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Student Perception of Blended Course Activities

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by

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Abstract

The flipped classroom has been implemented within the nursing curricula to promote increased student classroom satisfaction, student engagement in the classroom, and improve retention of complex nursing concepts. This research study evaluated how the implementation of the flipped classroom contributed to the overall perception of a new instructional model of teaching within an Associate Degree program for a summer nursing course. A variety of research articles were reviewed to assist in the construction of this instructional approach for this nursing course. The research articles reviewed revealed through statistical analysis that overall satisfaction of the flipped classroom approach was successful in increasing student satisfaction within the classroom and student classroom engagement. This study found similar results.

Keywords: flipped classroom, active learning

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CHAPTER I

INTRODUCTION

Nursing is an applied profession requiring learners to comprehend, analyze, and apply content in varying patient situations (Alexandre & Wright, 2013). A primary goal of nursing education is to prepare nursing professionals who can work collaboratively with other team members for the benefit of the patient (Sandahl, 2009, p. 171). In a time, where technology has made capturing and holding your students' attention moderately difficult, nurse educators must incorporate a variety of teaching methods into the classroom to ensure students comprehend essential concepts and can apply those concepts, within their clinical practice. Adapting teaching strategies to promote student engagement and active learning is a vital component of the faculty role (Billings & Halstead, 2016, p. 245).

Educators have long considered that active learning and learner participation produce better educational outcomes than traditional, lecture-based teaching methods (Alexandre & Wright, 2013). The flipped classroom is a newer teaching concept that promotes active learning, creativity, and critical thinking among students. This pedagogical concept of flipping the classroom provides a student-centered approach that has the potential to engage nursing students in ways that address the needs of today's students and complexity of contemporary health care (Betihavas, Bridgman, Kornhaber, & Cross, 2016, p. 2). Nursing students perceived themselves to be significantly more academically challenged than their peers in education and other health professions; however, surveys of nursing students have indicated that although nursing students are engaged in rigorous curricula, they do not perceive themselves to be engaged in student-

centered and interactive pedagogies (Popkess & McDaniel, 2013, para. 1). The flipped classroom encourages student engagement and relationship building between the faculty members and the student.

Significance

Calls for educational reform, particularly in healthcare programs such as nursing, highlight the need for students to problem solve, reason, and apply theory into practice (Betihavas et al., 2016, para. 1). The Institute of Medicine (2011), identified fundamental competencies required of all healthcare professionals that included: the ability to translate evidence into practice; proficient utilization of technological innovations to improve patient care; membership and collaboration in multidisciplinary teams; and recognition of complex care delivery arrangements and changing patient-clinician relationships (Hawks, 2014, p. 264). It is crucial that nurse educators create learning experiences that replicate reality (Bristol, 2014, p. 1), which allows students to understand and comprehend what is learned during class and apply this knowledge to their practice as a student nurse. Sparking student engagement should no longer be difficult when incorporating the flipped classroom into a nursing curriculum. The need for effective strategies to help nursing students integrate theory and practice requires a change in pedagogy calling for nurse educators to step out from behind the podium and engage students in practice-based learning experiences (Harrington, Bosch, Bates, & Anderson, 2015, p. 179). Active learning is associated with improved academic performance, increased learning, and achievement, greater engagement, improved critical thinking skills, and better attitudes toward learning (Harrington et al., 2015, p. 179). Nurse educators believe that it is not until the student applies theory to a given patient situation, thereby linking the theory

with practice, that true understanding materializes (Alexandre & Wright, 2013, para. 1). Incorporating the flipped classroom into a nursing curriculum can be used to increase understanding of nursing principles and the application of nursing knowledge more effectively and safely into nursing practice. The flipped classroom presents a variety of teaching methods within the concept that a nurse educator can use to enhance the learning experience for the student. The nurse educator has the option of utilizing case studies, small group activities, role playing, as well as student journaling. Flipping the classroom means that what used to be presented in a formal lecture context is now learned using online resources and what was previously designated as homework is now worked on in class with the teacher present and involved in dialogue (Hanson, 2016, p. 80). The purpose of flipping the classroom is to move learning beyond memorizing facts to applying them in real world clinical situations, have learners clarify and apply previous learning, link this learning to clinical case scenarios, and connect what is learned in the classroom to their work in the clinical setting. Nurse Educators must continue to seek ways to promote this level of active engagement in their classrooms to prepare learners to provide safe and high quality of care (Billings, 2016, p. 52). The flipped classroom not only serves as positive promotion of student engagement and learning but it has other benefits that contribute to safe and quality patient care as well. Colleges and universities that implement the flipped classroom into various curriculums show increased sensitivity regarding their culturally diverse population of students. Culturally and linguistically diverse learners may benefit by being able to repeatedly view or listen to the resources (Billings, 2016, p. 52) recorded by audio or video due to language barriers. When

identifying, and partnering with students, the faculty are better able to customize the learning experience to meet the students' needs (Bristol, 2014, para. 6).

