

FLIPPED LEARNING IN HIGHER EDUCATION:  
A CASE STUDY OF THE LIVED EXPERIENCES  
OF NURSING FACULTY AND STUDENTS

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## ABSTRACT

Though several studies have revealed an increase in student performance in the flipped learning environment, there is limited empirical research on the phenomenon in higher education; especially within the discipline of nursing (Roach, 2014). In addition, empirical research is limited on the learning experiences of students and teaching experiences of faculty in the flipped learning environment. This study added to the existing empirical research on the instructional approach by obtaining data on the lived experiences of students and faculty in the flipped learning environment; primarily focusing on the instructional approach in higher education in the discipline of nursing.

The purpose of this qualitative study was to describe the lived experiences of faculty and students in the flipped learning environment. A multiple case study approach was used because the study took place at two separate institutions in the southeastern United States. Data were collected through the use of a questionnaire, focus-group interviews, semi-structured interviews, and observation. Six conclusions resulted from this study. This study revealed that the flipped classroom is (1) flexible, (2) convenient, (3) self-paced, (4) interactive, (5) provides clarification, and (6) allows students to arrive to class better prepared. Because the study occurred in two different learning environments in which the students received different instructional approaches, several conclusions were made about flipped learning. The experiences shared from this study are valuable additions to the growing body of research for faculty implementing flipped instruction.

## DEDICATION

I would like to dedicate this dissertation in loving memory of my grandmother, Patricia Ann Scott, a special aunt, Felecia Ann Scott, and my sister Kanika Woody. I know that if they could have been here throughout the process they would have been very encouraging and motivating.

## LIST OF ABBREVIATIONS AND SYMBOLS

ATI	Assessment Technologies Incorporated
BSN	Bachelor of Science in Nursing
NCLEX	National Council Licensing Examination
NCLEX-RN	National Council Licensing Examination for Registered Nurses
NCSBN	National Council of State Boards of Nursing
RN	Registered Nurse

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## CHAPTER I: INTRODUCTION

The National Council of State Boards of Nursing is a not-for-profit organization that consists of boards of nursing that collaborate to promote evidence-based practices for patient safety and public protection (National Council of State Boards of Nursing, 2013). This also includes collaboration on matters of common interest such as the National Council Licensing Examination (NCLEX) for Registered Nurses (RN). The National Council of State Boards of Nursing (NCSBN) evaluates the passing standard for the NCLEX-RN every three years. In reviewing the passing standard criteria that was established in 2009, the NCSBN found that entry level nurses were caring for more complex patients that presented with multiple health problems. In addition, they found that as a result of caring for higher acuity patients more than 40% of entry level nurses were making medication errors (NCSBN, 2013). As a result of these findings, the NCSBN increased the passing standard for entry-level registered nurses on the 2013 NCLEX-RN test plan. This change went into effect in April 2013 “after the council determined that safe and effective entry-level nursing practice required a greater level of knowledge, skills, and abilities” (NCSBN, 2013, p. 20). However, this change impacts nursing programs in ensuring that entry level registered nurses are adequately prepared to provide safe and effective care through the application of clinical reasoning skills.

Teaching in nursing involves preparing graduates to apply knowledge learned in nursing theory to the clinical practice setting (Davis, 2013). This requires learners to transfer knowledge

learned in theory to the clinical arena through use of critical thinking or clinical reasoning skills. Critical thinking is an essential core competency of nursing education that enhances clinical site-based learning and theoretical knowledge (American Association Colleges of Nursing, 2007; Choi, Lindisquist, & Song, 2014; Ozturk et al., 2008). Various instructional strategies are available to promote critical thinking in the learning environment. Nicholson (2010) recommended that instructors consider integrating creative teaching strategies that focus on engaging students in active learning.

### **Nursing Education and Millennials**

Nurse educators are challenged with creating learning experiences that will result in graduates prepared to practice in the changing clinical practice setting (Benner, Sutphen, Leonard, & Day, 2010; Missildine, Fountain, Summers, & Gosselin, 2013). This challenge has led to innovative approaches to learning to meet the learning needs of the current generation of students. The current generation of undergraduate students have often been referred to as “Millennials,” “digital natives,” or the “net” generation. Millennials have been identified as individuals born between 1982 and 2002 (Roehl, Reddy, & Shannon, 2013; Wilson & Gerber, 2008). According to Simpson and Richards (2014), the learning styles of this generation of undergraduate students require a change in instructional approaches and strategies. Furthermore, Black (2010) stated that differences between teacher and learner generations must be recognized, analyzed, and addressed if faculty in higher education are to meet the needs of this generation of students.

Flipped learning is a phenomenon in which the learning environment shifts from a teacher-centered learning environment to a student-centered learning environment. This learning environment transitions the teacher from a *sage on stage* to a *guide on the side*. A *sage on stage*

is an instructor provides instruction to students through lecture only in the traditional format, whereas a *guide on the side* provides assistance to students during class as they explore course content individually or in groups. According to Gilboy, Heinerichs, and Pazzaglia (2015), both approaches have merit in higher education as the utilization of both approaches by faculty calls for accountability and meets the demand of the current generation of learners.

The flipped classroom model has been used to facilitate instruction in K-12 and higher education settings (Bergmann & Sams, 2012). Jon Bergmann and Aaron Sams implemented this instructional strategy in a high school chemistry classroom in 2007 after several students were missing essential content in class because of travel to school-related events. Bergmann and Sams found that this instructional approach was successful because it allowed the instructors to provide instruction to each student individually resulting in an increase in student teacher and peer interaction.

An instructional framework often used to discuss teaching and learning is Bloom's Taxonomy (Bergmann & Sams, 2014). Categories within the framework include remembering, understanding, applying, analyzing, evaluating, and creating. The six categories within Bloom's Taxonomy progress from simple to complex and from concrete to abstract. The flipped classroom provides the opportunity for students to gain knowledge and comprehension in lower cognitive levels of Bloom's Taxonomy outside of class and focus on higher levels such as application, analysis, and evaluation during class (Westermann, 2014). The higher-level categories have been linked to development of problem-solving and critical thinking skills (Bouchard, 2011). According to Schlairet, Green, and Benton (2014), critical thinking is an essential component to clinical nursing practice.

The flipped-classroom model is being used in all areas of education (See & Conry, 2014). However, very little research has focused on the flipped classroom in higher education (Roach, 2014). Higher education courses in which the flipped classroom has been integrated include physics, biology, and chemistry (Talley & Scherer, 2013). These courses are within the disciplines of science, technology, engineering, and mathematics and are often referred to as STEM courses. Research focusing on the effectiveness of the flipped classroom model in higher education by evaluating learner performance is limited (Albert & Beatty, 2014; Findlay-Thompson & Mombourquette, 2014; Hamdan, McKnight, McKnight, & Arfstrom, 2013). Most research in higher education related to flipped learning focuses on learner engagement and satisfaction. In addition, there is a limited availability of empirical research on the experiences of students and faculty in the flipped learning environment, especially within the discipline of nursing.

In 2014, *Faculty Focus* distributed an anonymous survey to faculty at all levels and administrators, instructional designers, and faculty developers to gain a better understanding on their views of flipped learning and to find out what faculty were flipping and the barriers and benefits identified by those who were flipping. Respondents consisted of faculty in higher education institutions in the United States and Canada. Results of the survey revealed that the majority of faculty who were implementing flipped instruction rated their experience as positive for themselves and for their students. Reasons reported for flipping included a desire to increase student engagement and to improve student learning (Bart, 2015). Benefits of flipped instruction reported by faculty included some evidence of improved student learning and greater student engagement; however, some faculty did report evidence of student resistance to the instructional

approach. Faculty also reported that flipping was a challenge and the most frequently reported barrier to not flipping was limited time.

Project Tomorrow in conjunction with the Flipped Learning Network surveyed K-12 students, teachers, administrators, parents, and members of the community during the fall of 2014. Teachers and administrators were surveyed on the learning object that they were using to implement flipped instruction, specifically the use of online videos and instructor-created videos. Results revealed that the majority of teachers were using online videos from YouTube, Khan Academy, and NASA where 11 percent reported creating their own videos of lectures for their students to view outside of class (Project Tomorrow, 2015).

Students were also surveyed to obtain their views on the use of video recorded lectures as homework, how they use the videos for learning, and how often they were accessing the videos to engage in learning. Students reported that the use of online videos from YouTube and Khan Academy assisted them while completing homework or studying. Only 26 percent of all K-12 students reported viewing videos created by their teacher (Project Tomorrow, 2015). Common statements by students on the use of video recorded lectures or online videos included the ability to learn at their own pace and having control over their learning which included the opportunity to continue learning after school. Though the flipped learning model is not predicated on the use of videos as homework, many of the students had this interpretation.

### **Statement of the Problem**

Though several studies have revealed an increase in student performance in the flipped learning environment, there is limited empirical research on the phenomenon in higher education; especially within the discipline of nursing (Roach, 2014). In addition, empirical research is limited on the learning experiences of students and teaching experiences of faculty in

the flipped learning environment. This study added to the existing empirical research on the instructional approach by obtaining data on the lived experiences of students and faculty in the flipped learning environment; primarily focusing on the instructional approach in higher education in the discipline of nursing.

### **Conceptual Framework**

The four pillars of flipped learning provide the conceptual framework for this study. This model identifies the key features of a flipped classroom to meet individual student learning needs and serve as a guide for faculty implementing flipped instruction. The four pillars of F-L-I-P include a flexible environment, learning culture, intentional content, and professional educator (Yarbro, Arfstrom, McKnight, & McKnight, 2014). According to Yarbro, Arfstrom, McKnight, and McKnight (2014), teachers must incorporate the four pillars of F-L-I-P to facilitate flipped learning.

#### **Flexible Environment**

Learning spaces should be configured to create opportunities for collaboration and individual learning. This allows students to interact and reflect on their learning as needed. Educators who flip their classes should also be flexible in their assessments of student learning in monitoring and making adjustments as appropriate.

#### **Learning Culture**

The learning culture in the flipped learning environment is student-centered, where in-class time is dedicated to exploring topics in greater depth. Students engage in meaningful learning activities without the teacher as the primary source of information. This allows active student involvement in knowledge construction.

## **Intentional Content**

Intentional content means instructors have to identify what content is appropriate for students to learn during their own time and what activities should be incorporated during class time to assist students in gaining understanding. Learning activities assigned for completion outside of class for students as homework should be accessible to all students. Learning activities completed outside of class include, but are not limited to, videos and reading assignments.

## **Professional Educator**

The flipped learning environment requires professional educators who can assist students in creating connections between new and prior knowledge by engaging in complex learning activities during class (Lasry, Dugdale, & Charles, 2014). This allows the instructor to observe all students and provide prompt feedback while assessing their work. In addition, the flipped learning environment should consist of a professional educator that reflects with other educators on their practice to improve on their instruction.

## **Statement of the Purpose**

The purpose of this qualitative case study was to describe the lived experiences of faculty and students in two undergraduate nursing courses at two separate institutions located in the southeastern United States. For this research, flipped learning was defined as an instructional approach in which traditional lecture content is assigned to students in the form of prerecorded video lectures, textbook readings, and journal articles for completion outside of class as homework and face-to-face time during class is used to clarify content and engage in learning activities that promote critical thinking (Missildine, Fountain, & Summers, 2013; Ronchetti, M.

2010). Lived experience is defined as the understanding of human experiences and the meaning that the experiences have for an individual (Polit & Beck, 2012).

### **Significance of the Study**

Nursing faculty must ensure that learners receive adequate preparation for the National Council for Licensure Examination. The NCLEX is the exam that learners take upon program completion to receive state licensure in nursing. Failure for schools of nursing to achieve an overall percentage set by individual state boards of nursing on this licensure exam could lead to the loss of accreditation for the nursing program or could result in the program receiving a probationary status. Therefore, it is essential for nursing faculty to ensure they meet the needs of learners when transitioning to different instructional methods of delivery.

Numerous studies have revealed that flipped learning improves student outcomes; however, there is limited empirical research on the experiences of students and faculty in the flipped learning environment. This study assists faculty in higher education settings and faculty within the discipline of nursing to gain an understanding of how faculty and students experience flipped learning. In addition, this study adds to the empirical research on the implementation of flipped learning when the pillars of flipped learning are used as a guide for faculty implementing the instructional approach.

### **Research Questions**

According to Maxwell (2013), research questions explain what the study is intended to learn or understand by relating the questions to the conceptual framework and providing guidance on how to conduct the research. The overarching research question that guided this study is what are the lived experiences of faculty and students in the flipped learning

environment? Five sub-questions were used to better describe the lived experiences of faculty and students in the flipped learning environment. They included the following:

- 1) How do faculty describe the flipped classroom;
- 2) How do students describe the flipped classroom;
- 3) How do faculty describe their teaching experience in the flipped classroom;
- 4) How do students describe their learning experience in the flipped classroom; and
- 5) How do faculty prepare for teaching experiences in the flipped classroom?

### **Assumptions of the Study**

The study was based on the assumption that participants responded truthfully on the questionnaire that was administered prior to focus group placement. It was also assumed that all participants that were selected via criterion-based sampling answered questions asked during focus group interviews truthfully to provide a detailed description of their experiences in the flipped learning environment. Furthermore, it was assumed that all participants have been exposed to traditional methods of instruction in courses outside of the nursing curriculum and within the nursing curriculum.

### **Methods**

This study utilized a multiple case study research design to investigate the lived experiences of faculty and students in the flipped learning environment. Data were collected in three phases: a questionnaire, observations, and interviews. The first phase of data collection included the administration of a questionnaire to students enrolled in the course in which the study took place at each institution. The second phase of data collection consisted of focus group interviews with students that were enrolled in the courses at the two institutions in which the study took place. In addition, semi-structured one-on-one interviews were conducted with

faculty. Data were analyzed using three cycles of coding: holistic coding, InVivo coding, and versus coding. A cross-case analysis between the two cases was performed after the three cycles of coding were complete.

### **Limitations**

This study investigated the lived experiences of faculty and students in the flipped learning environment. Due to the small sample size, results may not be generalizable beyond the specific population in which the sample was drawn. The small sample size was as a result of the limited number of nursing faculty implementing the instructional approach in their classrooms. The sample size was also decreased related to the number of students enrolled in the nursing courses. Therefore, the findings of the study are limited to the instructional approach used in the discipline of nursing.

### **Definition of Terms**

*Video recorded lecture* – prerecorded PowerPoint or lesson on course module(s)

*Pillars of flipped instruction* – model that provides a flexible learning environment in which the work spaces permit students to work individually or in groups, a learning culture that shifts the focus of instruction from the teacher to the student with engagement in meaningful learning activities, the use of intentional content that identifies what content is appropriate for students to complete outside of class and what content is best presented during class, and the role of the teacher as a professional educator in providing feedback, identifying knowledge gaps, and providing clarification (Flipped Learning Network, 2013).

## **Summary**

Chapter I provided a brief description of problems encountered by entry-level nurses in the clinical arena. An increase in critical thinking skills was identified as an area in which improvement is needed. Nurse educators have been challenged with integrating innovative methods of instruction in which flipped learning is an instructional strategy that has been implemented in various academic disciplines. The use of flipped learning in undergraduate nursing courses as an instructional strategy may be one method of enhancing the ability of the student to apply critical thinking skills by applying the lower levels of Bloom's Taxonomy outside of class and the higher levels within the face-to-face classroom setting. Chapter II will provide a review of the literature on flipped instruction in K-12 and higher education settings.

