew Research Study, 2010).

Research Hypothesis 3

H₃ stated, “Undergraduate nursing students using social media combined with a standard online platform earlier in the course versus later will report greater course satisfaction compared to those using only a standard online platform earlier in the course versus later.” However, it was determined that undergraduate nursing students who used social media combined with a standard online platform for the first 6 weeks did not report significantly greater course satisfaction compared to those using only a standard online platform during the first 6 weeks. This assessment, again, was completed at the end of the course or semester and, only once both groups completed the experimental condition, and was given concurrently to both groups at the same time. This outcome is not supported in the literature.

For instance, 300 undergraduate students at University Sains Malaysia were surveyed to get their responses to social media within the classroom. It was determined that Facebook, in particular, had the effect of getting 70% of the participants more enthusiastic about their studies,

with a majority of the participants feeling that they had a positive experience with social media in the classroom, emotionally and educationally (Marchand & Gutierrez, 2011).

When it comes to faculty self-disclosure on social media, a study done by Mazer et al. (2009) showed how students feel more comfortable with instructors willing to open up and become more personable. This study, done by Mazer et al. (2009), was conducted by the authors to determine how students viewed faculty with high self-disclosure on social media, meaning what information they posted, pictures, and the basic overall layout of the page. Students determined that faculty that utilized social media and had a high self-disclosure page scored higher levels on student assessments of the instructor than those who had a medium and low self-disclosure page. Students felt more comfortable and relatable to the faculty that opened up and revealed information, which is a two edged sword seeing as just like the students, faculty would prefer to, and should, keep their personal life separate from their academic life. What is unknown in the current study, however, is the degree of faculty self-disclosure on social media, the level of comfort students felt with the instructor, and whether these factors impacted course satisfaction, which could be a future recommendation for this study.

Another issue of concern that possibly impacted the non-significant outcome relative to course satisfaction is associated with ethical considerations. Students and the instructor might have had some concerns about the invasion of their privacy and this can hinder the rapport between students and faculty in a social media environment. Also of concern is what the student posts on the site and what consequence there might be for doing so. As Lee and Bacon (2010) suggested, although the use of social networking sites has grown immensely in the last few years, students and health professionals need to carefully consider their future employer prior to ever posting anything personal; posts regarding an actual work day or just about something

personal, in general, can have repercussions on current or future employment. The authors warn that many employers view the use of these “sites” as unprofessional, even if used for personal reasons and will look at someone’s social networking site if warranted.

Limitations

The setting for the study was a small, liberal arts college in Georgia. The study took place in the class of Nursing 2904: Tertiary Prevention and Synthesis of Care Across the Lifespan; therefore, the results may not be generalizable to other colleges, to other states, or to other courses.

The study employed the use of survey research. Survey research assumes that participants answer the questions honestly. However, it is unknown whether or not participants were honest in their responses to the questions.

The sample size was less than ideal. It was proposed that 70 participants were needed to achieve power levels of .84 and .91 for an alpha level of .05 and a large effect size. Large effect sizes are difficult to obtain. Moreover, 14 participants declined to participate in the study. Forty-nine students participated in the study; thus, a sample size of 49 might have been too small to obtain significant results for the two out of the three hypotheses that were not significant.

The timing of the assessments, both the COI® and the course evaluation, could have been scheduled more effectively. To effectively show true significance for Hypothesis 2 with Group B, the COI® survey should have been administered both before and after the start of the social media intervention to both groups simultaneously, instead of just at completion and to only the experimental group each time. The course evaluation may have shown to be of more importance in Hypothesis 3, or exhibited something more than it did, if perhaps this assessment

had been administered at the completion of the intervention of each group, as opposed to at the end of the entire course as a whole.

Possible threats to the validity of the study could have resulted from overall familiarity with Facebook and social media in general. Depending on the learner and their previous use with technology and differing social media sites, those that operate these sites regularly are at an advantage because maneuvering any of these sites, may come very easily to them.

Due to there being two separate groups, with each group being the independent variable at two different time frames, the Hawthorne Effect may be demonstrated. Both groups knew they were involved in a study and when, so overall behavior of any subject may be intentionally changed since they were aware they were being studied.

Implications and Recommendations

As a result of the previous findings and limitations, the following implications and recommendations are surmised and encouraged. Interesting demographic trends were noted relative to age, employment status, and class rank. Future studies might explore the impact of these variables on student grades, social presence, and course satisfaction.