Problem Statement

The Institute of Medicine (2011) determined the ways in which nurses were educated during the 20th century is no longer adequate for dealing with the realities of healthcare in the 21st century and "nursing curricula needs to be reexamined, updated, and adaptive enough to change with the patients' changing needs and improvements in science and technology (p. 2). In addition to changes made with technology, and the healthcare delivery system, nurse educators have argued that it is equally important to teach clinical judgement and thinking practices to prepare students to engage in lifelong learning and to function in a variety of roles in a multifaceted and complex health care system (Herinckx, Munkvold, Winter, & Tanner, 2014, p. 30).

Purpose

The purpose of the MSN thesis was to show how integration of the flipped classroom into an Associate Degree Nursing (ADN) program curriculum, would positively influence and enhance the preparation (critical thinking skills) of the student nurse to graduate nurse. This addition to the nursing curriculum will show an increase in overall satisfaction of nursing student classroom experience. A positive increase in basic understanding and comprehension of nursing concepts, critical thinking, and application of the knowledge obtained is expected by the students participating in the course. The flipped classroom concept will show how this innovative new way of educating nursing students allows for a greater autonomy in learning and equalizes the responsibility for learning, between the nurse educator and the student. This learning initiative provides a

student-centered approach to learning that has the potential to engage nursing students in ways that address the needs of today's students and the complexity of contemporary health care (Betihavas et al., 2016, para. 1). The notion of higher education being student-centered and students being actively engaged warrants a notable shift in roles and how time and space are utilized (Betihavas et al., 2016, para. 7). The foundation of flipping the classroom is a student arrives to class ready for the learning experience (Bristol, 2014, p. 44), while the classroom experience is designed with two main goals in mind: higher order thinking and realism (Bristol, 2014, p. 44).

Research Question

This thesis aimed to answer the following research question:

- What is the student's perception of the blended classroom experience?

Theoretical or Conceptual Framework

The theoretical framework of this MSN thesis can be directly correlated with Jean Piagets' Theory of Constructivism. Constructivism is a relatively new approach to learning, based upon the work of nursing theorist Jean Piagets' belief, that learning is developmental and that assimilation, accommodation, and construction of knowledge are the basic operating processes in learning (Billings & Halstead, 2016, p. 214). Constructivists believe that learners build knowledge in an attempt to make sense of their experiences and that those learners are active in seeking meaning (Billings & Halstead, 2016, p. 214). Constructivism in nursing can be understood as students engaging in an active process of discovering knowledge by working through the problems, issues, and common scenarios in the profession of nursing (Ellis, 2015, p. 66). Jean Piaget's Cognitive Development Theory occurs in stages, the stages occur in a fixed order, and are

universal to persons everywhere (McEwen & Wills, 2014, p. 396). According to Piaget, in order for learning to occur, an individual must be able to assimilate new information into existing cognitive structures or schemes; that is, the new experience must overlap with previous knowledge (McEwen & Wills, 2014, p. 396).

This MSN thesis utilized Piaget's concepts of behavior, mental processes, and environment. The Conceptual-Empirical-Theoretical diagram is displayed in Figure 1.