## CHAPTER II: REVIEW OF THE LITERATURE

The review of literature focuses on flipped learning and the effect of the flipped learning model in academic disciplines in K-12 and higher education settings. The phenomenon was explored to obtain literature that contained data related to student outcomes, preparation, satisfaction, and perceptions related to the instructional approach. The phenomenon was also researched to identify in-class learning activities used in the discipline of nursing to promote critical thinking. Furthermore, the literature was researched to identify research that incorporated the pillars of flipped learning. Lastly, learning objects used to implement flipped instruction were also researched. Scholarly and peer reviewed articles and periodicals were retrieved from The University of Alabama online library databases such as CINAHL, ERIC, Academic OneFile, Ovid, and ProQuest. Dissertations were retrieved from The University of Alabama and through the ProQuest Dissertations and Theses database. In addition, books were reviewed and purchased to obtain additional information on the instructional approach.

### **Flipped Classroom**

Though the expression “flipped classroom” is relatively new, the strategy has been around for several years and is similar to “just-in-time teaching” and inverted instruction (McGivney-Burelle & Xue, 2015). Missildine, Fountain, and Summers (2015) defined the flipped classroom as a hybrid approach to learning that involves the use of technology to move the traditional classroom lecture outside of class for students to complete as homework and the

use of and face-to-face time in class to engage in interactive learning activities. In the flipped learning environment, foundational content that was once covered in class by the instructor is assigned as homework for students to complete prior to the scheduled class session. During the scheduled class session, content from learning activities assigned for completion outside of class can be discussed or clarified. Following the discussion of content from the homework, students can engage in learning activities that focus on the higher levels of Bloom's Taxonomy.

Learning activities can consist of, but are not limited to, case studies that can be completed in groups or individually, educational gaming which uses team-based approaches to learning, simulation activities which can be completed individually or using a team-based approach, or the use of audience response systems. Lasry, Dugdale, and Charles (2014) found that students that gain exposure to assigned materials prior to class, students are better prepared for an active learning environment. Furthermore, several studies have indicated that the current generation of students have a preference for group projects, immediate feedback, and opportunities to learn within their own time frame (Howe & Strauss, 2003; Johnson & Romanello, 2005; Mangold, 2007; Pusawiro, 2012; Simpson & Richards, 2014).

### **Just-in-time Teaching**

The flipped classroom provides numerous opportunities for students and instructors. Instructors are provided the opportunity to spend more one-on-one time with students and engage in active and collaborative learning. Students are also provided the opportunity to view missed lectures and engage in self-paced learning activities outside of class that allow them to participate in "just-in-time" type instruction (Roach, 2014). Similar to the flipped classroom, Just-in-Time Teaching (JiTT) consists of course readings that are assigned as homework for students to complete prior to the scheduled class session. Within this approach, students are

required to complete an online assignment to assess their knowledge of the assigned readings by posing the question: “What did you find difficult in your readings?” This allows the instructor to review student responses prior to the scheduled class session and prepare “just in time” for class. Lasry, Dugdale, and Charles (2014) unintentionally implemented this instructional approach in a college course on electricity and magnetism. However, they experienced challenges with students engaging in course content prior to the scheduled class session, which led them to modify the standard JiTT approach. The course was modified and placed on a course management system so that the instructors could monitor what students were doing prior to class. Students were required to reflect on what they knew about a given topic prior to completing course readings and viewing assigned videos. They were then required to answer questions related to the reading assignments and then reflect on what they learned from the learning activity including content that they found challenging. Results of the study revealed that there was a high compliance rate in student preparation prior to class when using course analytics to track student participation.

### **Pillars of Flipped Learning**

The flipped learning model (see Figure 1) consists of four pillars that serve as a guide for faculty implementing the instructional approach. The pillars of flipped learning consist of a flexible learning environment, learning culture that shifts instruction using a student-centered approach, use of intentional content, and a professional educator (Yarbro, Arfstrom, McKnight, & McKnight, 2014). As also shown in Figure 1, a total of 11 indicators are available for instructors to use as a method of self-assessment of their flipped learning environments.

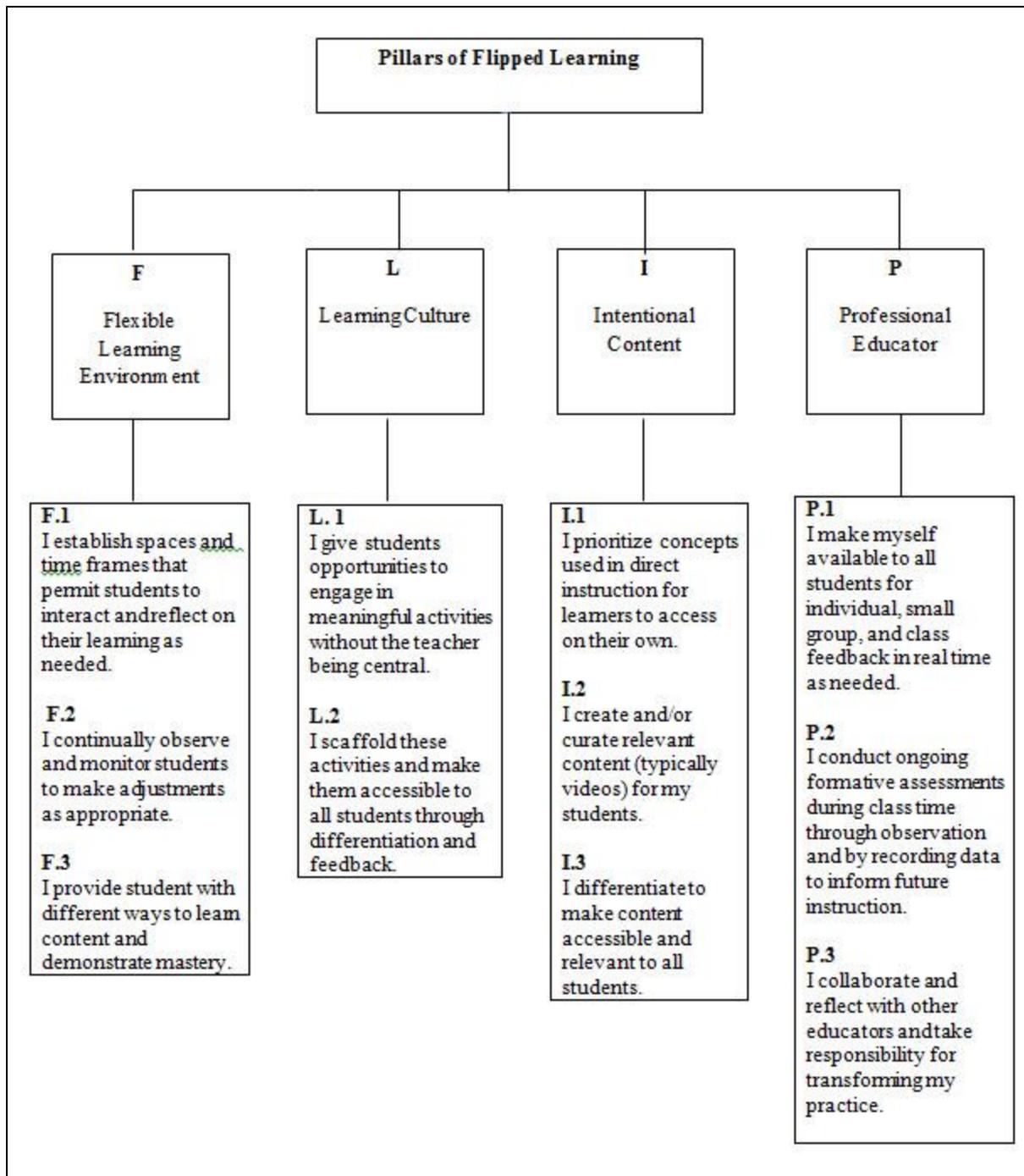


Figure 1. Pillars of flipped learning with 11 indicators

## **Flexible Learning Environment**

Learning spaces should be configured to create opportunities for collaboration and individual learning. This allows students to interact and reflect on their learning as needed. Educators who flip their classes should also be flexible in their assessments of student learning in monitoring and making adjustments as appropriate.

## **Learning Culture**

The learning culture in the flipped learning environment is student-centered, where in-class time is dedicated to exploring topics in greater depth. Students engage in meaningful learning activities without the teacher as the primary source of information. This allows active student involvement in knowledge construction.

## **Intentional Content**

Intentional content means instructors have to identify what content is appropriate for students to learn during their own time and what activities should be incorporated during class time to assist students in gaining understanding. Learning activities assigned for completion outside of class for students as homework should be accessible to all students. Learning activities completed outside of class include, but are not limited to, videos and reading assignments.

## **Professional Educator**

The flipped learning environment requires professional educators who can assist students in creating connections between new and prior knowledge by engaging in complex learning activities during class (Lasry, Dugdale, & Charles, 2014). This allows the instructor to observe all students and provide prompt feedback while assessing their work. In addition, the flipped

learning environment should consist of a professional educator that reflects with other educators on their practice to improve on their instruction.

Only one research article cited the use of the pillars of flipped learning to implement the flipped classroom. Schlairet, Green, and Benton (2014) implemented flipped learning using the four pillars as a guide in a first semester, undergraduate nursing course. The faculty lacked prior experience in using the flipped model, but were interested in shifting the ownership of learning from the teacher to the student. They accommodated the four pillars as follows.

**Flexible learning environment.** The flexible learning environment consisted of a classroom that contained tables and chairs. The tables and chairs were shifted to provide opportunities for students to collaborate in which they were allowed to select four-member work groups. Internet access in the learning environment also provided flexibility in allowing students to access course materials from their mobile devices.

**Learning culture.** In efforts to shift the focus of the learning environment from the teacher to the student, the instructors informed students during the course orientation that they would be actively involved in their learning. During this time, they were provided with a handout to inform them of the types of learning activities they would encounter in the course and when and where they would complete learning activities so that they could better understand the expectations of the student within the learning environment. The handout was also made available within the course learning management system for students to review as needed.

**Intentional content.** Intentional content was categorized as individual learning space and group learning space. The individual learning space consisted of learning activities that students were expected to complete prior to class as homework. Learning activities in the individual learning space consisted of video recoded lectures and reading assignments from the

course textbook. The group learning space consisted of activities completed during class time. Learning activities in the course included, but were not limited to, peer instruction, class discussions, group presentations, case studies, simulation, and the use of audience response systems to answer NCLEX-style questions. Following the learning activities, faculty facilitated classroom debriefing and responded to students' expressed understanding of concepts (Schlairet, Green, & Benton, 2014).

**Professional educator.** In the role of the professional educator, faculty circulated to each group to listen and discuss content to identify strengths and weaknesses and provide feedback in real time. Faculty also selected individual students from each group to respond to questions and provide formative assessments of student understanding. Topics identified as complex provided the opportunity for faculty to summarize content and provide clarification to the entire class.

### **Flipped Learning in K-12**

Flipped learning has been used in high school science and mathematics courses because content within these courses is more technical and more linear (Criz & Knight, 2013; Overmeyer, J., 2012). When Jonathan Bergmann and Aaron Sams implemented the flipped learning model in a high school chemistry classroom in 2007 they used course examinations to assess student performance. They compared student performance in the flipped classroom to student performance in the traditional classroom. Identical examinations were administered to obtain data related to student performance. Results revealed that student averages in both learning environments were similar.

Schultz, Duffield, Rasmussen, and Wageman (2014) investigated the impact of the flipped classroom model on student performance in an advanced placement high school

chemistry course. Students were required to view video recorded lectures outside of class as homework and complete a reflection activity on content within the video. The reflection activity functioned as a method of determining if students viewed the videos and a method of assessing student understanding of content within the video. The first five minutes of class time were used to discuss questions related to reflections on the content within the videos. The remainder of the class time was to allow students to complete problems within the textbook. This allowed the instructor to circulate around the room to assist each student. Student performance in the course was assessed with chapter tests and a semester final examination. Schultz, Duffield, and Wagemen (2014) found that students enrolled in the flipped classroom scored higher on all examinations within the course when compared to students enrolled in the traditional classroom during the previous year. The study did not specify information related to the similarities of content on the examinations administered within each course nor did it specifying that the exact examination was administered in the two learning environments.

In another study, a high school in Michigan implemented the flipped learning instructional approach in response to low pass rates among freshmen students in all subject areas (Pearson, 2013). The instructional model was initially implemented in a freshman at-risk social studies course that was made up of students who were performing on grade level in the traditional lecture classroom. At the time that this instructional approach was implemented in the course, the pass rate remained unchanged. However, the following year the flipped instruction model was implemented in all freshmen courses. Video recorded lectures were assigned for students to view outside of class as homework. Class time was used to allow students to complete individual or group assignments related to course content covered in the

videos. Results of the study revealed that test scores and graduation rates improved dramatically when the flipped classroom was implemented.

### **Flipped Learning in Undergraduate Level Courses**

#### **Science**

In efforts to improve a 17% failure rate, the flipped learning model was integrated into an undergraduate biology course (Pearson, n.d). The instructor integrated the flipped learning model by assigning reading assignments from the course textbook and other supplementary readings as homework for students to complete outside of class. In addition to completing reading assignments outside of class as homework, students were required to complete online quizzes that covered content from the reading assignments. There was no data provided on how the quizzes were used in the course. Class time was used to evaluate learner interpretation of homework assignments through use of audience response systems. As a result of the flipped learning model, the failure rate in the course decreased from 17% to 4% (Pearson, n.d.). There was no information provided on the whether any students enrolled in the course withdrew from the course to determine if this was a factor related to the decrease in failure rate in the course.

In another study, a section of Introduction to Modern Physics was flipped at the University of British Columbia to examine the impact of flipped learning. Reading assignments and quizzes were assigned for students to complete outside of class. This allowed the instructor to use class time for interactive activities and peer discussions. Student performance in the flipped section of the course was compared with student performance in the course that was delivered in the traditional face-to-face classroom during the previous year. Student performance was evaluated through course examinations. Results of the study revealed that the

students in the flipped section performed better than those that were not enrolled in the flipped section (Yarbro, Arfstrom, McKnight, & McKnight, 2014).

Dave Kawecki flipped a unit on magnetic fields in a physics course (Brunsell & Horejsi, 2013). There were a total of 16 videos uploaded for students to view outside of class. Class time was used to allow students to engage in hands-on activities and small group problem solving activities. This allowed the instructor to provide assistance to students during class time. Approximately 96% of students enrolled in the flipped classroom reported that they were able to receive assistance from the instructor during in-class time. Only two-thirds of students in the traditional classroom reported having enough class time to receive assistance from the instructor. Results of the study revealed that students enrolled in the flipped classroom performed better than or equal to students enrolled in the traditional face-to-face model during previous years.

Talley and Scherer (2013) implemented the flipped classroom in an undergraduate psychology course at a historically Black college and university (HBCU) with the intention of increasing student performance in the course and to provide learning techniques that could be used in other STEM courses. The course was a required course for psychology majors which consisted mostly of senior level students. The instructor did not flip every class session; however, in the class sessions that were flipped the instructor uploaded video recorded lectures for students to view outside of class. After viewing the videos students were required to complete practice assessments and record a video of them teaching the content to an imaginary class. Students were required to submit this video to the instructor as a method of self-explanation of the content learned. Final grades in the course were used as a method of evaluation. Talley and Scherer (2013) found that student performance was higher in the flipped

course that consisted of self-explanation and practice assessments than students who were enrolled in the course during the previous year.

Knight and Wood (2005) implemented just-in-time teaching to determine the effectiveness of student learning outcomes in an interactive learning environment with less lecturing in an undergraduate biology course. The traditional lecture format was delivered to students enrolled during the fall semester and the interactive format was delivered to students enrolled during the following spring semester. Performance on pretests and posttests were used to evaluate learner performance. The exams in the course were similar, but not identical. Results revealed that more students in the interactive learning course achieved a letter grade of “B” than students in enrolled in the traditional face-to-face course. Knight and Wood (2005) found that student average performances on pretests were not significantly different and learners were equally prepared. However, the average performance on the posttest was significantly higher in the interactive course. The authors also recommended that recognizing and addressing the needs of “C” students is an important future goal as these students had low gains when they engaged in interactive learning activities.