It was implied that academic improvement may be dependent on the type of course being taught. If this study were replicated, another subject besides nursing may be worthy of investigating to determine if the outcomes are similar. Multivariate research designs might be employed to examine such differences across various subjects.

It was postulated that cultural differences may have also played a role in the lack of improvement in grades in the current study. Culture encompasses race and ethnicity, which were

not collected in the current study. Future studies might examine cultural differences for their role in student grades, social presence, and course satisfaction.

It was implied that undergraduate nursing students using social media combined with a standard online platform will have higher retention rates than students using only the standard online platform, and will also have greater likability marks for their instructor. If this study were replicated, a longitudinal research design is warranted in order to determine the retention rates for nursing students and whether or not higher social presence and instructor likability are associated with higher student retention rates. Also, when the assessment is administered is important to this implication and outcome, as it can mean the difference in showing true significance in the results.

What is unknown in the current study is the degree of faculty self-disclosure on social media, the level of comfort students felt with the instructor, and whether these factors impacted student perception of course satisfaction. Future studies might also incorporate mixed methods research designs adding a qualitative strand to explore these topics in more detail. Based on the quantitative findings, participants might be interviewed for deeper meaning. A qualitative study and methods in general, may prove more significant, as interviewing the participants could help to further understand the actual processes, experiences, and feelings of those involved with social media and Facebook.

Replication of this study may think about all the various social networking sites available, and consider another social media site other than Facebook. New social media sites are developed and utilized and are forever changing, so perhaps a different social media site may be something of consideration for future research and/or studies.

Another issue of concern that possibly impacted the non-significant outcome relative to course satisfaction is associated with ethical considerations. Student and instructor concerns about invasion of privacy are quantifiable. If no survey exists that measures social media ethical concerns, then one needs to be created. Future studies using the survey might incorporate a correlational research design in which ethical consideration is a predictor variable among other variables on the dependent (outcome variable) variable of course satisfaction. Future studies may want to administer the course evaluation at different time intervals, if replicating this study.

Regarding the study limitations, the study was limited to a small liberal arts college in Georgia. The sample size was smaller than expected and likely too small to obtain more significant results than were observed. Therefore, if the study were replicated, perhaps multiple college campuses could be considered. This would increase the sample size, which would increase the likelihood of obtaining significant results, and also increase the external validity of the study.

Conclusion

There is a growing concern among those who believe that traditional classroom teaching methods are inadequate in preparing student nurses for the high demands and constant changes of the nursing environment (Hodges, 2011). The current study did not provide any overwhelming evidence to support the notion that social media combined with a traditional online learning platform was an effective alternative. It did not result in higher academic performance nor did it result in higher course satisfaction among student nurses. It did, however, result in significantly higher social presence. Considering all the benefits of social media, more research needs to be done to further explore this important topic.

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APPENDIX A
CoI SURVEY/ASSESSMENT

Name/Code:

General Information

Please enter or select the best answer for each of the questions that follow (Please select a response for each question.)

2) Gender:

- Male
- Female

3) Age:

- under 18
- 18 to 21
- 22 to 25
- 26 to 30
- 31 to 35
- 36 to 40
- 41 to 45
- 46 to 50
- 51 to 55
- 56 to 60
- 61 to 65
- 66 or above
- I choose not to answer this question

4) Academic Level:

- Freshman
- Sophomore
- Junior
- Senior

5) Employment Status:

- Part time
- Full time
- Not employed
- I choose not to answer this question

6) Registration status:

- Full time
- Part time
- I choose not to answer this question

Directions: please fill in the circle for the best answer; only fill in one for each question.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	I choose not to answer this question
1. Course topics were clearly communicated	<input type="checkbox"/>					
2. Course goals were clearly communicated	<input type="checkbox"/>					
3. Clear instructions were provided on how to participate in course learning activities	<input type="checkbox"/>					
4. Important due dates/time frames for learning activities were clearly communicated	<input type="checkbox"/>					
5. The course format was helpful in identifying areas of agreement and disagreement on course topics that helped me to learn.	<input type="checkbox"/>					
6. The course format was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking.	<input type="checkbox"/>					
7. The course format helped to keep course participants engaged and participating in productive dialogue.	<input type="checkbox"/>					
8. The course format helped keep the course participants on task in a way that helped me to learn.	<input type="checkbox"/>					
9. The course format encouraged course participants to explore new concepts in this course.	<input type="checkbox"/>					
10. The course format reinforced the development of a sense of community among course participants.	<input type="checkbox"/>					