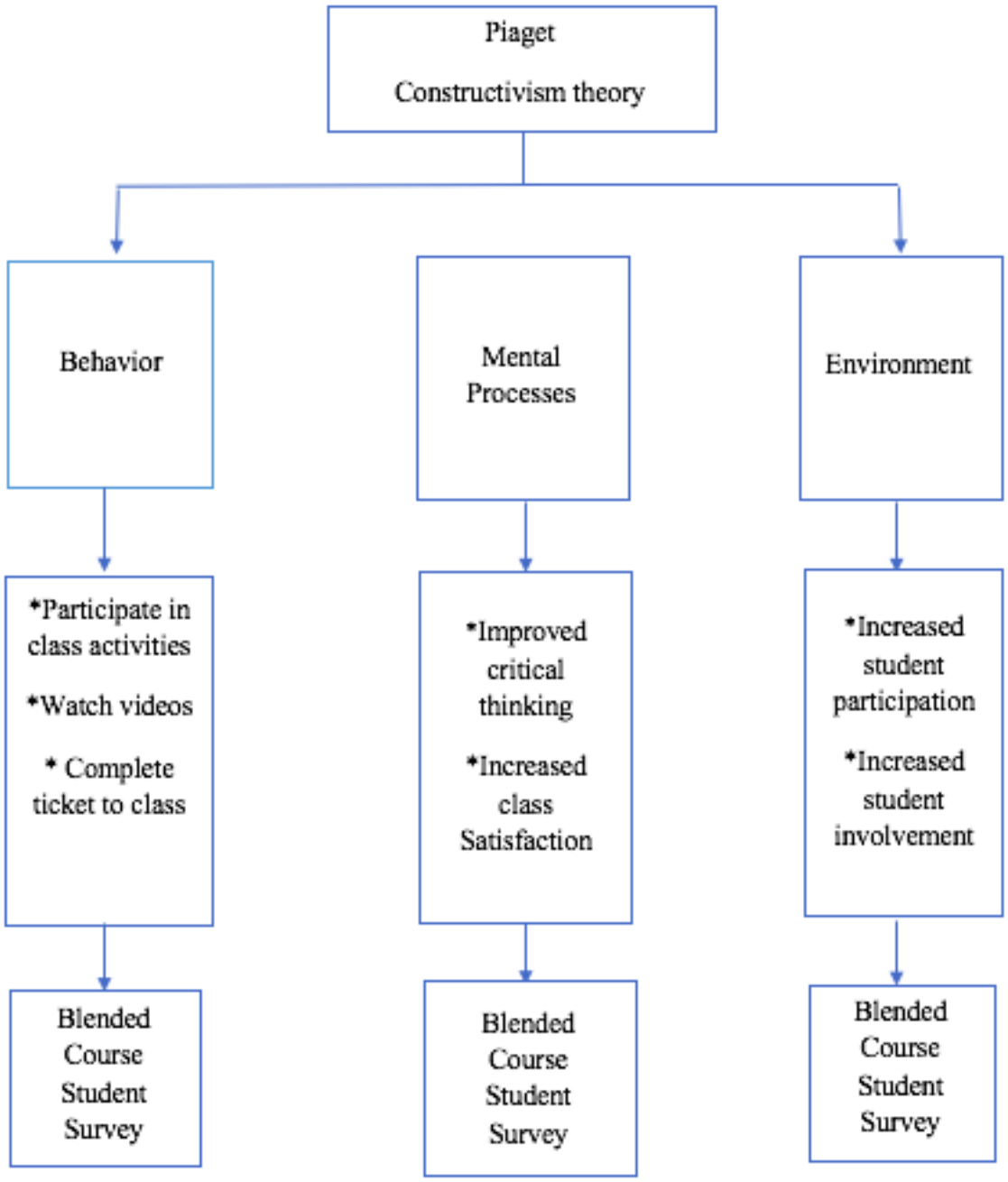

Figure 1. CTE Structure

The flipped classroom is related to the Constructivist theory in that it will show how the intermittent implementation of this style of instructing and learning within a nursing class will contribute to building competence of skills application in the clinical

setting, promotes and aids in learning and retention of nursing concepts, as well as aid in increasing student satisfaction in the nursing classroom. The flipped classroom is a pedagogical model with many opportunities for execution. Fundamentally, it involves having students view online prerecorded lectures, engage in online discussion boards, and complete required readings prior to class (Crine & Knight, 2013, p. 210). The flipped classroom as it relates to adult learning is composed of both behavioral and constructivist learning theories; there is generally a need to combine both theories in the construction of the flipped classroom. This is due in part to instances where traditional classroom lecture is deemed to be more beneficial to the student than utilizing the various flipped classroom modalities for learning. Behavioral learning theory is akin to traditional classroom instruction (lectures, tutorials, and teacher-centered instruction) (Presti, 2016, p. 253).

Behavioral Learning theories focus on behavior modification, reflexes, reaction and reinforcement. It emphasizes observable and measurable aspects of human behavior, as well as posits that behavior can be controlled through rewarding desirable behavior and ignoring or punishing undesirable behavior (McEwen & Wills, 2014, p. 391). Teachers that subscribe to this viewpoint are considered designers and controllers of student behaviors; holding full responsibility for what students should learn and for evaluating how, when and if students have learned the materials (McEwen & Wills, 2014, p. 391). Nurse educators who choose to utilize this theory within their practice, may be viewed as taking a somewhat relaxed approach to teaching in that the effort that it takes in assembling the flipped classroom is not put forth. Emerging evidence about using the flipped classroom in nursing education indicates that this is an effective strategy for

helping learners to better connect learned concepts to clinical practice and for preparing them for the clinical experience (Billings, 2016, p. 53).

Definition of Terms

Flipped Classroom: is a learning model that employs asynchronous video lectures, reading assignments, practice problems, and other digital, technology-based resources outside the classroom, and interactive, group based, problem-solving activities in the classroom (Hawks, 2014, p. 1).

Active learning: any instructional method that engages students in the learning process (Presti, 2016, p. 252).

Ticket to class: A study guide often constructed by a teacher to review current or previously learned material that must be completed by the student and presented to the teacher prior to the beginning of the classroom time.

Summary

The flipped classroom is the newest approach in nursing education, designed to enhance student engagement and facilitate improved comprehension. This approach enables the nursing student to have more control and flexibility with their learning needs and bridge the gap of acquiring knowledge and placing it into practice.