### **Technology**

Albert and Beatty (2014) implemented flipped instruction using a quasi-experimental design in an undergraduate introduction to management course to compare the impact of the flipped classroom to the traditional lecture on student grades. The traditional lecture course was taught one year prior to the course in which flipped instruction was the mode of instruction. The courses were identical and used the same textbook, syllabus, and examinations. In addition, the same instructor taught the course. Results of the study revealed that the flipped classroom has the potential to contribute to increased student performance. Albert and Beatty (2014) suggested

that future research in flipped classroom designs focus on student performance and grades, perceptions and engagement, and an analysis of key factors such as how often students viewed the assigned videos. It was also suggested that future research investigate the effect of flipped instruction amongst undergraduate versus graduate level students.

In another study, Enfield (2013) implemented flipped instruction in two sections of an undergraduate multimedia course to investigate the effectiveness of the instructional approach and to identify ways to improve the instructional approach. The course consisted of 40 lessons total in which 38 of the lessons consisted of pre-recorded instructional videos and two consisted of assigned readings. The average length of the videos was 20 minutes. Students were required to view the instructor created videos outside of class as homework assignments. Reading assignments were also assigned for students to complete outside of class. The instructor administered quizzes for each lesson at the beginning of class to encourage students to complete homework and to provide the instructor with formative assessment data. Class time was used to allow students to engage in small group discussions. Enfield (2013) reported that daily quizzes appeared to be a strong motivator for students to watch videos, but also indicated that there was much time involved in preparation of the videos. Survey responses obtained from students revealed that the instructional videos were beneficial and appropriately challenging. However, in response to a survey question about the length of the videos, responses consisted of the videos being too long and the need to split content in the videos into smaller parts. Students also reported that they were more likely to view the videos outside of class because of the use of quizzes in the course. While redesigning the course, they found that much time was spent creating video recorded lectures for students to view outside of class and creating learning activities for students to complete during class. Recommendations included the exploration of

video analytics to better understand how students use instructional videos and exploration of the effective use of class time.

Davies, Dean, and Ball (2013) examined student satisfaction and achievement in a five-week undergraduate introductory-level college course on spreadsheets to determine if differences existed in student achievement based on the instructional approach implemented. Three instructional approaches were tested as treatments in the study: traditional instruction, technology-driven independent study using lab videos and software simulation, and technology-enabled independent study using videos with classroom support (a flipped classroom) using a quasi-experimental design consisting of pretests and posttests. In the traditional classroom setting, students were expected to attend class to listen to presentations and ask questions. In the simulation-based learning environment, students did not attend class but completed homework problems and assessments in a simulated environment in which they viewed videos that demonstrated how to complete a task. Students enrolled in the flipped classroom were provided with videos that demonstrated how to accomplish tasks; however, class attendance was optional. Students enrolled in all courses were expected to complete textbook assigned readings prior to completing homework problems. Results of the study revealed that scores on the pretest and posttest were statistically similar between the three modes of instruction; therefore, the different instruction types did not have a significant effect on learner outcomes (Davies, Dean, & Ball, 2013). However, this could be contributed to the questions being identical on the pretest and posttest. Student satisfaction results revealed that students in the traditional and flipped classroom found the course extremely valuable when compared to students enrolled in the simulated learning environment. Results also revealed that students enrolled in the traditional and flipped learning environments were more willing to take a class using this instructional

approach again and more willing to recommend the course to another student when compared with students in the simulated learning environment.

In an undergraduate information systems programming course, Mok (2014) implemented a trial of the flipped classroom to increase student engagement with course content and to improve student experience in the course. Homework activities included viewing of instructor created videos that were less than 20 minutes in length. The videos were uploaded to YouTube for public access and the links were made available through the course learning management system. Corresponding quizzes, that students were required to complete outside of class, were prepared for each video as a tool to evaluate student preparation. The first 15 minutes of each class session was used to clarify content from the videos based on student performance on quizzes. The quizzes functioned as a tool to evaluate student preparation. Students who failed to complete the quizzes were considered unprepared for class and were not allowed to participate in-group learning activities. Results of the study revealed that students were more willing to take ownership of their learning because of the availability of the video lectures. In fact, students reported enjoying quizzes administered at the beginning of class as an assessment because they were able to identify gaps in their knowledge which prompted them to view the corresponding videos again. An anonymous course evaluation survey containing open-ended question was also administered prior to the final examination in the course. The survey was not designed to distinguish feedback about the flipped classroom structure or learning activities completed during class time. However, responses of the survey included the recommendation to decrease the length of the video recorded lectures to less than 10 minutes. Mok (2014) recommended that learning activities such as educational gaming and competitions be considered for use during class.

## **Engineering**

Mason, Shuman, and Cook (2013) investigated the influence of the inverted classroom on student understanding of course material in a senior level engineering course. The course was evaluated over two years. During the first year the traditional lecture format was evaluated and the second year the inverted classroom was evaluated. Pre-lecture preparation in both courses included readings from the textbook, homework, and quizzes that were completed outside of class time. Results of the study revealed that students enrolled in the inverted classroom performed similar to students enrolled in the traditional face-to-face classroom setting on course examinations. However, examinations in the course were similar but not identical.

## **Mathematics**

A flipped learning model was implemented in an undergraduate introductory-level statistics course in efforts to increase student interest, engagement, and retention (Wilson, 2013). Initially, there was difficulty in encouraging the students to read course materials outside of class. This led to the implementation of quizzes that were made available via of Blackboard. Students were required to complete each quiz prior to the class session and it counted as 10% towards the overall final grade in the course. Wilson (2013) found that only 48.21% students found the quizzes helpful. Results also revealed that students performed better in the flipped sections when compared to those taught using the traditional lecture format the previous year.

Mciveny-Burelle and Xue (2013) examined the benefits and challenges on flipping a unit of study in an undergraduate calculus course. One instructor taught two sections of calculus in the same semester. The sections were identified as section A and section B. Students enrolled in section A received instruction via the traditional face-to-face method. Students enrolled in section B received flipped instruction via flipped instruction on a unit that typically poses a

challenge to students. Students enrolled in section B were required to view two to three videos totaling approximately 15 minutes in length. Quizzes were administered at the beginning of class to assess out of class preparation. Results of the study revealed that students enrolled in the flipped instruction section of the course had increased performance on examinations within the course. However, only 77.9% of students reported viewing the assigned videos outside of class (McGivney-Burelle & Xue, 2013).

### **Health Sciences**

Limited empirical research is available on the experiences of students and faculty in the flipped learning environment; especially within the discipline of nursing. Betihavas, Bridgman, Kornhaber, and Cross (2016) conducted a systematic review to examine how the flipped classroom has been applied in nursing education and outcomes associated with this style of teaching. The systematic review was limited to five studies and highlighted the lack of evidence about flipped classrooms in nursing compared to other health disciplines.

Missildine, Fountain, Summers, and Gosselin (2013) examined the effects of the flipped classroom approach using innovative teaching methods on the academic success of baccalaureate nursing students in two adult health-nursing courses offered in two consecutive semesters over a period of three semesters. Course examination averages and student satisfaction were used to evaluate the effect of the different instructional approaches. Three different teaching modalities were used: traditional lecture only, lecture capture in addition to traditional lecture, and the flipped classroom in which lecture content was recorded through lecture capture software and classroom time was used for learning activities designed to increase student engagement. Results of the study revealed that students enrolled in the flipped classroom obtained higher examination scores than the students exposed to the traditional capture only and lecture capture

in addition to traditional lecture. The study also revealed that students reported a higher level of satisfaction in the traditional lecture and lecture capture in addition to traditional lecture than in the flipped classroom. Students reported that the flipped classroom required much more work. Limitations of the study included variation in faculty approach that may have affected learner outcomes as different instructors facilitated the two courses. There was no information available on faculty perceptions of the instructional approach.

Simpson and Richards (2015) implemented the flipped classroom using a descriptive and exploratory design. The study took place in a senior level population health-nursing course with a purpose of developing students who could critically think and apply knowledge learned in efforts to increase the relevance of the content to their future practice as healthcare providers. Students were selected by convenience sampling and consisted of 64 third year nursing students enrolled in a public health science course and 93 second year nursing students enrolled in a population health course. Students were required to attend class every two weeks. Prior to class sessions, students were required to complete online quizzes as a method of assessing their knowledge of pre-class learning activities. In-class time was used for students to engage in learning activities such as case studies and group developed presentations. The learning environment was structured with group tables with computer access and dedicated monitor screens and whiteboards for the groups to easily adjust for interaction with each other and faculty. To evaluate the instructional approach, a course evaluation consisting of Likert-scaled items was administered to students. Simpson and Richards (2015) found that the flipped classroom was successful in enhancing student understanding and relevance of population health-based concepts.

Mattis (2014) compared flipped classroom instruction and traditional classroom instruction using a pretest and posttest quasi-experimental design to assess accuracy and mental effort at three levels of mathematical complexity in second year nursing students. Course participants were quasi-randomly assigned to a control group and an experimental group. The control group received traditional face-to-face instruction whereas the experimental group received the same instruction in a video format. There was a small sample size in this study, consisting of a total of 48 nursing students. Small sample sizes are common in second year nursing students (Bull 2009; Costello, 2010; Hodge, 2002; Mattis, 2014; Melius, 2012; Walsh, 2008). These participants were purposefully recruited because nursing students are required to demonstrate understanding of algebra concepts on examinations and in the workforce. Results of the study revealed that accuracy increased and mental effort decreased in students in the flipped classroom.

Hanson (2016) examined nursing students' perceptions of the effectiveness of the flipped classroom in an undergraduate pharmacology course. The course was offered to second-year nursing students enrolled in a Bachelor of Science in nursing program. Purposive sampling was used and consisted of participants enrolled in the second year pharmacology course in 2013 and in 2014. Data were collected using a 10-item questionnaire through use of survey monkey. In 2013, the questionnaire was administered after exposure to the flipped classroom and in 2014 the questionnaire was administered before and after exposure to the flipped classroom. A total of 51 students across the two cohorts completed the questionnaire. Results of the questionnaire revealed that the flipped classroom increased student understanding, pause and replay were beneficial in allowing students to listen to the information repeatedly, conflicting commitments

prevented students from accessing video recorded lectures prior to class, and that some students (13%) preferred a traditional teaching and learning approach.

### **Other Disciplines**

Gilboy, Heinerichs, and Pizzaglia (2015) implemented flipped instruction in two undergraduate nutrition courses to obtain student perceptions of the approach after participating in a University-wide initiative that focused on the flipped classroom. The professors received pedagogical resources that assisted them in gaining a better understanding on how to flip their classroom. A template was also provided which included three components: before class, during class, and after class. The use of the template encouraged faculty to demonstrate all levels of Bloom's taxonomy with a course topic including the lower levels of Bloom's taxonomy achieved outside of class, higher levels achieved during class, and after class in which students are expected to build on higher levels and evaluated through formative and summative assessments. The instructors implemented flipped instruction to cover four course topics in two undergraduate nutrition courses to obtain student perceptions of the instructional approach. The courses were limited to nutrition majors only. Prior to class students were expected to view video recorded lectures that were between 10-15 minutes in length. Videos were not instructor created and were retrieved from sources such as Khan Academy. *Khan Academy* is a non-profit educational organization that has over 3200 videos ranging from mathematics to physics (Jimison, 2011). Teachers can make use of these learning objects free of charge. Other learning objects used to implement flipped learning in this course included textbooks and other supplementary reading materials that students were required to view as homework. An anonymous survey was available for students to complete online or during class. Completion of the survey was voluntary; however, 72% of course participants completed the survey. Survey

results revealed that students preferred videos rather than traditional lectures. Almost 62% of students reported learning course material more effectively by having the opportunity to view video recorded lectures (Gilboy, Heinerichs, & Pazzaglia, 2015). Students also reported that they would rather participate in learning activities during class than listen to the professor lecture. In response to students reporting that the professor was unavailable to answer questions during learning activities completed outside of class, Gilboy, Heinerichs, and Pazzaglia recommended the implementation of discussion boards to provide students with the opportunity to post questions related to video content. Furthermore, the authors suggested the need to understand student perceptions of flipped learning and findings associated with the instructional approach.

Kim, Kim, Khera, and Getman (2014) investigated student perceptions of flipped instruction in three undergraduate courses in across three academic disciplines: engineering, sociology, and humanities. Students enrolled in the engineering course were required to view video recorded lectures outside of class and complete quizzes associated with content in the video recorded lectures. The quizzes were made accessible through the Blackboard learning management system and students were required to complete them prior to class. Class time was used to facilitate group discussion. In the sociology course students were required to complete group research projects. A video was provided by the instructor to assist students in developing research questions for the project. This allowed class time to be used for student collaboration with their peers and expansion of the project. There were only 13 students enrolled in the humanities course. Students in the course were assigned three different assignments in which they conducted student-directed in-class activities without the presence of an instructor. Students were required to record their in-class discussions and provide them to the instructor

using video technology. Overall students were satisfied with activities in the flipped classroom as they found the activities helpful to their understanding of course concepts (Kim, Kim, Khera, & Getman, 2014).

Although the purpose of the study was to evaluate student reactions to flipped learning, Roach (2014) found that students in a partially flipped microeconomics course performed slightly better on average on midterm examinations when compared to students enrolled in the traditional classroom in previous semesters. Students enrolled in the partially flipped course were not informed of the instructional method prior to the beginning of the course. Students were required to view one instructor created video per week outside of class as part of their homework assignment and were informed that content from the video recorded lectures could potentially appear on an unannounced quiz. Participants were surveyed twice during the semester. The initial survey was performed mid-semester to obtain qualitative data in order to help refine the video recorded lectures. The second survey obtained basic demographic questions which consisted of 10 questions that used a Likert-type scale. The standard Pearson chi-squared statistic was used to analyze results. Results of the study revealed that students felt that the flipped learning instructional approach assisted them in learning. Roach related this finding to students having the opportunity to gain basic knowledge prior to class so that deeper learning could occur during class.

### **Flipped Learning in Graduate Level Health Science Courses**

McLaughlin et al. (2014) flipped a graduate level health professions pharmaceutical course that was taught remotely to determine whether flipping a traditional basic pharmaceuticals course delivered synchronously to two satellite campuses would improve student academic performance, engagement, and perceptions. Integrated learning modules were prerecorded using

Echo360 that allowed students unlimited access to content-related videos. Students reported an increase in favor of learning content prior to class and using class time for more applied learning. Results also revealed an increase in the notion that learning key foundational content prior to the class session enhanced learning of course material during class. Course participants reported that the learning modules assisted in preparation for class sessions, allowed self-paced learning, and improved overall learning.

Khanova, McLaughlin, Rhoney, Roth, and Harris (2015), redesigned a 5-week psychiatry/neurology pharmacotherapy course using the flipped model. The course was required for pharmacy students in their second professional year of the PharmD program. To understand the impact of the course redesign on student perceptions and attitudes, precourse and post-course survey instruments were developed to examine student perceptions of their learning experiences in the flipped classroom. Results of the study revealed that some students preferred the traditional lecture approach. In addition, students reported liking the idea of learning content prior to class and using class time to engage in discussion or other forms of active learning (Khanova, McLaughlin, Rhoney, Roth, & Harris, 2015). However, one of the main themes that emerged from the study was that students reported that they felt as if they were teaching themselves in the flipped classroom and that they were not receiving guidance from their professors.

Tune, Sturek, and Basile (2013) assessed the effectiveness of a traditional lecture-based classroom versus a modified flipped classroom in a first year graduate level course to teach cardiovascular, respiratory, and renal physiology taught by the same instructor. Students in both courses were required to watch the same video recorded lectures. Students in the modified flipped classroom were required to attend class after viewing the videos to receive a quiz on the

content from the videos. Quizzes were administered at the beginning of class in lieu of the traditional lecture to ensure that students had viewed the lectures and studied the material so that they would be better prepared for class (Tune, Sturek, & Basile, 2013). Lectures were optional for students enrolled in the traditional classroom and there were no quizzes. However, both groups of students received the same course examinations. There were a total of 27 participants in the study; 14 in the traditional course and 13 in the modified flipped course. Course participants were not aware of the differences in instructional delivery format during enrollment. Students enrolled in the flipped course performed higher in all sections on the examination. Tune, Sturek, and Basile (2013) suggested that the use of video recorded lectures as homework and the use of quizzes for evaluation of student preparation was a critical motivating factor that likely contributed to increased student performance.