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	I choose not to answer this question
11. The course format provided useful illustrations that helped make the course content more understandable to me.	<input type="checkbox"/>					
12. The course format presented helpful examples that allowed me to better understand the content of the course.	<input type="checkbox"/>					
13. The course format provided clarifying explanations or other feedback that allowed me to better understand the content of the course.	<input type="checkbox"/>					
14. Getting to know other course participants gave me a sense of belonging in the course.	<input type="checkbox"/>					
15. I was able to form distinct impressions of some course participants.	<input type="checkbox"/>					
16. Online or web-based communication is an excellent medium for social interaction.	<input type="checkbox"/>					
17. I felt comfortable conversing through the course medium.	<input type="checkbox"/>					
18. I felt comfortable participating in the course discussions.	<input type="checkbox"/>					
19. I felt comfortable interacting with other course participants.	<input type="checkbox"/>					
20. I felt comfortable disagreeing with other course participants while still maintaining a sense of trust.	<input type="checkbox"/>					
21. I felt that my point of view was acknowledged by other course participants.	<input type="checkbox"/>					
22. Discussions help me to develop a sense of collaboration.	<input type="checkbox"/>					

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	I choose not to answer this question
23. Problems posed increased my interest in course issues.	<input type="checkbox"/>					
24. Course activities piqued my curiosity.	<input type="checkbox"/>					
25. I felt motivated to explore content related questions.	<input type="checkbox"/>					
26. I utilized a variety of information sources to explore problems posed in this course.	<input type="checkbox"/>					
27. Brainstorming and finding relevant information helped me resolve content related questions.	<input type="checkbox"/>					
28. Online or web-based discussions were valuable in helping me appreciate different perspectives.	<input type="checkbox"/>					
29. Combining new information helped me answer questions raised in course activities.	<input type="checkbox"/>					
30. Learning activities helped me construct explanations/solutions.	<input type="checkbox"/>					
31. Reflection on course content and discussions helped me understand fundamental concepts in this class.	<input type="checkbox"/>					
32. I can describe ways to test and apply the knowledge created in this course.	<input type="checkbox"/>					
33. I have developed solutions to course problems that can be applied in practice.	<input type="checkbox"/>					
34. I can apply the knowledge created in this course to my work or other non-class related activities.	<input type="checkbox"/>					
35. I was satisfied with this course.	<input type="checkbox"/>					
36. I learned a great deal in this course.	<input type="checkbox"/>					

APPENDIX B
STANDARD COURSE EVALUATION

NURS 2904- Tertiary Prevention and Synthesis of Care Across the Lifespan

The following tools are used to assist in achieving the learning outcomes for the course. Please indicate your agreement/disagreement with these tools by choosing the appropriate response. Limit your comments relative to the COURSE, not the instructor.

1. The materials provided in the course were applicable
Strongly agree Agree Undecided Disagree Strongly Disagree
2. The lecture and discussion provided in the course was relevant
Strongly agree Agree Undecided Disagree Strongly Disagree
3. The use of audio-visual aids was helpful
Strongly agree Agree Undecided Disagree Strongly Disagree
4. The feedback with any assignment was clear/concise/helpful
Strongly agree Agree Undecided Disagree Strongly Disagree
5. The computer assignments were easy to follow and understand
Strongly agree Agree Undecided Disagree Strongly Disagree
6. The unit exams were applicable to the content and aided in my understanding of the material
Strongly agree Agree Undecided Disagree Strongly Disagree
7. The course and schedule was conducive to my lifestyle and learning
Strongly agree Agree Undecided Disagree Strongly Disagree
8. The procedure for grading was fair
Strongly agree Agree Undecided Disagree Strongly Disagree
9. The course was a valuable learning experience
Strongly agree Agree Undecided Disagree Strongly Disagree
10. Instructions for accessing and completing course elements were clear
Strongly agree Agree Undecided Disagree Strongly Disagree

11. The course challenged me intellectually

Strongly agree Agree Undecided Disagree Strongly Disagree

12. The course workload was manageable and appropriate

Strongly agree Agree Undecided Disagree Strongly Disagree

13. The course was well organized

Strongly agree Agree Undecided Disagree Strongly Disagree

14. How would you rate this course

Excellent Above Average Average Below Average Failure