CHAPTER II

LITERATURE REVIEW

This chapter presents a review of the literature related to the MSN Thesis. The flipped classroom invites new and innovative ways to aid with student learning and comprehension of essential concepts throughout a nursing class. This exciting, relatively new, concept to the approach of teaching gravitates the student to a more independent level of study and invigorates the classroom with a new level of discussion and engagement. The flipped classroom allows for the student to incorporate what is learned through pre-classroom preparation; viewing pre-recorded lecture and video; to real life scenarios during classroom time. This can be accomplished by using a variety of case studies, small group discussions, and simulation. Learning is best done when students are engaged and are able to construct and reconstruct knowledge through these proposed active learning strategies (Gilboy, Heinerichs, & Pazzaglia, 2014, p. 1).

A literature review was conducted to show the correlation between implementing a flipped classroom approach within a nursing course with an increase in student satisfaction in the learning environment and in the student ability to comprehend and apply difficult nursing concepts for use in the clinical setting. A comprehensive search of databases Cumulative Index for Nursing and Allied Health [CINAHL] and ProQuest Nursing research database were used in the retrieval of such research.

Literature Related to Problem Statement

Missildine, Fountain, Summers, and Gosselin (2013) conducted a quasi-experimental study to determine the effects of the flipped classroom approach on the academic success of 589 baccalaureate nursing students in two adult health nursing

courses that were offered consecutively in semesters two and three of the nursing curriculum. Researchers utilized three teaching modalities including traditional lecture, video recorded lecture as an adjunct to traditional lecture, and lecture capture with interactive activities (flipped classroom). Results were measured by examination averages and student satisfaction. Comparable examination items in test metrics were used from semester to semester to ensure consistency. Satisfaction data were gathered using a 16 item, faculty developed questionnaire, scored on a 4-point Likert-type scale with higher scores indicating greater satisfaction. The first research hypothesis was designed to examine differences among the three educational delivery methods on mean examination scores. The change in the mean was small but reflects an additional 47 students achieving passing grades over the course of the study, these results support the first hypothesis. The second aim of this study was to assess the differences in student satisfaction across the three educational delivery systems. Overall students were not satisfied with the use of the flipped classroom modality citing that it required more work, thus the second hypothesis was rejected.

Popkess and McDaniel (2013) conducted a research study composed of 3,000 randomly selected undergraduate students from nursing and non-nursing health professions. Each group of 1,000 research participants included 500 freshman students and 500 senior students to determine if differences exist between levels of nursing student engagement and those of other health professional students as measured by the National Survey of Student Engagement (NSSE). The NSSE instrument was used to measure engagement on five subscales with a total of 41 items. The subscales represent benchmarks of educational best practices leading to engagement. Researchers found that

undergraduate nursing and other health majors demonstrated lower scores in active and collaborative learning compared to their peers in education. Nursing and other allied health majors in the sample saw themselves spending significantly less time than education majors in activities such as contributing to class discussions, making presentations, working with other students in/out of class and tutoring others.

Critz and Knight (2013) conducted a research study to evaluate the effectiveness of the flipped classroom on student engagement and satisfaction for graduate students taking a pediatric course in a Family Nurse Practitioner program. A 10-item online, researcher developed survey was distributed via survey monkey to 20 graduate level students enrolled in the pediatric NP course. Each question was rated on a 5-point Likert scale ranging from one-extremely worthwhile to five-not at all worthwhile. The purpose of the study was to explore how students would feel about taking charge of their own learning prior to coming to class and applying the knowledge during class time. With intense preparation, the nursing faculty implemented the flipped classroom within the NP Pediatric course. The findings were as follows: the implementation of the flipped classroom within this course was an overwhelming success.

Geist, Larimore, Rawiszer, and Al Sager (2015) utilized a pretest posttest quasi-experimental design to determine if there was a significant difference between the content knowledge gained when comparing methodology of traditional lecture to the flipped classroom within a baccalaureate nursing pharmacology course. A group of 86 students were divided into a control group which was taught utilizing the traditional classroom and a treatment group which was taught utilizing the flipped classroom approach. Students in the treatment group also took the Health Education Services (HESI) exam.

Researchers found that students participating in the treatment group performed better on three unit tests during the course. Incorporating the flipped classroom model provided a learning environment structured for deeper understanding of nursing concepts.

Harrington et al. (2015) used an experimental design to objectively compare the learning outcomes of two pedagogical approaches (traditional classroom vs. the flipped classroom) as measured quantitatively through exams questions, quiz scores, and course grades. Eighty-two nursing students enrolled in an Adult Health course, during their second semester of a baccalaureate nursing program, were randomly divided into two groups. The students met at the same time and day of the week, for the same period of time, in different classrooms. Students in the traditional classroom attended live lectures with minimal classroom activities, while those in the flipped classroom prepared prior to class. This study did not demonstrate statistically significant differences between pedagogies; however, the equivalence interval results imply that the novel approach of a flipped method was equally effective for student learning. Regardless of the pedagogy, students in both groups averaged 86.3% as a final grade, indicating mastery of content.