In another study, Critz and Knight (2013) implemented the flipped learning approach to 20 students enrolled in a graduate level pediatric course in a Family Nurse Practitioner program to explore student satisfaction and to determine whether students were viewing the pre-recorded lectures. The instructors decided to flip the course as a result of previously enrolled students not performing at the level expected for graduate education. Students were expected to complete 11 modules that consisted of short, pre-recorded video lectures that were 20 to 40 minutes in length, assigned textbook readings, and peer-reviewed evidence-based journal articles prior to class over a 15-week semester. Following completion of the pre-class video lectures and readings students were required to take an online quiz which accounted for 60% of the final grade of the course. This allowed for class time to be used for more intense learning activities. Student satisfaction was evaluated using a 10 item 5-point Likert scale via Survey Monkey. Findings revealed that videos should be reduced to 20 to 30 minutes in length to maintain student interest.

Schwartz (2014) implemented flipped learning in two required statistics course for nursing students enrolled in a research-based Doctor of Philosophy (PhD) program. A pretest versus posttest learning assessment was incorporated to measure student progress in the course. Schwartz was a first time flipper that implemented this approach after experiencing numerous challenges throughout the years of teaching the course using the traditional method of instruction. The course met weekly with three-hour sessions allotted for theory and one additional hour allotted for computer laboratory. On the first day of class, an unannounced quiz was administered and the class average score was low. The exact quiz was administered again unannounced at the end of the semester and the class average improved. Results revealed that that students enrolled in the flipped classroom were better prepared for class; however, the method of evaluation may not be reliable as the students were exposed to the same quiz. Schwartz indicated that performance on the quiz administered at the end of the semester could be related to identical questions rather than an increase in knowledge. Schwartz (2014) also reported that fully flipping a course at one time can be overwhelming due to time and effort and recommended that the number of flipped lectures or content within a course should be done over multiple semesters.

In a physical therapy course, flipped instruction was implemented to students enrolled in a musculoskeletal science course to compare outcomes of physical therapy students who were exposed to the flipped instructional method versus the traditional classroom approach (Murray, McCallum, & Petrosino, 2014). The study was done amongst two cohorts of students: students enrolled in the course in 2010 and students enrolled in the course in 2011. The 2010 cohort consisted of 23 students and these students were exposed to the traditional lecture format. The 2011 cohort consisted of 30 students who were exposed to the flipped classroom. Student

performance on course examinations were used to evaluate learner outcomes between the two instructional approaches. Results of the study revealed that there was no difference in student outcomes between the two instructional approaches.

### **Learning Objects to Facilitate Flipped Instruction**

Lau and Yuen (2011) stated that people are living in a high technology society. The high technology society is forcing teachers to employ methods of interactive learning in the classroom setting. Although several studies used videos as a learning object to facilitate instruction, flipping may occur with or without the integration of technology (Honeycutt & Garrett, 2014). Flipping involves the leveraging of educational tools to enhance the learning environment. Bergmann and Sams (2014) referred to educational tools used to facilitate learning completed outside of class as learning objects. Learning objects include video recorded lectures, but may also consist of resources such as textbooks, journal articles, and online simulation activities. Therefore, flipping the classroom does not necessarily consist of the use of video recorded lectures. Brunsell and Horejsi (2013) stated that showing video recorded lectures alone is not flipping the classroom. The most essential aspect of flipped learning is the reclamation of in-class time that occurs because direct instruction is not being delivered to a large group but to individuals at the time that they are ready for it (Bergmann & Sams, 2014).

Several studies discussed the use of video recorded lectures or Podcasts as a learning object that had a positive influence on flipped learning. Herreid and Schiller (2013) found that teachers prefer use of online video to accomplish the goal of preparing students outside of class for in-class active learning activities. Video recorded lectures allow learners to move at their own pace with options to stop, pause, rewind, and view course materials as often as necessary. These features are often unavailable in the traditional classroom.

Though videos are a common learning object used in the flipped classroom, preparation of video recorded lectures to cover lecture content poses as a disadvantage to instructors when implementing the flipped classroom for the first time. This is because the creation of video recorded lectures requires much time. After the development of lectures for initial use the time spent for preparation is decreased as the videos are readily available. Videos can be recorded and uploaded to various platforms such as course management systems and YouTube. Challenges reported by students that received exposure to flipped instruction included discomfort in moving away from class lectures and concerns related to the amount time spent outside of class preparing for in-class learning activities (Simpson & Richards, 2015).

Various tools exist in which instructors can create and share content in a flipped learning environment. Screencast allows instructors to capture output from the computer screen as a video with audio narration. Dropbox allows safe storage of course content that instructors can share. Other interactive learning tools include Educreations, which allows instructors to create a virtual whiteboard, and Socrative which allows instructors to create and deliver quizzes online. The use of various instructional tools allows instructors to assign learning activities for completion outside of class and use of class time to engage in interactive learning activities.

Long, Logan, and Waugh (2016) investigated the use of three different types of pre-class video experiences in an introductory-level undergraduate course in environmental soil science. A total of 55 students participated in the study. Eleven students reported having previous exposure to video recorded lectures in other college course. The course met once per week for 90 minutes. Students were required to watch an instructor-provided video prior to class which ranged in length from 10 minutes to 1 hour. In addition, they were sometimes required to complete textbook readings prior to class. At the completion of the pre-class learning activities,

students were required to complete a quiz online that was included in their final course grade. The three types of videos investigated in the course included the instructor-developed video, the alternative source video through sources such as YouTube and National Geographic, and the guest speaker's lecture video. A survey was administered to the participants in this study to obtain their attitudes and perceptions of their pre-class learning experiences. Results of the survey revealed that students found the instructor-developed videos and the alternative source videos most helpful. Furthermore, 40 of the participants agreed that they preferred learning via videos prior to class rather than completing textbook readings (Long, Logan, & Waugh, 2016).

### **In-Class Learning Activities**

In efforts to evaluate student preparation in the flipped classroom, many studies reported the use of quizzes whereas some studies required students to create videos of their interpretation of the course content for instructors to view. The use of quizzes prior to class allows instructors to determine the student's level of knowledge on lecture content prior to activities or lectures to aid in determining the learners' knowledge on lecture content prior to delivery. This resource allows nursing faculty to identify which students are completing assigned reading activities prior to class and which students are not. This resource also provides the nursing faculty with information that identifies strengths and weaknesses. Identification of the strengths and weaknesses allow nursing faculty to provide enrichment to students on various subject areas.

### **Audience Response Systems**

Audience response systems are a form of technology that allow students to participate in class discussions in which multiple-choice questions are displayed on the whiteboard. Audience response systems allow students to respond to questions in an environment in which their peers are unaware of the answer option selected. Therefore, if a student selects an incorrect response

to a question during the learning activity he/she does not have to fear the opinion or response of his/her peers because the responses are anonymous. Audience response systems allow instructors to view learner responses and assist them in identifying and understanding important concepts (Vaterlaus, Beckert, Fauth, & Teemant, 2012). Russell et al. (2011) stated that the use of audience response systems that mimic a clinical situation provides a safe way for students to learn how to make high-risk decisions and enhance their critical thinking skills.

In a study that investigated the influence of audience response systems on student recall and student engagement in higher education, Vaterlaus, Beckert, Fauth, and Teemant (2012) found that learners who utilized audience response systems in class missed fewer questions on course examinations than learners who received verbal methods of review. Two instructors teaching different sections of the same course participated in this study and received similar results. Examinations in the courses were identical and contained questions that were not exact, but similar, to questions that learners were exposed to during use of the audience response systems during class time. Vaterlaus, Beckert, Fauth, and Teemant (2012) found that students were selecting the correct responses on questions that were similar to questions in which they received exposure to through use of audience response systems on course examinations and selecting incorrect responses for questions in which they had not received exposure. The study also evaluated student perceptions of engagement and examination performance. Results of the study revealed that 72% of learners reported an increase in engagement during class with the use of audience response systems. In addition, approximately 50% of learners enrolled in the course stated that audience response systems assisted in preparation for course examinations. However, the study contained limitations.

Fike, Fike, and Lucio (2012) examined the use of audience response system in a course that was designed to prepare pre-service teachers for the teacher certification exam. Results of the study revealed that reviewing questions in class was associated with positive learning outcomes. However, there was not a difference in learner performance on course examinations, but an increase in engagement with the use of audience response systems.

In another study, Petra, Jason, Griffin, and Troy (2014) examined the efficacy of audience response systems in a community college classroom to compare the effects of audience response systems on perceived knowledge and exam scores with the effectiveness of essays and pop quizzes. Results of the study revealed that students who wrote essays and took pop quizzes reported a greater level of comprehension when compared with the students using audience response systems. Students enrolled in the course that did not use audience response systems also scored higher on the cumulative examination than students exposed to audience response systems although there was no difference in performance on examinations one and two in the course.

Russell, McWilliams, Chasen, and Farley (2011) implemented audience response systems in an accelerated second-degree nursing program after finding that teaching large lecture-based classes were not conducive to enduring understanding in nursing students. The use of audience response systems was used to increase engagement, class participation, and preparation for clinical practice in an introductory course on health assessment to provide exposure to a variety of comprehension and analysis questions. A survey was provided to students at the end of the semester to obtain their perceptions of audience response systems. About 95% of students reported that the use of audience response systems made learning more engaging (Russell, McWilliams, Chasen, & Farley, 2011). In evaluating preparation for examinations, 72% of

students reported the use of audience response systems helping them prepare for course examinations whereas only 61% felt that the audience response system questions prepared them for the NCLEX.

In a study that investigated the effects of audience response systems on class participation and learning, majority of the students reported that the use of audience response systems assisted them with preparation for class and learning (Beard, Morote, & Volcy, 2013). They also reported that the use of audience response systems motivated them to complete pre-class reading assignments. As a result of students opting not to read prior to class and relying solely on educators to provide them with a thorough review of content, audience response systems were introduced during the fall semester of a 15-week graduate level advanced pathophysiology-nursing course.

### **Educational Gaming**

Passive learning environments do not support the development of critical thinking skills (Gipson & Bear, 2013; Tedesco-Schneck, 2013). Educational gaming is an instructional strategy that has been shown to create a more active learning environment (Gipson & Bear, 2013). In efforts to determine the effectiveness of educational gaming, Gipson and Bear (2013) compared differences in learning outcomes of students on a module on the renal system. In the study, one group received instruction via the traditional face-to-face lecture while another group of students were exposed to educational gaming. Reading assignments were available to both groups of students prior to class. During class time, students in the group that received gaming as an instructional strategy were exposed to questions that progressed from simple to complex. Student performance in both groups was evaluated using the course examination. Students who received instruction via the traditional face-to-face method scored higher on the examination

than students who were exposed to educational gaming. However, the study did not mention a method of evaluating the level of preparation for students who were exposed to educational gaming on the schedule class day.

### **Case Studies**

Case studies are an interactive learning activity that allows opportunities for nursing students to apply critical thinking. Case studies can be completed individually or in groups during class time to allow students opportunities to engage in discussion. Russell, McWilliams, Chasen, and Farley (2011) found that incorporating case studies into classroom lectures can aid in bridging the knowledge gap between content learned in the classroom and application of the content learned to clinical practice.

### **Simulation**

Due to the limited availability of clinical space in hospitals, nursing programs have also incorporated the use of simulation mannequins in the laboratory setting. Simulation-based learning activities provide instructors with the opportunity to expose students to real-life clinical scenarios that they are likely to encounter in clinical practice. This type of learning activity allows students to apply knowledge learned inside and outside the classroom to a given scenario as they would in the clinical setting. According to Skrable and Fitzsimons (2014), numerous studies have reported that simulation-based learning activities increase student confidence. Students are able to develop this level of confidence because simulation-based learning activities are a form of application-based learning in which students apply critical thinking skills to a clinical scenario.

## Faculty Experiences

Schlairet, Green, and Benton (2014) provided their experiences after implementing flipped learning in a first-semester, undergraduate-nursing course using the flipped learning model. They had no prior experience with using the model, but anticipated a growing conceptual understanding that would guide revisions of the flipped classroom in subsequent courses. Faculty reported that the flexible learning environment presented as a challenge because it was noisy and unstructured. In addition, students had adopted a method of dividing work amongst group members for completion of in-class learning activities rather than collaborating. This led to faculty assigning roles to group members. Faculty also reported that because instructional technology support was not available when the instructional approach was initially implemented and they faced challenges when issues such as device incompatibility were encountered. However, once instructional technology support was able faculty received guidance and gained the knowledge needed to improve their video recorded lectures. After receiving guidance, faculty saved video recorded lectures as smaller, single files that student could download for listening or printing.

*Faculty Focus* distributed an anonymous survey to faculty at all levels to gain a better understanding on their views of flipped learning and to find out what faculty were flipping and the barriers and benefits identified by those who were flipping. Respondents consisted of faculty in higher education institutions in the United States and Canada. Results of the survey revealed that the majority of faculty who were implementing flipped instruction rated their experience as positive for themselves and for their students. Reasons reported for flipping included a desire to increase student engagement and to improve student learning (Bart, 2015). Benefits of flipped instruction reported by faculty included some evidence of improved student learning and greater

student engagement; however, some faculty did report evidence of student resistance to the instructional approach. Faculty also reported that flipping was a challenge and the most frequently reported barrier to not flipping was limited time.

### **Summary**

The review of literature provides a history of the flipped classroom and disciplines in K-12 and higher education in which the instructional approach has been implemented. Various learning objects have been used to implement flipped learning. However, video recorded lectures and reading assignments were the most commonly used learning objects reported in the literature. The use of quizzes were reported as tools used to assess student knowledge at the beginning of class and also to encourage students to view lecture content prior to class.

Literature related to flipped learning investigates student performance and student engagement in the learning environment. Results of multiple studies revealed that the instructional strategy results in improved performance in K-12 and disciplines in higher education (Flipped Learning Network, 2013). However, limited empirical research is available on the phenomenon in the discipline of nursing; specifically, undergraduate nursing. Mok (2014) found that most implementation of the flipped classroom was reported in blogs, online magazines, and newspapers rather than academic papers and conferences. Furthermore, there was limited empirical research that used the flipped learning model to implement flipped instruction and limited empirical research on faculty and student experiences. This study adds to the empirical data on flipped learning by describing the lived experiences of faculty and students in the flipped learning environment using the pillars of flipped learning.

## CHAPTER III:

### METHODS

The purpose of this study was to describe the lived experiences of faculty and students in the flipped learning environment. A qualitative design was the most appropriate research design to conduct this study. According to Creswell (2013), qualitative research should be used when a problem or issue needs to be explored to obtain a deep understanding or to develop a theory. Qualitative researchers are interested in understanding how people interpret their experiences and what meaning they attribute to their experiences (Merriam, 2009). The focus of qualitative research is on process, understanding, and meaning and provides researchers with the opportunity to describe how people interpret their experiences. The researcher is the primary instrument in this type of research which allows the opportunity for the researcher to process data immediately, clarify and summarize material, check with respondents for accuracy of interpretation, and explore unusual or unanticipated responses (Merriam, 2009).

A case study was the type of qualitative research method that was used to conduct this study. Merriam (2009) stated that case study research has been proven useful for studying educational innovations. Case studies provide an in-depth understanding of cases in natural settings (Yin, 2012). According to Yin (2014), a case study method should be used when a research question begins with “how” or “why” to examine a contemporary set of events occurring in a natural setting in which the researcher has little or no control of behaviors. This method allows the researcher to provide a thick description of the physical situation to develop vicarious experiences for the reader (Stake, 1995). A rich description allows researchers to

provide a description of the setting, the participants involved, and what the researcher has learned about the phenomenon. In addition, case study research provides a holistic account so that the phenomenon can be understood as a whole.