Hanson (2016) used a descriptive research method to examine students' perceptions of the effectiveness of a flipped classroom approach to increase understanding of pharmacology principles and the application of this knowledge to medication practice. The pharmacology course was offered during the second-year of the baccalaureate program. The course was a theoretical course with no clinical skills component designed to explore foundational pharmacological concepts and their relevance to clinical practice. Students were asked to complete an internet-based, self-completion questionnaire via Survey Monkey. Data was collected using a 10-item

questionnaire with a total of 51 second year undergraduate nursing students responding. Although the number of respondents was low, the results remained positive. Researchers found that student grades made some improvements from the use of the flipped classroom, and by far the most positive outcome was that students stated that the flipped classroom approach increased their understanding of pharmacology concepts and their application to practice (29%) and promoted deeper and wider thinking (14%).

Ellis (2015) investigated the role of nurse educators' belief and self-perception in their use of Learner-Centered Teaching (LCT) in the nursing education classroom. Nurse educators who taught face-to-face classes in all undergraduate nursing programs in one state in the USA were invited via email to participate in the study. The instrument used consisted of the researcher-developed questionnaire, the Ellis Learner-Centered Teaching in Nursing Education Questionnaire (ELCTNEQ), and items exploring nurse educators' self-perception of learner-centeredness, and agreement or disagreement with belief statements about LCT. The study found that nurse educators in this study believed LCT enhances deeper understanding of nursing concepts and enhances the ability to apply classroom learning to clinical practice, but these beliefs had a weak influence on their actual implementation of LCT.

Simpson and Richards (2015) used a descriptive, exploratory design to increase the relevance of the population health content to their future practice as healthcare provider, as well as improve the students' ability to critically think about population health issues and determinants of health which play such an important role in health outcomes. Students complained that they had difficulty relating to the relevance of the course and that there was little to no student involvement within the course. A

convenience sample of 64 third year students and 92 second year students enrolled in a Populations Health course were evaluated on the use of the flipped classroom method which consisted of voiceover PowerPoint slides, reflective journaling after class, interactive videos, and text readings. The course faculty developed survey consisted of six questions on a Likert-type scale. Researchers found that students felt the new classroom approach afforded them greater flexibility and control in learning. The students also felt that the new classroom approach positively enhanced classroom interactions and engagement.

Strengths and Limitations of Literature

The flipped classroom is a new approach that has recently been introduced to nursing curriculums with hopes to help facilitate and broaden student engagement, bring increased comprehension to difficult nursing concepts, and bridge the gap between the comprehension and application of nursing concepts in clinical practice. This literature shows that although the perception of the flipped classroom has varying degrees of acceptance, most nursing students exposed to this new way of learning have been satisfied with the results. The literature has also shown that students may not initially appreciate the amount of self-discipline and sacrifice that is involved with learning, but the results facilitate improved classroom satisfaction and engagement among nursing students.

CHAPTER III

METHODOLOGY

This chapter outlines the research design, setting, sample, protection of human subjects, instruments, data collection procedures, and data analysis used to determine the nursing students' satisfaction with the flipped classroom.

Research Design

This research study utilized a descriptive design to determine the student's perception of the blended classroom experience. Information was collected from each student using the blended course student survey. The methods used for instruction were pre-class preparation completed by the student which included, voice-over PowerPoints and a ticket to class. Case scenarios and interactive case studies with class discussion and small group activities with class discussions were utilized during interactive classroom activities.

Setting

The setting for the MSN thesis took place at a rural two-year higher education institution with a total enrollment of 2,500+ undergraduate college students. The health sciences department is home to an Associate Degree Nursing program that can educate up to 70 nursing students between 1st and 2nd year of nursing.

Sample

This study was conducted using sophomore nursing students completing a holistic health course in an Associate Degree nursing program. The flipped classroom approach was incorporated within NUR 114 Holistic Nursing during the summer semester 2018.

Protection of Human Subjects

Permission to incorporate the flipped classroom technique into the NUR 114 Holistic Nursing course and evaluate student satisfaction was received from the Dean of the Health Sciences department. The researcher's educational institutional review board also granted permission to conduct the research. This research posed no risk to students and each student received a consent form prior to beginning the class. All students were required to participate in the flipped classroom learning techniques; however, participation in the student satisfaction survey were voluntary. All surveys were completed anonymously. Students were notified that the decision to participate or not to participate would in no way affect their course grade or relationship with the professor or research facility.

Instruments

The instrument utilized to measure student satisfaction was the Blended Course Student Survey (Appendix A). The survey consists of 25 questions and are answered in various methods including a 5-point Likert scale, multiple choice, and open-ended questions. Possible scores on questions rated on the Likert scale range from 21 to 105. Specific scoring instructions are not available; however, other studies indicate that the higher the score, the higher the students' satisfaction with blended courses. Reliability and validity information was not available for this tool.

Data Collection Procedure

During the course of the semester, the researcher incorporated blended course activities for certain lectures. All other lectures during the semester were conducted using traditional teaching methods. The researcher used blended course activities during

two lectures covering the topics of Benign Prostatic Hypertrophy, Renal Calculi, Seizure disorders, and Prostate Cancer that will consist of voiceover PowerPoint slides (students will view prior to lecture time) and "tickets to class." Students were required to complete "tickets to class" prior to the class session. A variety of student engagement and learning modalities were utilized during each class period including, small group activities, case studies, and in-class research assignments with discussion for each activity.

Following completion of the unit test related to the above topics, students were asked to complete the Blended Course Student Survey. Participation in the activities were mandatory as they were taught as part of the course curriculum; however, completion of the survey was voluntary. At the end of the specified class period, the researcher explained the purpose of the research study. Students received an Informed Consent form (Appendix B) and a copy of the Blended Course Student Survey. An envelope was left at the front of the classroom for students to return completed or blank surveys. The researcher left the classroom during this process.

Data Analysis

Data was analyzed utilizing a SPSS version 24 statistical software package. Descriptive statistics were utilized to determine the student's perception of the blended classroom experience.

CHAPTER IV

RESULTS

The Flipped Classroom model (FCM) has been proposed as a solution that provides educators the power to transform nursing education by maximizing learning opportunities for students. The premise of this model is for students to learn the basics of conceptual information in their environment and then engage in interactive learning in the classroom with faculty. (Hessler, 2017). Nurse faculty use the flipped classroom approach for instruction and learning as a means of increasing student perception of the blended classroom experience, promoting student engagement inside the classroom and clinical setting, as well to improve student comprehension of complex nursing concepts. The flipped classroom teaching concept is also used to promote student-faculty relationship through increased student engagement. The result of this study displayed an overall positive perception of the blended classroom experience for the concepts fore-mentioned within this survey.

Sample Characteristics

This study was conducted utilizing 28 sophomore nursing students completing a Holistic nursing course in an Associate Degree nursing course. There was no demographic information collected within this study, but the number of participating students was N=28. All participants were actively enrolled in nursing program summer NUR 114 Holistic Health concepts course. Twenty-eight surveys were handed out for the post-survey and 28 surveys were returned, yielding a response rate of 100%.

Major Findings

Data analysis of the Blended Course Student Survey revealed an overall score of 69.9 (SD = 14.6). Mean scores of individual questions are displayed in Table 1.

Table 1

Means and Standard Deviations of Blended Course Student Survey

Blended Course Survey Question	M	SD
In general, how satisfied are you with your blended course(s)?	3.7	1
Given a choice, would you enroll in another blended course?	3.1	1.4
In general, how do you feel the technology component of your blended course(s) affects the following, when compared to your face-to-face courses?		
a. The amount of your interaction with other students	3.4	1.1
b. The quality of your interaction with other students	3.4	1.1
c. The amount of your interaction with the instructor	3.6	1.1
d. The quality of your interaction with the instructor	3.5	1.1
I'm more likely to ask questions in a blended course		
There are more opportunities to collaborate with others in a blended course	3.2	1.2
My blended course experience has increased my opportunity to access and use information	3.5	1.1
I have more opportunities to reflect on what I've learned in blended courses	3.7	1
Blended learning helps me better understand course material	3.5	1.3
Generally, I am more engaged in my blended courses	3.1	1.1
My personal devices help with my learning	3.3	1.2
Social networking applications help me with learning.	2.6	0.9
I am a multitasker	3.6	1
I have strong time management skills	3.8	0.9
I am motivated to succeed	4.5	0.6
My university provides the resources necessary for students to succeed in blended courses	4.1	0.9

In response to written survey questions, students responded with the following themes:

1. Like most about blended courses:
    - Opportunities to re-watch/review lecture capture videos
    - Classroom activities/group discussions
    - Hosts a variety of ways to learn
2. Liked least about blended courses:
    - Technical difficulties with video capture lecture
    - Limited interaction with classmates and instructor
    - Additional time needed to view videos
    - Distractions at home
3. Advice to students new to blended courses:
    - Allow adequate time for viewing the videos
    - Ensure environment is quiet

In response to which class modality students preferred, six (21.43%) preferred entirely face-to-face, 17 (60.71%) preferred minimal use of the web, mostly held in face-to-face format, five (17.86%) preferred an equal mix of face-to-face and web content, two (7.14%) preferred extensive use of the web, but still some face-to-face class time, zero (0%) preferred entirely online with no face-to-face time. It was noted that two students selected multiple answers.

CHAPTER V

DISCUSSION

The main purpose for this MSN study was to show how integration of the flipped classroom into traditional nursing instruction would influence nursing student perception with classroom satisfaction and engagement. In addition to increasing student perception, faculty also wanted to promote improvement in student comprehension of complex nursing concepts and critical thinking. Flipped learning techniques require students to assume more responsibility in classroom preparation to effectively participate in classroom learning activities and student engagement.