The type of case study that was used was a multiple case study. Multiple case studies produce more substantial and robust results than a single case study (Eisenhardt & Graebner, 2007; Schadewaldt, McInnes, Hiller, & Gardner, 2013; Yin, 2014). This method was used to produce an in-depth description of the lived experiences of faculty and students in the flipped learning environment.

### **Research Questions**

The overarching research question that guided this study to describe the experiences of faculty and students in the flipped learning environment was what are the lived experiences of faculty and students in the flipped learning environment? Five sub-questions were used to better describe the lived experiences of faculty and students in the flipped learning environment. They included the following:

- 1) How do faculty describe the flipped classroom;
- 2) How do students describe the flipped classroom;
- 3) How do faculty describe their teaching experience in the flipped classroom;
- 4) How do students describe their learning experiences in the flipped classroom; and
- 5) How do faculty prepare for teaching experiences in the flipped classroom?

### **Setting**

Qualitative research takes place in a natural setting in which the researcher is the primary instrument. The setting for this study was in two nursing courses at two separate institutions in the southeastern United States. The selection of two different instructors at two separate sites

was necessary due to the limited number of instructors using the instructional approach within the discipline of nursing. The two cases were identified as Case A and Case B.

The setting for Case A was a first-semester, paramedic to registered nurse mobility course at a community college located in the southeastern United States. The college serves more than 5,000 students each semester on a total of three campuses and is accredited by the Southern Association of Colleges and Schools. Though the college has three campuses, the associate degree nursing programs are only offered at one campus. The course in which the study took place is designed to assist the licensed paramedic with transition to the role of a registered nurse prepared at the Associate Degree level. The course is a 12 credit hour course available to students who have been accepted into the paramedic to Registered Nurse program. Students accepted into this program are paramedics with an unencumbered or unrestricted license who have worked for one year as a paramedic within the last 20 months. The length of the program is three semesters and admits once yearly during the spring semester. After successful completion of the program, the graduate is eligible for the National Council Licensure Examination for Registered Nurses (NCLEX-RN). The graduate is eligible for licensure and practice as a registered nurse after passing the examination.

The content in the course in case A was divided into six modules beginning with a module on role transitions, fundamentals of nursing, health assessment and pharmacology. The modules then transitioned into modules in specialty areas such as adult nursing, maternal and child nursing, and nursing through the lifespan. Each module taught within the role transition course correlated with a course within the traditional associate degree-nursing curriculum. The specialty area content covered in the course was assigned to be taught by faculty with expertise in the area that provide instruction on the content in the traditional associate degree program

such as maternal and child nursing. The course met once weekly for four hours review theory and the remaining four hours and thirty minutes used for lab with the exception of the first class day. The first class day met for a total of seven hours and thirty minutes with two hours set aside for the course orientation. The remaining five hours and thirty minutes was set aside to begin review of course content on module A in addition to a one-hour lunch break.

Case B took place at a proprietary institution located in the southeastern United States. The University has over 15 campuses and is accredited by the Southern Association of College and Schools Commission on Colleges to award associate, baccalaureate, masters, and doctorate degrees. The Bachelor of Science in Nursing (BSN) degree is offered on 10 out of the 15 campuses and admits twice yearly. Students who have completed prerequisite courses can apply for entry into the program. The program is designed to provide students with a solid educational foundation that prepares individuals for entry into the nursing profession. The length of the program is seven quarters. A quarter within the institution is approximately 10 to 12 weeks in length. After successful completion of the program, the graduate is eligible for the National Council Licensure Examination for Registered Nurses (NCLEX-RN). The graduate is eligible for licensure and practice as a registered nurse after passing the examination.

The course in which the study took place was a three credit hour Pharmacology II course offered to students who were in the second quarter of the nursing curricula who successfully completed nursing courses offered during the first quarter of admission into the program. Courses taken during the first quarter included an introductory level course to the nursing profession, health assessment, and Pharmacology I. The Pharmacology II course is a continuation of Pharmacology I and addresses the basic principles of pharmacology and uses a pharmacotherapeutic focus to study drugs. Current pharmacological principles, therapeutic

effect, drug interactions, and side effects are emphasized in the course. Content discussed in the course includes drugs that are used in the treatment of cardiovascular, endocrine, reproductive, respiratory, gastrointestinal, bone and joint, cancer, immunologic, inflammatory and infectious disorders. The course met once weekly for three hours of theory and was taught by one instructor. The course did not contain a clinical component.

### **Researcher Positionality**

The researcher qualifications, experience, and reflexivity are relevant in establishing confidence in findings (Polit & Beck, 2012). As the researcher in this study, it is my responsibility to disclose my positionality in this study. My interest in this study originated from my interest in integrating technology into the classroom in nursing education. I have had the opportunity to implement flipped instruction in nursing education over the last six years in various nursing courses. However, during that time I have also had the opportunity to improve the delivery of this instructional approach based on recommendations from evidence-based practices of various disciplines in higher education.

Because of my experience with flipped learning, I sought to find faculty who were implementing the instructional approach in the discipline of nursing. My intentions were to gain an in-depth understanding of the instructional approach and experience the instructional approach as an observer. Participants understood that this study would contribute to the empirical research on the use of flipped learning in higher education settings; especially, within the discipline of nursing.

I did not evaluate faculty implementing the instructional approach as this is the responsibility of the administrators within the institution. Instead, I obtained data that consisted of a questionnaire, observations, focus group interviews, one-on-one interviews, and any

documents used to facilitate instruction in efforts to answer the research questions and apply data collected to the pillars of flipped learning. Triangulation of data, using multiple sources of data to provide evidence, were used to validate findings within the study.

### **Participants**

Participants in the study consisted of 20 students enrolled in nursing courses and their instructors. Case A originally had 13 participants; however one student completed the questionnaire but did not participate in the focus group interview. Therefore, only a total of 12 participants completed the focus group interview in case A. Case B began and ended with a total of seven participants. It was anticipated that the number of participants selected within the two learning environments were sufficient to generate an understanding of flipped learning. According to Polit and Beck (2012), if participants are good informants that are able to reflect on their experiences and communicate effectively, saturation can be achieved with a relatively small sample size.

Participants in the study were selected for focus group interviews using criterion sampling based on their commonalities in responses on the questionnaire that was administered. Criterion sampling involves the selection of cases that meet predetermined criterion of importance (Polit & Beck, 2012). This method of sampling is an approach that has the potential for identifying and understanding cases that essential to the phenomenon of interest.

All 13 participants in case A had highly favorable responses on the Likert-scale items on the questionnaire. Therefore, the researcher sorted the participants into focus groups based upon their responses to the open-ended questions in section three of the questionnaire. There were a total of three focus groups in case A. Participants that were placed in focus group one had similar responses to question two related to challenges faced in the course. Participant

responses in this group were related to the amount of content they had to learn within a designated time frame which required them to incorporate time management skills. Participants in focus group two responded similarly to question one by reflecting on the convenience instructional approach. Participants in focus group three had similar suggestions for what they would change about the course.

Participant responses to the Likert-type questions on the questionnaire in case B varied. Some participants had favorable responses such as agree or strongly agree to the Likert-type questions that examined the pillars of the flipped learning environment whereas some participants had negative responses that averaged less than three with responses such as disagree or strongly disagree. The researcher also examined participant responses to the open-ended questions in section three for similarities. However, the responses were not very similar and the researcher was able to place participants in focus groups based upon responses to the Likert-type questions in section two of the questionnaire. Participants that were placed in focus group responded with a rating of four or higher indicating that they agreed or strongly agreed with each pillar of the flipped learning that was assessed. Participants that were placed in focus group two selected the neither agree or neither disagree option on the questionnaire and had fewer responses with a rating of four or higher in all areas in which the pillars of flipped learning were assessed.

### **Instrumentation**

According to Miles, Huberman, and Saldana (2014), instrumentation is composed of the methods of data collection. A questionnaire, an observation data protocol, a focus group interview protocol, and a faculty interview protocol were used to collect data for this study. The questionnaire consisted of two open-ended questions and 11 Likert items. It can be viewed in

Appendix B. The observation data protocol can be viewed in Appendix C and provided data on the course in which the observation was taking place, the date, duration, and observed student and faculty behaviors. The faculty interview protocol consisted of 11 open-ended questions derived from the research and questions and guided by the 11 indicators of the flipped learning model. The faculty interview protocol can be viewed in Appendix D. The focus group interview protocol consisted of 16 open-ended questions derived from the research questions and guided by the 11 indicators of the flipped learning model. The focus group interview protocol can be viewed in Appendix E.

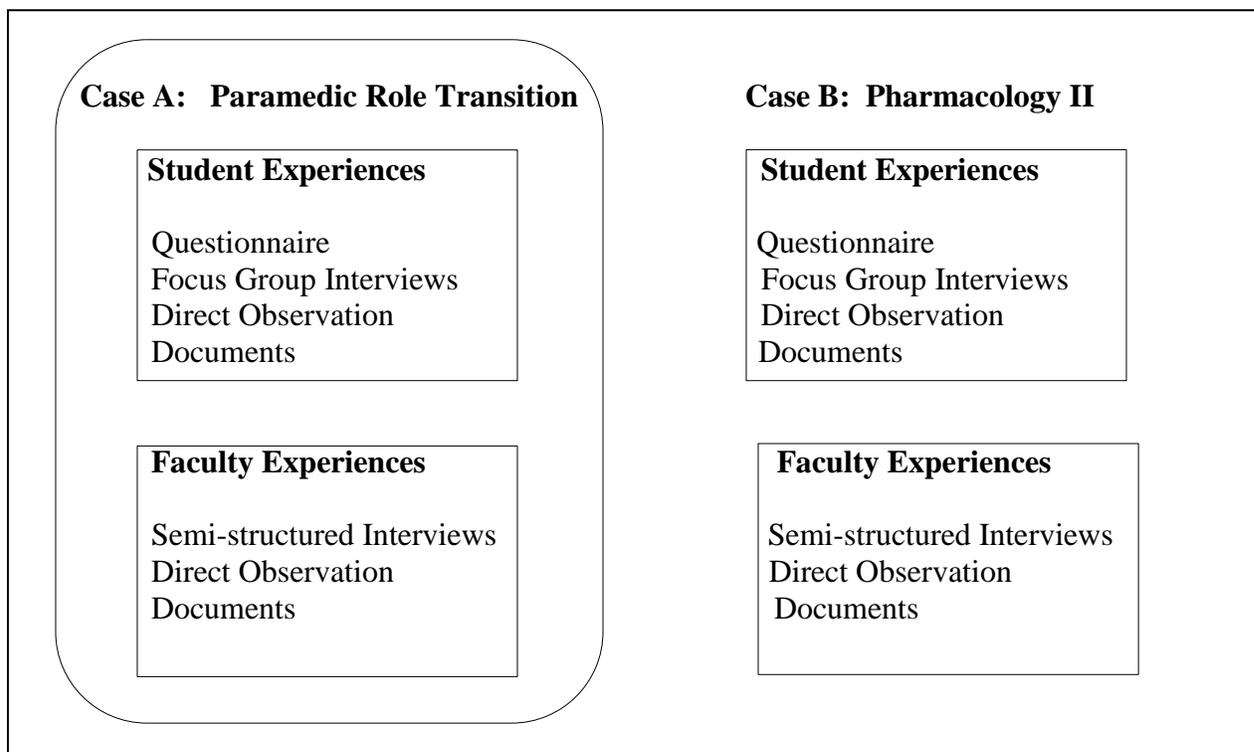
### **Conceptual Framework**

The pillars of flipped learning provided the conceptual framework for this study. Yarbrow, Arfstrom, McKnight, and McKnight (2014) implied that teachers incorporate the four pillars of F-L-I-P in order to facilitate learning in the flipped learning environment. The researcher obtained a detailed description of the learning environment to gain an in-depth understanding of the learning environment, learning culture, and the role of the instructor as a professional educator. Data related to intentional content was also obtained from faculty during interviews to gain a better understanding on the preparation required to determine the content assigned for learners to access on their own outside of class.

### **Data Collection**

The data collection process began after approval from the Institution Review Board. Data were collected in three phases and consisted of a questionnaire, observations, and interviews. Rather than relying on a single data source, qualitative researchers typically gather multiple forms of data from interviews, observations, and documents (Creswell, 2013). According to Yin (2012), good case studies benefit from multiple sources of evidence. Figure 2

provides a description of the data collection process that was used during this study identifying the paramedic role transition course as case A and the pharmacology course as case B.



*Figure 2.* Data collection

Data collection for case A occurred over a period of ten weeks that began on January 12, 2016 and ended on March 11, 2016. The first observation occurred on the course orientation day, which was also the first day of class. The study was introduced by the researcher to the class on this day at a time allotted at the beginning of class by the course instructor. Students were allowed to provide consent to participate in the study and ask any questions related to the study. All 13 students enrolled in the course provided consent. Consent was also obtained from faculty at this time. After obtaining consent the researcher informed the participants that copies of the consent form would be distributed on the next observation day in the event that there were any questions or concerns related to the research project. Copies of the consent forms were distributed to participants during the second observation date.

Data collection for case B took place over a period of eight weeks that began January 20, 2016 and ended March 11, 2016. The first observation occurred on during the second week of class after obtaining IRB approval from the Institution Review Boards. The study was introduced to students enrolled in the Pharmacology II course at the end of class. All seven students and the faculty in the course provided consent. After obtaining consent the researcher informed the participants that copies of the consent form would be distributed on the next observation day in the event that there were any questions or concerns related to the research project. Copies of the consent forms were distributed to participants during the second observation date.

The questionnaire (see Appendix B) contained three sections. The first section of the questionnaire required participants to provide demographic information such as their gender and the level student that they were such as junior or senior. Questions in section two assessed the pillars of flipped learning and contained 10 Likert scale type items that participants used to rate their learning environment (1= strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree). The last section of the questionnaire, section three, consisted of four open ended questions that allowed participants to provide additional feedback about the course in which they were enrolled. Participants were allowed to provide their name and contact information on the questionnaire if they were interested in participating in focus group interviews. All 13 students in case A and all seven students in case B expressed an interest in participating in focus group interviews. Participants were informed that they would receive a gift card in the amount of \$5 at the completion of the final interview.

The questionnaire was administered to all 13 students in case A during the third week of class. The questionnaire was administered during a break to avoid disruption. The data were

reviewed and focus groups were assigned based on survey responses using criterion sampling. All 13 participants in case A had highly favorable responses such as strongly agree or agree on the Likert-type items on the survey. As previously mentioned, there were a total of three focus groups in case A. Participants that were placed in focus group one had similar responses to question two related to challenges faced in the course. Participant responses in this group were related to the amount of content they had to learn within a designated time frame which required them to incorporate time management skills. Participants in focus group two responded similarly to question one by reflecting on the convenience instructional approach. Participants in focus group three had similar suggestions for what they would change about the course.

According to Brinkman and Kvale (2015), focus groups interviews bring forth different viewpoints on a phenomenon. There were a total of three focus groups consisting of 4 to 5 students per group. According to Creswell (2015), focus groups typically consist of four to six people. Students were notified of the focus group in which they had been placed and provided with scheduled interview dates and times the following week.

The questionnaire was administered to all seven students in Case B during the third week of class. The questionnaire was administered at the end of class to avoid disruptions during class. Participant responses to the Likert-type questions on the questionnaire in case B varied. Some participants had favorable responses such as agree or strongly agree to the Likert-type questions that examined the pillars of the flipped learning environment whereas some participants had negative responses that averaged less than three with responses such as disagree or strongly disagree. The researcher also examined participant responses to the open-ended questions in section three for similarities due to some participants selecting the neither agree or neither disagree option. However, the responses were not very similar and the researcher was

able to place participants in focus groups based upon their responses to the Likert-type questions in section two of the questionnaire by examining the pillars in which they had similar responses.

### **Observations**

The researcher provided faculty in case A and case B with an observation scheduled at the beginning of the study which assisted the researcher in gaining additional information in the course such as a delayed start time due to course examinations. Observations began in case A on the first class day in January and continued through mid-March on flipped and non-flipped days with the researcher functioning as a nonparticipant observer. Observations began in case B during the second week of class during the second class session beginning in January and ending in mid-March with the researcher functioning as a nonparticipant observer on flipped and non-flipped days. A nonparticipant observer is an observer who visits the site and records notes without becoming involved in the activities of the participants (Creswell, 2015). During the initial observations, the researcher recorded the initial impression of the learning environment to provide a starting point. Initial impressions include details about the physical setting, including size, space, noise, and equipment or about people in the setting such as the number, gender, appearance, dress, movement, and feeling tone (Emerson, Fretz, & Shaw, 2011).

During observations the researcher obtained documents provided to students such as syllabi and course handouts to provide a more detailed description of activities occurring in the learning environment. In case A, the observer was also provided access to the learning management system in which students were to access to obtain information related to assignments that were to be completed prior to the scheduled class day. This allowed the observer the opportunity to view any activities or videos assigned for students to complete prior to class prior to observation days to aid in gaining a better understanding of the learning

environment. In case B, the observer met with the instructor after class on multiple occasions to view activities that were uploaded in the course learning management system for students to complete prior to class to gain a better understanding of experiences in the learning environment.

During course observations the researcher recorded descriptive field notes using the observation data protocol (see Appendix C) that provided a description of the events, activities, and student and faculty interaction in the learning environment. The researcher transcribed field notes at the end of each observation. The ethnographer's most urgent task is to record experiences while they are still fresh because the goal is to get as much down on paper in as much detail and as quickly as possible, holding off any evaluation and editing until later (Emmerson, Fretz, & Shaw, 2011).

A total of seven observations occurred in case A with six of the observation days occurring on days in which content was delivered using the flipped instructional approach. In case B observations occurred over a period of six weeks due to saturation of data. A total of five topics were observed in the course. Lecture and learning activities did not occur during one week of observation as a result of student performance on the course examination taken on the scheduled observation date. The instructor delivered content on the topics in the course using the flipped instructional approach and the traditional method. There were two topic areas out of the five topic areas observed that were delivered using the flipped instructional approach.

## **Interviews**

Focus group interviews were conducted with a total of 19 students; 12 students from the paramedic role transition course (case A) and seven students from the pharmacology course (case B). One student was unable to participate in the focus group interview in case A due to illness which led to total sample size of 19. The faculty implementing the flipped instructional

approach in case A and the faculty member in case B were also interviewed using a semi-structured approach. Data collected during the interviews were obtained to gain an in-depth description of the learning environment, experiences in the learning environment, and preparation related to teaching and learning.

Participants in the study were selected for focus group interviews based on their willingness to participate by providing consent. In addition, they were placed in focus groups using criterion sampling based on similarities in their responses on the questionnaire administered in the course that was approved by the Institution Review Boards. The initial data that the researcher reviewed when initially placing participants into focus groups were participant responses to the Likert-type questions. The researcher reviewed these questions looking for similarities in responses to each pillar of the flipped learning environment and initially sorted the questionnaires based upon similarities in responses in this section. Therefore, the questionnaires were sorted initially based according to whether they had highly favorable or negative responses. Questionnaires that contained highly favorable responses were sorted in one group and questionnaires that contained negative responses in similar areas related to the pillars of flipped learning were placed in another group. The groups were further divided based upon similarities in responses to the open-ended questions in section three of the questionnaire.

Participants were informed that the length of the interview ranged from 60 to 90 minutes. According to Holloway and Wheeler (2010), the length of time for the interview depends on the participant; however, the researcher should provide the participant with an approximate amount of time for the interview to allow the participant to plan his or her day. Participants were also informed that more than one interview may be necessary to provide clarification from the initial interview.

Prior to the start of the interview, the interviewer obtained consent from the participants to audiotape the interview using a digital voice recorder. The interviewer also informed participants that information discussed during the interview would remain confidential and that pseudonyms would be used during the transcription process to maintain anonymity. In addition, the interviewee informed participants that notes would possibly be recorded by the interviewer during the interview process. Furthermore, the interviewer informed participants that all notes recorded during the interview and the recording on the digital voice recorder would be destroyed after the data analysis process was complete.

Questions used during the interview were derived from the research questions (Yin, 2014). The interviewer began the interview with introductory-type questions. Introductory questions sometimes require participants to remember when they were first exposed to the topic under investigation and to describe the experience (Krueger & Casey, 2015). Transition questions functioned as links between introductory questions and key questions, requiring participants to go into more depth about their experiences moving the conversation closer to key question. Open ended questions were asked to avoid the use of leading questions. Questions and responses were be audiotaped during the interview using a digital voice recorder. When designing the interview questions, the “why” and “what” questions were asked and answered before the question of “how” was posed to elicit spontaneous descriptions from interviewees (Brinkman & Kvale, 2015). Following the interview, the interviewer recorded additional notes. Pseudonyms were used during the transcription process to provide anonymity and maintain confidentiality. The interviewee conducted follow-up questions after transcribing the interviews to validate and obtain clarification of information discussed during the interviews.

## **Faculty Interviews**

Faculty interviews were conducted at the beginning of the course and during the course. Faculty were interviewed one-on-one to obtain their lived experiences in the flipped learning environment. A semi-structured format was used to conduct the interview using the faculty interview protocol (see Appendix D). According to Holloway and Wheeler (2010), the sequencing of questions in a semi-structured interview is not the same for every participant as it depends on the process of the interview and the responses of the individual. The length of the interview was approximately 30 - 45 minutes and was arranged based upon faculty availability. Faculty were asked to provide 1) information related to their years of teaching experience; 2) a description of the flipped classroom; 3) their experiences in the flipped classroom; and 4) their preparation for flipped instruction. The faculty member in case A was interviewed in her office with the door closed to ensure privacy. The faculty member in case B was unable to arrive to the scheduled location for a face-to-face interview and opted to interview via telephone. During each interview consent was obtained for permission to record information discussed.

## **Student Focus Group Interviews**

Focus groups allow researchers to gain a rich, deeper understanding of the issue or phenomenon (Kamberelis & Dimitiadis, 2013). As previously stated, the focus group interviews began after questionnaire responses were reviewed and participants were placed in groups using maximum variation sampling. A focus group interview usually contains four to six key questions with the final question beginning with the overview of the purpose of the study and seeks to gain additional information (Krueger & Casey, 2015). Good focus group questions initiate conversation, use words participants would use when discussing an issue, are easy to say, clear, short, and open ended (Krueger & Casey, 2015). All participants within the focus group

were encouraged to talk and to take turns while talking to aid in obtaining an in-depth understanding. Focus groups provide interaction among interview participants and collection of extensive data from all participants (Creswell, 2015; Krueger & Casey, 2009). Data from the focus group interviews were transcribed verbatim following the interview.

There were a total of three focus groups in case A. Focus group interviews in case A began February 9, 2016, and continued through February 23, 2016. The length of the focus group interviews were approximately 30 to 45 minutes in length. One focus group was interviewed per week at a time scheduled outside of class to avoid or minimize disruptions. The focus group interviews were held in a conference room located next to the lab to allow privacy. Follow-up questions and clarification of data transcribed from each interview was verified with participants from February 16, 2016, to March 8, 2016, for validity.

Focus group interviews in case B were conducted on the same day due there being only two focus groups related to the small sample size. Focus group interviews were conducted on February 17, 2016. Participants were informed of their focus group interview meeting date and assigned times two weeks prior to the scheduled interview and received an additional reminder one week prior to the scheduled interview. The researcher met with the participants prior to scheduling the focus group interviews and times to ensure that the time was convenient for all participants. The interviews were conducted on a day in which all students were on campus at a time outside of the scheduled class time per the request of the participants. During the first focus group interview, only three of the four participants arrived for their scheduled interview. During the second focus group interview only two of the three participants arrived during their scheduled time. This led to a third focus group interview with the remaining two participants who volunteered to interview together after missing the focus group in which they were

originally placed for the interviews. The interviews were conducted using the focus group protocol (see Appendix E). Students were asked to provide 1) their prior exposure to instructor-created and online videos; 2) their initial impression of instructor-created and online videos; 3) a description of the flipped learning environment; 4) their experiences in the flipped learning environment; and 5) recommendations for students and faculty in the flipped learning environment. The first two focus group interviews were held in an empty classroom to allow privacy. The last focus group interview was held at the end of class in the laboratory to allow for privacy. Consent was obtained for all interview participants to record the interview.

Table 1

*Data Management Plan*

Research Question	Pillar	Data Sources
RQ1a: How do faculty describe the flipped classroom?	Flexible Learning Environment	Faculty Interviews Observations
RQ1b: How do students describe the flipped classroom?	Flexible Learning Environment	Questionnaire Focus-group interviews Observations
RQ2a: How do faculty describe their teaching experience in the flipped classroom?	Learning Culture Professional Educator	Faculty Interviews Observations
RQ2b: How do students describe their learning experiences in the flipped classroom?	Learning Culture Intentional Content Professional Educator	Focus-group Interviews Observations
RQ3: How do faculty prepare for teaching experiences in the flipped classroom?	Intentional Content	Faculty Interviews Observations Documents

## Data Analysis

In qualitative research, researchers gather data to build concepts or theories from observations and findings derived from the data in the form of themes, categories, concepts, and theories about a particular aspect of practice. Interviews were transcribed, viewed, edited for accuracy, and coded using a computer assisted qualitative analysis software program. Field notes were coded. A code is a word or short phrase that symbolically assigns a summative, salient characteristic for a portion of language-based or visual data (Saldana, 2013). Coding played an important role in the grounded theory approach introduced by Glaser and Strauss in 1967 (Brinkman & Kvale, 1999). According to Charmaz (2001), coding is the “critical link” between data collection and their explanation of meaning. This study contained four phases of data analysis shown in the research design in Figure 3.

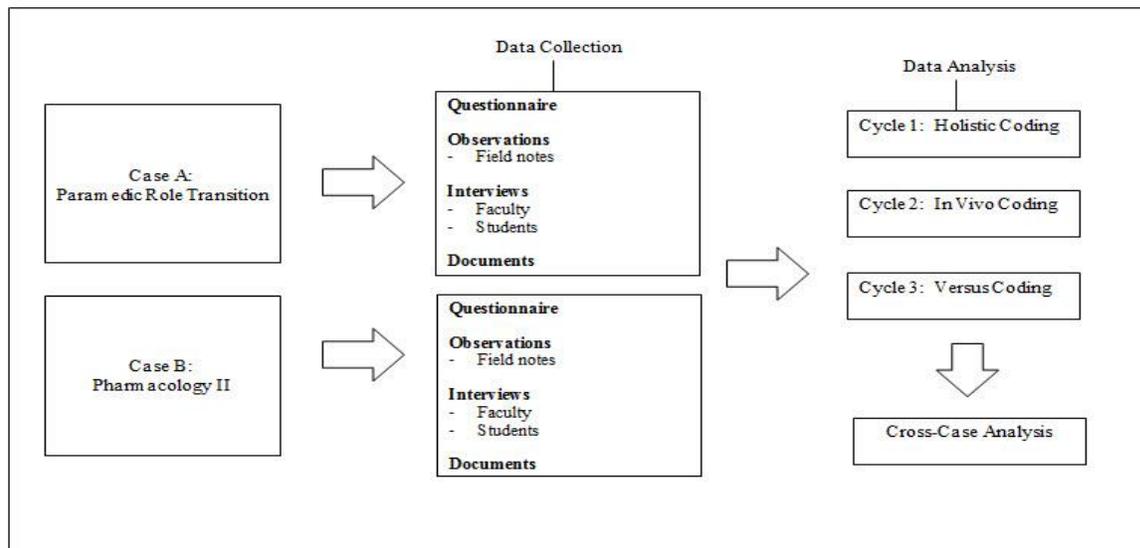


Figure 3. Research design

## **First Cycle Coding**

First Cycle coding is a way to initially summarize the different portions of data. The portion of data to be coded during First Cycle coding processes can range in magnitude from a single word to a full paragraph to an entire page of text (Saldana, 2013). Holistic coding will be used during First Cycle coding to analyze the data collected during this study. According to Miles, Huberman, and Saldana (2014), holistic coding is often a preparatory approach to a unit of data before more detailed coding through First or Second Cycle methods. Instead of coding data line-by-line, holistic coding allows the researcher to grasp themes in the data and apply a single code to a large unit of data as a whole. Time spent becoming absorbed in the data early in the analysis may save considerable time in the later stages (Dey, 1993). Holistic coding is applicable when the researcher already has a general idea of what to investigate in the data (Bazely, 2007; Saldana, 2013). Data that were analyzed during this cycle of coding included transcripts from field notes and focus group and faculty interviews. The resulting codes can be found in Appendix F.

## **Second Cycle Coding**

During the Second Cycle of coding raw data are recoded and can be the exact same units. Second Cycle coding methods are advanced ways of reorganizing and reanalyzing data coded through First Cycle methods (Saldana, 2013). In Vivo coding was used to recode data during the Second Cycle to view the data from a different perspective. According to Saldana (2013), the primary goal during second cycle coding is to develop a sense of categorical, thematic, conceptual, and/or theoretical organization from First Cycle codes. In Vivo coding uses the specific quotes and language used repeatedly by participants. In Vivo Codes provide a way for researchers to ensure that significant information is obtained from the participant to help

crystallize and condense meanings (Charmaz, 2006). Strauss (1987) recommends that researchers examine In Vivo Codes not only as themes but as possible dimensions of categories.

The resulting codes can be found in Appendix F.

### **Third Cycle Coding**

Versus Coding was used during Third Cycle coding to view data from an additional perspective. Versus Coding was used to compare and contrast perspectives of students and faculty within the case. This included the perspectives of students in the different focus groups: focus group one versus focus group two versus focus group three within a case and the student versus teacher perspectives within a case. Versus Coding is appropriate for qualitative data sets that suggest strong conflicts or competing goals within, among, and between participants (Saldana, 2013). The focus during this cycle of the coding process is on patterns of data. According to Agar (1996) the ethnographer examines the power that holds the patterns in place and how people accept or struggle against them. Charmaz (2009) recommends looking for metaphors of opposition at whatever cycle they emerge.

In efforts to deepen understanding and explanation, a cross-case analysis was conducted. Researchers performing a cross-cases analysis are emphasizing the common relationships and differences across cases (Stake, 2006). In this study the commonalities and differences between the experiences of faculty in case A and case B and the experiences of students in case A and B were analyzed. Findings related to flipped learning between the cases were used for the researcher to make assertions. The resulting codes can be found in Appendix F.

## **Validity**

Validity concerns whether the findings are unbiased and well grounded. Triangulation is done to achieve validity. According to Polit and Beck (2012), data triangulation involves the use of multiple sources for the purpose of validating conclusions. The three types of data triangulation are time, space, and person. Time triangulation involves collecting data on the same phenomenon on multiple occasions. Space triangulation involves collecting data on the same phenomenon in multiple sites. Person triangulation involves collecting data from different types and levels of people with the aim of validating data through multiple perspectives of the phenomenon (Polit & Beck, 2012).

## **Summary**

This chapter provided a description of the type of research design that was selected to conduct the study. This chapter also provided characteristics of the research design that correlated with the study. The most appropriate type of qualitative design to answer the research questions was also identified. Furthermore, the setting in which the research took place, research participants, and data collection methods and analysis that were used to guide the study were discussed in this chapter. Chapter IV will provide findings from this study.