Implication of Findings

The results of the study indicated that many participants had a positive perception of the flipped classroom pedagogy approach to instruction and learning. In addition to this, this study promoted the theory that students will have an increased comprehension of complex nursing concepts taught within the flipped classroom pedagogy. Further, suggesting that nursing students will be more prepared to critically think when entering the workforce. According to Simpson and Richards (2015), students born since 1982 are often referred to as ‘millennials’ and as the ‘net’ generation, with a preference for group projects, immediate feedback, and learning in their own time frame. These students prefer innovative learning environments that are interactive and engaging, allowing them to learn through discovery. With this knowledge, nursing faculty must consistently adjust their instructional approach to promote student engagement, assist students in retention of complex information, and graduate safe, competent novice nurses. Faculty must achieve this while striking a balance between traditional and technological modalities of

instruction. From a faculty standpoint, teaching in flipped classroom courses may initially be uncomfortable as it necessitates a shift from presenter to facilitator. It can take a substantial amount of time to create learning activities that foster student interaction and active learning (Simpson & Richards, 2015, para. 5). Research has noted that for the nursing profession to stay current with technology, and continue to produce quality nurse candidates, methods of disseminating information must evolve.

Application to Theoretical/Conceptual Framework

The Theoretical Framework for this research study is based on Piaget's Theory of Constructivism. The constructivism theory is a relatively new approach to learning, based upon the work of nursing theorist Jean Piagets' belief, that learning is developmental, and that assimilation, accommodation, and construction of knowledge are the basic operating processes in learning (Billings & Halstead, 2016, p. 214). The theory applies to nursing in that students will continuously build on knowledge and skills learned in the classroom and applied in the clinical settings. Nurses must commit to life-long learning, be able to self-start, and self-reflect. They must have the ability to dissect information, critically think through complex health care issues and multi-task. The constructivism theory was appropriately applied to this MSN thesis because constructivism helps in the education of nurses by improving critical thinking skills and encouraging the rapid adaptation to changes in evidence based-practice. The development of the ability to gather information, analyze that information critically, evaluate it experimentally, and then develop a new framework for the information is the best way to produce nurse graduates with critical thinking skills (Brandon & All, 2010). Students demonstrated post-survey results that they were able to construct a better mental view of the concepts through the flipped

classroom model of learning, proving the role of the learner is to select and transform information, construct ideas, and make decisions, while relying on cognitive structure (Brandon & All, 2010).

Limitations

The flipped classroom provides the ability for the student to learn the concepts from video lecture which allows faculty to use the class time to guide the student in application of information (Hessler, 2017). According to Brandon and All (2010), a fundamental challenge is to change the locus of control from educator to the students, transforming students from passive learners to active participants in a collaborative learning environment. The challenges of this can be idealized by such comments as time restraints as stated by the student learner. Students were given one week to view the videos and complete tickets to class prior to participation in lecture. The students felt that this was an inadequate amount of time to watch several hours of video lecture and complete an accompanying “ticket to class”. An additional limitation was students participating in the study cited that the video lectures had digital sound difficulties and certain video lectures were not easily found within the posted digital classroom. These limitations were due to transfer of data (video capture lectures) from one system to another, an error beyond the control of the faculty member; however, the Information Technology (IT) department worked closely with the faculty and participants to resolve this issue in a timely manner. A third limitation cited by the participants was that having to view video lecture at home was difficult due to having various distractions such as young children along with other responsibilities of the home. The researcher was unable to control the external environment in which the participant viewed the video lecture but

could reason the amount of emotional strain that this environment may cause when trying to concentrate on complex material.

Implications for Nursing

The main idea with the flipped learning pedagogy is to provide nursing faculty maximum classroom time with students to promote increased understanding of nursing concepts and application of the information through critical thinking in a useful manner. This approach to learning places responsibility for classroom preparation on the students and aids with promotion of student engagement in the classroom. In nursing education, this model allows students the opportunity to develop skills to critically think through patient scenarios, choose appropriate interventions, and act quickly to meet the needs of the patient in a controlled environment rather than in the clinical setting with a real patient (Hessler, 2017). While content for nursing science continues to change and expand, nurses who are more equipped to think critically are more effective than those who memorize data without exploring the context of learned information in application to patient care (Brandon & All, 2010).

The results of this research study offer nursing instructors and faculty members a variety of ways to diversify classroom instruction and assist students at all levels of education reach a level of understanding complex materials in a manner that makes learning enjoyable and interesting. Research implies that although implementation of the flipped classroom pedagogy is time consuming for both faculty and student, the outcome is both positive in student classroom perception and comprehension of implemented curriculum.