CHAPTER IV:  
ANALYSIS OF DATA

The purpose of this study was to describe the lived experiences of faculty and students in the flipped learning environment. Data examined included direct classroom observation, focus group interviews with students, and semi-structured interviews with faculty. Data were coded in the two cases using three cycles of coding: holistic, InVivo, and versus coding to generate themes. Similarities and differences between the two cases were analyzed using cross-case analysis.

**Case A Analysis**

Ms. Jones, a pseudonym, was selected for the study due to her experience with flipped learning. She had more than 13 years of teaching experience and transitioned to flipped instruction due to demands in the nursing profession. She stated,

When I began teaching I was given PowerPoints and I was given tests that I was going to use and was told to go over those PowerPoints in class so there wasn't a lot of freedom...but it was very...there was no application...whatsoever in the classroom. It was reading the PowerPoints basically to the students or explaining what was on the PowerPoint.

She explained that she felt there was a need to make the classroom more engaging. She stated that one of the biggest instructional strategies in which she aimed was to make her classroom interactive. She further explained that she did this by bringing the clinical experience to the classroom so that the classroom was more application based or a flipped classroom. Ms. Jones defined the flipped classroom this way:

I would define it as essentially having the students prepare or do some kind of assignment before class and it can be simple or it can be complex. Then based on their prep work or whatever they did to prepare ummm....we are going to do an activity in class that incorporates that knowledge so we are applying the knowledge that they have obtained through their prep work.

She further explained that there was a need for nurses to apply content learned in the classroom in the clinical arena. Therefore, she aimed not only to prepare them to practice as nurses in the nursing profession but also to better prepare for the National Council Licensure Examination for Registered Nurses. She stated,

I really try to get the students to apply what they have learned or what we have recently viewed. If you are going to test the students at an application level like on NCLEX and they are going to have to apply what they know in the clinical setting or when they get out in the workforce, they need to practice the application in the classroom.

On the first day of class, Ms. Jones set aside two hours to provide a course orientation.

She began the course orientation with an Ice Breaker activity that required students to share something about himself or herself based on the number of squares of tissue paper they obtained from the roll upon entry into the classroom. At the completion of the activity, Ms. Jones called upon the researcher to allow the opportunity for the researcher to provide a self-introduction and discuss the study. After the introduction, the researcher obtained consent from students and faculty.

Following the Ice Breaker activity, Ms. Jones discussed the delivery format of course materials and course expectations. The students were provided with a course orientation packet upon entry into the classroom that contained an outline of the various topics that would be discussed during the session. The packet also contained handouts that correlated with module A which was the module covered after the course overview. Ms. Jones informed students that the role transition course was equivalent to three semesters of coursework in the traditional associate degree nursing program. She explained that one unit examination in the role transition course

was equivalent to a final examination in the corresponding nursing course in the traditional associate degree nursing program. Therefore, there would be a wide range of content covered in the course. She also expressed that it would be very important for students to complete assigned learning activities prior to class. During her interview Ms. Jones was asked to provide a description of the type of learning activities that she expected students to complete prior to class.

Usually I do what I call “prep work” which is a worksheet that might have terms on it for them to go look up or define to know ahead of time. Some things are pulled from the book. If there is a certain table that I want them to go and reference or know I will make sure that it is on the prep work so they have reviewed it prior to coming to class.

Ms. Jones informed students that it would be very difficult to participate in learning activities in class if prep work was not completed prior to class. Prep work was available for each module for each class day on the learning management system. Prep work consisted of worksheets and instructor-created videos for each module. Internet access was necessary for students to access the course materials. During the interview, Ms. Jones was asked how she was able to determine if students completed prep work prior to class. She replied,

I honestly don't look. Sometimes you can tell by participation. I have at times randomly chosen people to discuss items and sometimes that gets their attention. Having them talk about the prep work or “what do you think about this?” This is ugly to say, but sometimes embarrassment is encouragement to make sure you are prepared next time.

In addition to encouraging students to complete prep work prior to class, Ms. Jones recommended that students complete practice questions weekly to enhance their critical thinking abilities. Ms. Jones informed the researcher that there were several resources available for students to utilize outside of class. She stated,

They also have online resources through Evolve where they can do practice questions in their own time which are adaptive. So it's adaptive to each student. There are case studies also umm incorporated or the students can work on during their own time through the Evolve website as well. So those are all resources that we use for this course.

### **Description of Learning Activities Completed Prior to Class**

Ms. Jones referred to pre-class learning activities as prep work. Prep work consisted of worksheets for each scheduled class session that students were to complete using their textbook and while viewing instructor-created videos. Each module contained concepts that were addressed during each class session. Table 2 provides a description of the learning activities completed prior to class and the learning activities completed during class.

Table 2

*Description of Learning Activities Case A*

Unit/Module	Pre-class Learning Activities	Classroom Strategies
Module A	<u>Worksheets</u> Worksheet 1 - Accountability Worksheet 2 – Clinical Decision Making Worksheet 3 – Professional Behaviors  <u>Instructor-created Videos</u> Roles and Delegation (13:46) Test Taking Tips (38:39) Prioritization Lecture (7:55) Critical Thinking (5:58) Nursing Process (19:19) Nursing Practice Act ( <i>unable to view; does not exist</i> ) History of Nursing (1:04:35)	Class overview/preview (2:00:00) Individual learning activity 1 – Professional Development (10:00) Class discussion 1 – case study (10:00) Class discussion 2 – case study (10:00) Class discussion 3 – case study (15:00) Group activity 1 (20:00) 16 PPT Practice Questions (30:00) Lecture – Discussion (15:00) Group activity 2 (13:00) Lecture –Discussion (20:00) Class activity 4 (9 minutes) Lecture – Discussion (22:00) 15 PPT Practice Questions (19:00) Account setups for various supplemental electronic resources (40:00)
Module B – Part 1		Did not observe
Module B – Part 2	<u>Worksheets</u> Worksheet 1 - Communication Worksheet 2 – Safety Worksheet 3 – Culture and Diversity Worksheet 4 – Quality Improvement  <u>Instructor-created Videos</u> <ul style="list-style-type: none"> <li>• Communication Part I &amp; II (2:18:35)</li> <li>• Video 4 – Critical Thinking (2:18:35)</li> <li>• Body Mechanics/Activity (1:03:21)</li> <li>• Safety Part I (50:02)</li> <li>• Safety Part II (1:35:52)</li> </ul>	Overview of course topics (15:00) Group activity 1 – Communication (43:00) Class discussion 1 – Communication case study (11:00) Lecture – Communication (35:00) Group activity 1 – Communication (21:00) Lecture – Safety (14:00)
Module B – Part 3	<u>Worksheets</u> Worksheet 1 - Comfort	Overview of course topics (5:00) Lecture – Health/Wellness/Illness Discussion (45:00)

Unit/Module	Pre-class Learning Activities	Classroom Strategies
	Worksheet 2 – Grief and Loss Worksheet 3 – Tissue Integrity Worksheet 4 – Health, Wellness, and Illness  22 PPT Practice Questions  <u>Instructor-created Videos</u> Needs Based Lecture (17:54) Rest, Comfort, Sleep (1:21:01) Critical Thinking (2:18:35) Infection Control (44:31) Isolation Guidelines (24:09) Aging (1:31:32) Integument (1:05:04)	Class discussion 1 – case study (7:00) Lecture – Grief (5:00) In class- video (1:00)
Module B – Part 4	<u>Worksheets</u> Worksheet 1 – Elimination Worksheet 2 – Oxygenation Worksheet 3 – Nutrition  15 PPT Practice Questions  <u>Instructor-created Videos</u> Nutrition I (13:35) Nutrition II (38:14) Nutrition III (1:00:37) Elimination Part I (1:31:32) Elimination Part II (46:35)	Instructor B – oxygenation & elimination (2:55:00) Class discussion – Nutrition (53:00)
Module C	<u>Worksheets</u> Worksheet 1 – Basic drug calculations Worksheet 2 – Flow charts and values Worksheet 3 – Volume and weight conversions Worksheet 4 – Common drug classifications  15 PPT Practice Questions  <u>Instructor-created Videos</u>	Exam 1 (1:35:0) Lecture – Common Drug Classifications (1:17:00) Class discussion – Basic drug calculation (44:00)

Unit/Module	Pre-class Learning Activities	Classroom Strategies
	Pharmacology: Medication Safety and Administration Part I (57:03) Pharmacology Part II (25:30) Pharmacology Part III (26:13)	
Module D – Part 1	<u>Worksheets</u> Worksheet 1 – Oxygenation Worksheet 2 – Perfusion Worksheet 3 – Cellular Regulation Worksheet 4 - Infection  <u>Instructor-created Videos</u> Cardiovascular Disorders (1:19:06) Respiratory Disorders (1:22:04)	Exam 2 (1:35:0) Class Activity 1 (15:00) Class Activity case study (4:00) Lecture – Infection (1:18:00)
Module D – Part 2	<u>Worksheets</u> Worksheet 1 – Perioperative Care Worksheet 2 – Fluid and Electrolyte Imbalance Worksheet 3 – Acid-Base Imbalance  30 PPT Practice Questions  <u>Instructor-created Videos</u> Fluid and Electrolytes, Acid/Base Part I (32:17) Fluid and Electrolytes, Acid/Base Part II (24:08) Perioperative Nursing Management (2:02:45) Postoperative Nursing (55:26) Cardiovascular Disorders (1:19:06)	Instructor A Lecture – Perfusion and Cellular Regulation(2:55:00) Lecture – Acid/Base Balance (27:00)

## Descriptive Characteristics of Participants

During the focus group interviews, a total of ten students reported having previous experience or previous exposure to instructor-created or online videos. Several of the participants reported having exposure within the last year at the same institution while enrolled in a different course in another program at the institution or as a result of reenrolling in the current course. The researcher aimed to gather information related to their previous experience, if any, to obtain their initial impression of the instructional approach. Two participants within the study did not have previous exposure to the instructional approach and this was the first class in which they were exposed to this method of instruction. Table 3 provides the names (pseudonyms) of the participants, their gender, and their experience or exposure to instructor-created or online videos.

Table 3

### *Participant Information Case A*

Participant (Pseudonym)	Gender	Exposure to Instructor-Created or Online Videos
James	Male	Previous exposure
Anna	Female	Previous exposure
Joe	Male	No previous exposure/experience
Felecia	Female	Previous exposure
Catherine	Female	Previous exposure
Carla	Female	Previous exposure
Barbara	Female	Previous exposure
Kaitlyn	Female	No previous exposure/experience
Christopher	Male	Previous exposure
Susan	Female	Previous exposure
Dana	Female	Previous exposure
Angela	Female	Previous exposure

## Questionnaire Responses

The questionnaire (see Appendix B) was used during the first phase of data collection to obtain data from student participants. A total of 13 students completed the questionnaire (100% of the class completed the questionnaire). The questionnaire was designed to collect responses related to the four pillars of flipped learning. The survey contained three sections. The first section of the questionnaire required participants to provide demographic data which included their gender and their classification as a student. Ten of the participants were female and three of the participants that completed the questionnaire were male. All 13 participants indicated that they were senior level students.

Section two of the questionnaire consisted of ten Likert-type survey questions (1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree). This section within the questionnaire was designed to assess the pillars of flipped learning in the flipped learning environment. Results of this section of the survey is displayed in Table 4. This figure provides the frequency of responses for each question on the survey. The pillar mean, the average of responses to each pillar component, is also included.

Section three of the questionnaire consisted of four open-ended questions that provided participants with the opportunity to reflect on what they liked in the course, what they found challenging in the course, what they would change in the course, and the strategies from this course that they would like to see used in other courses. Data collected section three were used to help answer the research questions. This information was added to themes generated to the interview data obtained.

Table 4

*Case A Questionnaire Responses*

	Frequency					Mean	Pillar Mean
	1	2	3	4	5		
<i>Flexible Learning Environment</i>							
1. In this class, students are allowed to work individually or in groups to interact and reflect on learning.	0	0	0	1	12	4.9	4.8
2. In this class, the instructor observes and monitors student learning and makes adjustments if necessary.	0	0	0	2	11	4.8	
3. In this class, I am provided with different ways to learn content.	0	0	0	3	10	4.8	
<i>Learning Culture</i>							
4. In this class, I engage in learning activities during class time that allow me the opportunity to explore topics in greater depth without the teacher as the primary source of information.	0	0	0	1	12	4.9	5.0
5. In this class, the learning activities are structured and accessible to all students with collaboration and feedback.	0	0	0	0	13	5.0	
<i>Intentional Content</i>							
6. In this class, I access instructional content in the form of video lectures during my own time.	0	0	2	4	7	4.3	4.4
7. In this class I use instructor created and/or online videos from sources such as You Tube or Khan Academy to assist me with understanding course content outside of class.	0	0	2	5	6	4.1	
8. The videos used in this class the videos are relevant to content within the course.	0	0	1	1	11	4.7	
<i>Professional Educator</i>							
9. In this class, the instructor is available to all students and provides feedback as needed.	0	0	0	0	13	5.0	5.0
10. In this class, the instructor modifies teaching and learning activities to improve student learning.	0	0	0	0	13	5.0	

**Flexible learning environment.** The first category of questions on the questionnaire assessed the three components of the flexible learning environment. Overall, the flexible learning environment received positive responses from students. In response to item one, “In this class students are allowed to work individually or in groups to interact and reflect on learning” 100% of students responded with either strongly agree or agree. Similarly, 100% of students responded positively to item two, “In this class the instructors observes and monitors student learning and makes adjustments if necessary.” The last component of the flexible learning environment, “In this class, I am provided with different ways to learn content” also received 100% positive responses with students indicating that they strongly agree or agree. The pillar mean was 4.8, which suggested that students found components of the flexible learning environment favorable.

**Learning culture.** According to the responses for the second category of questions, all students, 100% responded positively to item four, “In this class, I engage in learning activities during class time that allow me the opportunity to explore topics in greater depth without the teacher as the primary source of information. In response to item five, “In this class, the learning activities are structured and accessible to all students with collaboration and feedback” 100% of students responded with strongly agree. The pillar mean was 5.0 which suggested that the learning culture was favorable.

**Intentional content.** The third category of questions assessed the use of online or instructor-created videos. In response to item six, “In this class, I access instruction content in the form of video lectures during my own time” 84.62% with strongly agree or agree. The remaining 15.38% neither agreed nor disagreed. Similarly, 84.61% of students responded positively to item seven, “In this class, I use instructor created and/or online videos from sources

such as YouTube or Khan Academy to assist me with understanding content within the course.” The remaining 15.38% selected the neither agree or disagree option. In response to item eight, “The videos in this class are relevant to content within the course” students responded positively with 92.31% in agreement whereas 7.69% of students responded by selected the neither agree or disagree option. Though student responses to intentional content were favorable, they were not as favorable as responses related the flexible learning environment and learning culture. The pillar mean for intentional content was 4.4.

**Professional educator.** The final category of the 10-question survey was intended to capture information about the instructor. In response to item nine, “In this class, the instructor is available to all students and provides feedback as needed” 100% of students responded strongly agree. Similarly, 100% of students responded positively to item ten, “In this class, the instructor modifies teaching and learning activities to improve student learning.” The pillar mean was 5.0, which suggested that students were pleased with the responsiveness of the instructor.

### **Research Question One**

Research question one aimed to obtain data on faculty and student descriptions of the flipped learning environment. The researcher sought to obtain data from observations, focus group interviews, and semi-structured interviews with faculty to obtain data related to the description of the learning environment. Additional data were obtained from questionnaire responses. Three themes derived from the data that were collected to answer the research question.

**Faculty description.** Ms. Jones described the flipped classroom by providing a description of her classroom. She provided a description of the physical layout of her classroom and the audio/visual resources available. The physical layout of the learning environment was

structured with 12 tables containing two chairs per table and one double table with four chairs. A multimedia podium was also located at the front of the classroom that contained a computer that was connected to the ceiling mounted projector. In addition, a whiteboard and a smartboard were available at the front of the classroom, with an additional whiteboard available at the back of the classroom.