Recommendations

The primary purpose of this study was to show how implementation of the flipped classroom pedagogy would influence overall student perception of their learning environment, by increasing student engagement in the classroom and comprehension of complex nursing concepts. The overall relationship with this pedagogy and previous studies were very similar in that initially the participants were somewhat apprehensive about the instructional approach but concluded with more students appreciating this style of learning than those that did not. Future implementations of the flipped classroom should focus on giving students adequate time to view the video captured lectures along with completing the "tickets to class". Faculty members should also routinely evaluate the most effective classroom learning activities for each concept. Additional nursing topics paired with simulation activities should be incorporated into future research studies. The faculty focus should be on student comprehension and application of nursing concepts for real world scenarios.

Conclusion

The findings of this study can positively support a relationship between flipped classroom pedagogy enhanced student satisfaction within the classroom environment and increased comprehension of complex nursing concepts. Students of the current generation want to have some freedom of expression and integration of current technology while learning. Faculty must provide a learning environment that promotes a variety of learning resources that connects with students to ensure retention of materials needed to ensure safe, competent entry level nurses.

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Appendix A

Blended Course Student Survey

Please answer the following questions as clearly as you can by checking the box or line, as appropriate. BLENDED courses have some face-to-face class meetings, but also have some class sessions that are replaced with online instruction.

	Very satisfied 5	**Generally Satisfied 4**	**Neither 3**	**Generally dissatisfied 2**	**Very dissatisfied 1**
In general, how satisfied were you with your blended course(s)?					

Please share any comments you have about blended courses

	Definitely 5	**Possibly 4**	**Undecided 3**	**Not Possibly 2**	**Definitely not 1**
Given a choice, would you enroll in another blended course?					

In general, how do you feel the technology component of your blended course(s) affects the following, when compared with your face-to-face courses?

	Much better 5	**A little better 4**	**About the same 3**	**A little worse 2**	**Much worse 1**
a. The amount of your interaction with other students					
b. The quality of your interaction with other students					
c. The amount of your interaction with the instructor					
d. The quality of your interaction with the instructor					

Comments:

	Strongly agree 5	**Agree 4**	**Neutral 3**	**Disagree 2**	**Strongly disagree 1**
I'm more likely to ask questions in a blended course					
There are more opportunities to collaborate with others in a blended course					
My blended course experience has increased my opportunity to access and use information					
I have more opportunities to reflect on what I've learned in blended courses					
Blended learning helps me better understand course material					
Generally, I understand course requirements better in an blended course					
Because of blended courses, I am more likely to get a degree					
Generally, I am more engaged in my blended courses					
My personal devices (e.g. cell phone, mp3 player, PDA) help with my learning					
Social networking applications (e.g. Facebook, Twitter) help me with learning					
Social bookmarking tools (e.g. Del.icio.us, Digg) help me with learning					
I am a multitasker					
I have strong time management skills					
I am motivated to succeed					

	Strongly agree 5	**Agree 4**	**Neutral 3**	**Disagree 2**	**Strongly disagree 1**
My university provides the resources necessary for students to succeed in blended courses					

Which class modality do you prefer?

___ Entirely face-to-face
___ Minimal use of the Web mostly held in face-to-face format
___ An equal mix of face-to-face and web content
___ Extensive use of the Web, but still some face-to-face class time
___ Entirely online with no face-to-face time

What do you like most about blended courses?

What do you like least about blended courses?

What advice would you give to a student new to blended courses?

Appendix B

Informed Consent

Study Title:
Student Perception of Blended Course Activities

Researcher:
You are being asked to participate in a research study being conducted by Valerie Bailey, a Master of Science in Nursing student at Gardner-Webb University.

Purpose:
The purpose of this study is to determine student perception of blended courses.

Procedure:
You are being asked to complete the Blended Course Student Survey. Once you have completed the survey, place it in the envelope in the location designated by the researcher. If you choose not to participate, you may also place a blank survey in the envelope or you may discard the survey.

Time Required:
It is anticipated that this survey will require approximately 15 minutes of your time. Once you have completed the survey, you will have no further obligations.

Voluntary Participation:
Participation in the course activities was required as part of this course; however, completion of this survey is voluntary. You have the right to withdraw from the research study at any time without penalty. You also have the right to refuse to answer any question(s) for any reason without penalty.

Confidentiality:
Your participation and responses to the survey questions will be anonymous and confidential. All answers will be tallied in an electronic database. This information will be stored on the researcher's password protected personal computer. The collected data and results will be retained by the Hunt School of Nursing for three years after completion of the study and then destroyed.

Risks:
There are no anticipated risks in this study.

Benefits:
There are no direct benefits associated with participation in this study. The study may help us to better understand the use of blended course activities.

Payments:
You will receive no payment for participating in this study.

If you have questions about the research study, contact the following individuals:

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Consent to Participate:
By completing this survey, you are voluntarily consenting to participate in this research study. If you choose not to participate in this study, you may submit a blank survey or discard this survey.