***Flexible.*** For the purpose of this study, flexible refers to the ability to be easily modified. Ms. Jones reported that the physical layout of her classroom provided opportunities for students to rearrange furniture for learning. She stated that the learning environment was structured to provide opportunities for student to engage in individual or group-based activities. She also reflected on the flexibility in the flipped classroom when reflecting on the instructor-created videos. Ms. Jones reported that the instructor-created videos were accessible to students from anywhere as long as internet access was available.

***Student description.*** Prior to obtaining a description of the learning environment from students, the researcher sought to gain information related to previous exposure to instructor-created or online videos. The researcher also sought to gain information from students on their initial impression of instructor-created or online videos. James reported that his initial exposure to instructor-created or online videos was approximately six years ago. When providing his initial impression of the videos, he stated,

Well...it was an online class so I didn't have to take the time out of my day to drive to class and sit through some lecture when I could just sit in front of my screen in the comfort of my home.

***Convenient.*** For the purpose of this study, convenient refers to easily accommodating an individual. In case A, student responses to the flipped classroom were favorable. Responses varied related to why participants found the learning environment convenient. However, the

main reason that participants reported for finding the learning environment as convenient was the availability of course materials prior to class. In fact, three students indicated on the questionnaire that they preferred other instructor to incorporate pre-class learning activities that were similar when responding to the question related to what they would like to see done in other courses.

Students also described the flipped classroom as convenient related to the use of instructor-created videos. Students reflected on the convenience of the instructor-created videos by stating that they were able to view the instructor-created videos as often as they preferred in the setting of their choice as long as Internet was available. Barbara reflected on the accessibility and devices that could be used by stating, “They’re accessible from everywhere as long as you have a computer or iPad.” Carla stated that she found the learning environment convenient because she was able to complete duties around the house while listening to the videos. This is what Carla shared in relation to how she utilized the instructor-created videos:

I put it on my laptop or either I have like a jam box and I just...it’s a Bluetooth jam box so I just...Bluetooth it on the TV. That way I can see the slides and listen at the same time while I’m cleaning and stuff.

Students also reflected on functions such as pause and rewind while viewing the instructor-created videos. They reported that this function was also convenient because this option was not available in the traditional classroom setting. This is how Dana described the flipped classroom:

I like the convenience of it, but I also like that if I don’t understand something I can rewind it and say ‘what did they say’ and I don’t have to keep asking. I can do it, know, and write down the notes from it and that way if I didn’t understand it or if I didn’t hear it I have time. I can pause it and look up what I need.

Susan stated,

Umm. Like she said...that you are able to rewind and there may be some things that you are not able to hear in class that you are able to go back and listen again.

Ann stated,

It's easy to go back and like if you've missed a day or you couldn't remember what they said in class you could go back and look at it.

In addition to describing the learning environment as convenient related to the availability of learning activities prior to class and the flexibility of the instructor-created videos, students in case A described the flipped classroom as convenient related to travel. Six of the participants in the course described the learning environment as convenient because the course only met once per week for class. Students stated that this decreased travel expenses associated with the cost of gas. However, all students did not find the number of class sessions per week as convenient. This is how Barbara described the flipped learning environment:

The videos and stuff...they are long. They are very long and it's kinda drawn out and it's hard to focus on when you got stuff you wanna do around your house and you're at home in your element. You wanna be doing other things kinda. Well...I do anyways. And...It's hard to...it's hard for me to make myself wanna go over there and watch the videos on my computer. I kinda wish our class had two days instead of one. I really do because it's like that one day of class. A long day and then there's a whole 'nother week until you have class again. So it's all that spare time where I'm trying to get stuff done you know and trying to work whenever and I just wish there were two class days so I could have more time in the classroom to focus on school work instead of just the one day.

***Self-paced.*** In this study, self-paced refers to the student having the ability to set the progress for their learning for pre-class learning activities. Ms. Jones stated that though the class only met once per week, credit hours in the course also reflected the work completed outside of class. She stated that the credit hours in the course were increased to provide students with credit for completing the assigned pre-class learning activities prior to each class session. Students described the learning activities in the flipped learning environment as self-paced. They reported that because the course only met once per week and the learning activities were available prior to class, learning activities could be completed on days and times of their choice.

Ms. Jones informed students of the availability of pre-class learning activities during the course orientation session. She announced that the pre-class learning activities for each module were sorted by date and accessible through the course learning management system. Pre-class learning activities were available for the entire semester, which provided students with the opportunity to complete learning activities at their own pace. Christopher stated,

I think what's best about it is you learn at your own pace. Cause you are able to click through what you need to, but I also think it hurts you if you are just in a rush so...I really think it depends on how you learn.

Anna reflected on this by stating, "It's a lot more on your own because you have that...if you were going three days a week versus one day with the teacher."

Angela stated,

I kinda liked it because we do have class only one day a week and you know for those of us who work and have jobs it's easier you know to kinda do the extra work on your own spare time when you are able to...umm especially like with clinicals and stuff too as well. It just kinda makes you able to manage your time due to your activities and what you do in your daily life I guess.

***Requires time management.*** Time management refers to setting aside adequate time to complete learning activities prior to class. In addition to describing the flipped classroom as self-paced students also described the flipped classroom as an environment in which a lot of material had to be learned in a short amount of time. They indicated that there was an abundance of content to complete outside of class; therefore, the learning environment required time management. This theme appeared frequently on questionnaire responses when students indicated what they found challenging in the course. This theme also appeared frequently during focus group interviews. Students described this instructional approach as "fast paced." Dana stated,

It's more on our time and it's more of getting it done. We know we need to get it done. You know if you wait to the last minute you are gonna get behind.

## Research Question Two

When gathering data associated with student and faculty experiences in the flipped classroom, the researcher sought to investigate the learning culture and the role of the instructor as a professional educator. This included the investigation of the role of the instructor, role of the student, learning activities completed during class and prior to class, student-teacher interaction, and the responsiveness of the instructor. Two themes derived from faculty teaching experiences and four themes for student learning experiences.

**Faculty teaching experience.** In efforts to gain the teaching experiences in the flipped classroom, Ms. Jones was asked to describe learning activities. She was asked to provide a description of learning activities that students were required to complete prior to class and the learning activities completed during class. Ms. Jones was also asked to describe activity occurring in the classroom during learning activities.

**Application-based.** Application-based refers to students applying content learned outside of class to learning activities completed during class. Ms. Jones stated that she aimed to make learning more application based in her course by allowing students to apply content learned outside of class, inside the classroom. During her class, students engaged in individual and group activities. This is how Ms. Jones described student activity in the classroom:

Working together in small groups....working on projects. We are trying to turn the classroom into a clinical. Case studies, practice questions, and make it as engaged as we can using critical thinking and applying what they know.

During the first class session, there was a learning activity that was used to discuss the concept of professionalism. During this learning activity, Ms. Jones distributed one 3 x 5 index card to each student to record three qualities they would prefer to see in an employee as an employer on one side and three qualities that they would not want to see in an employee on the

opposite side. Ms. Jones allowed the students five minutes to complete the learning activity. At the end of the learning activity she retrieved the cards and reviewed all of the good qualities followed by the bad qualities from each card, which led to a discussion on the concept of professionalism. Following the discussion, Ms. Jones and the class engaged in discussion on two case studies from the textbook that further discussed the concepts of professionalism and accountability.

Another activity that Ms. Jones incorporated in her class to allow students to apply knowledge learned was the use of audience response questions. This learning activity provided the opportunity for students to practice answering NCLEX-style questions. Several of the participants indicated that the practice questions in class were helpful.

Angela stated,

I'd rather do practice questions than like activities and games. To me those are... Because they're the type of questions that we're gonna see and know. And you have to train your mind to answer those questions.

***Interactive.*** Interactive includes student engagement with their peers and engagement in learning with their instructor. There was a lot of interaction observed in Ms. Jones's class. When introducing the module on role transitions, Ms. Jones was observed interacting with students in her course through discussion. She utilized the whiteboard at the front of the classroom for this activity by allowing students to identify tasks specific to nurses, paramedics, or both. She used columns to differentiate the tasks associated with the different roles. Students provided answers to different questions posed by the instructor using the prep work that they completed prior to class. Students were able to complete the prep work prior to this first class session because they were provided with information related to program expectations during a health science information session that they attended during the previous semester. The

information sessions at the institution are mandatory for anyone applying for admission to a health science program. Applicants are able to register for the sessions online by selecting a date and time convenient for them based on the available dates listed on the registration form. The sessions provide applicants with an opportunity to learn about the application process, the selection process for programs, and expectations of students who are selected for admission to a health sciences program.

In another class session while discussing the concept of communication, Ms. Jones placed the students in groups. She did this by allowing them to pull a trading card and the groups were assigned based on the type of card they had such as diamonds, aces, spades, and hearts. There were five groups consisting of two individuals and one group consisting of three individuals. In the learning activity associated with the concept of communication, students were asked to prepare a skit in which they demonstrated good communication and another scenario in which they demonstrated bad communication. Ms. Jones indicated that each skit for each group was to be no longer than one minute in length. While the students were preparing their scenarios, Ms. Jones walked around the room to each group observing and providing feedback when needed. Each group was allowed to present their scenario on communication and each scenario was discussed to identify therapeutic approaches and non-therapeutic approaches to communication.

Four students also reflected on the course being interactive on the questionnaire by stating that the group work and interaction in the course was what they liked best in the course. Also, during the focus group interview Joe reflected on the learning activities in the course by stating: “I like the little games we play. It helps me...it helps me learn. I learn hands on. I don’t learn just by sitting there and watching a video or lecture really...not quite that well.”

Though some students enjoyed engaging in learning activities that were group-based, there was one student that stated that she preferred to work on her own and did not enjoy working in groups. Carla reflected on group activities by stating, “I’m very autonomous. I want to do stuff on my own and if I need help I will ask but other than that I don’t like participating in group activities.”

**Student learning experience.** Four themes derived from focus group interviews and questionnaire responses to obtain data related to the learning experiences of students in the flipped classroom. Some students felt that the flipped classroom made them better prepared for class and provided them with clarification on content reviewed outside of class. They also stated that they felt that the learning environment required dedication. In addition, some students expressed that they experienced difficulty in adjusting to the flipped classroom.

***Better prepared.*** For the purpose of this study, better prepared refers to the level of readiness for learning activities. Pre-class learning activities were available on the first day of class. This provided the opportunity for students to complete learning activities prior to class at their own pace. When reflecting on their learning experiences in the flipped classroom, students expressed that they were able to listen more, engage in discussion, or ask questions during class because they had each course session prior to class. They expressed that this allowed them to pay attention more with less writing. They also reported that this made them feel better prepared for class because they were able to gain a better understanding of course content while the instructor filled in the gaps. Carla stated,

I know that everybody’s main complaint is the prep work, the videos and stuff. I do like the fact that it is available to have before you come to class so it’s not like you know the night before class you get this prep work and you’re having to fill it out as she’s talking as in a regular class. Like a lot of times they’ll have that projection screen up and you’re having to fill in notes. To me it works better because I’ve already wrote down what I’ve read and what I’ve thought about it.

Angela reflected on how she felt better prepared by stating:

You already have it in your head...like you're prepared for the class like versus a class where they just read from a PowerPoint and you trying to like listen, write, and learn it...which versus this you've already learned it.

In addition to students reporting feeling better prepared because of the completion of pre-class learning activities, they also reported receiving clarification on content during class. They reported that the instructor reviewed concepts and exemplars from the pre-class learning activities work during each class session and they were able to fill in gaps. They also reported the ability to ask questions related to the content completed outside of class and receiving clarification on content that they did not understand or misunderstood. Several of the students reflected on how they were able to fill in the gaps on their pre-class learning activities by receiving clarification or asking questions.

Angela stated,

Sometimes I'll leave questions blank or like...sometimes they are hard to find in the book. They are buried in there you know. And so umm you can always ask and she'll give you the answer about what it is but umm...which...that's helpful.

Dana stated,

Well I don't mind this way because I mean they are honestly, if we have any questions or anything they will clarify it...and I still don't understand she will go back and do it again. I mean you know. You know she will clarify it up more and then she will find out and then she'll either text me or email me.

***Provides clarification.*** In this study, clarification refers to gaining a better understanding of content. Ms. Jones was observed providing clarification in her class using a variety of strategies. While introducing the concept of professionalism on the first day of class, Ms. Jones distributed a handout to the students related to professional organizations in nursing. While distributing the handout, Ms. Jones informed the students that she would translate the

information that was included in the orientation packet about the organizations to provide them with a better way to understand the content. She began the discussion by providing a brief description of the organizations. She read each standard and randomly selected a student to allow them the opportunity to respond to provide their interpretation of the standard. Students were able to review terms that they defined in their prep work to answer questions asked by the instructor. The instructor then provided students with clarification and informed them of the necessary information to place in the table to help them understand the content. Following this discussion, she allowed students to pair with a person at their table to complete a matching activity related to the professional organizations discussed. There was one student that did not have a partner for the activity and opted to work individually. Ms. Jones allowed students to provide answers to the learning activity and provided clarification for any concepts in which the students expressed difficulty.

Ms. Jones began the afternoon session on the first day of class with a discussion on how to answer questions on nursing course examinations or NCLEX – style questions. This session was approximately 30 minutes in length. There were a total of 16-audience response questions presented in the form of a PowerPoint presentation. There were eight questions related to the concept of accountability and eight questions related to the concept of professional behaviors which were concepts discussed during the morning session of the course. This activity allowed Ms. Jones to conduct formative assessments and provide clarification on content. During the interview, Ms. Jones stated that she did not always have time to use practice questions in class. However, she indicated that if time permitted she used this type of learning activity in her class to gain feedback on whether students understood the content. She felt that incorporating this type of learning activity in class assisted her in adjusting her teaching.

After completing the audience response questions learning activity, Ms. Jones transitioned to the concept related to clinical decision-making. The discussion on this concept was approximately two hours in length. She began the discussion by referring the students to their prep work to discuss Maslow's Hierarchy of Needs. Some students had already completed this component of their prep work prior to class and only had to add additional notes, whereas some students were completing this section during the class session. When describing the work completed outside of class Felecia stated,

Prep work is what she already has online. It's kinda like....we have....we have a lot of chapters to go through in one day and so what she does....is she goes through the chapters and pulls out the information she feels is...is important and we go back and fill in....either the charts or the fill-in the blank you know the list why, where, what...that sort of thing before class that day. You can ask questions about anything you're confused about so....I like the prep work.

When describing the role of the instructor, many of the participants reported that they were able to gain a better understanding of work completed inside and outside of class. They reported that the instructor was able to fill in the gaps in their knowledge.

Christopher stated,

She is very informative. She gets to the point. She always does activities. I think she's good in the flipped classroom because you learn at home and when she hits the high points and then she has an activity for...which benefits me because I am a hands-on learner.

Dana stated,

It's not traditional and it kinda breaks up the boredom. You can actually learn and any questions...they will go right into I mean they will explain it. I mean they will actually take the time to explain what you do not understand...and I do like that.

***Requires commitment.*** In this study, commitment refers to being dedicated to a task or purpose. Students expressed that based on their learning experiences, the flipped classroom required a dedicated individual. During focus group interviews, students frequently used the terms dedication and sacrifice when reflecting on their learning experiences. They expressed

that time had to be set aside to prevent falling behind on the course work with this instructional approach. They also expressed that there were numerous videos to view prior to class and the videos and worksheets completed prior to class required a lot of time. Angela reflected on the videos associated with the modules by stating, “I’ve listened to a few of them and I mean they do help but it’s like....there is so many of them.” Barbara stated, “There’s like movies of slides. Movies and movies and movies of slides, slides, slides.” Though Barbara referred to the instructor-created videos as movies, she did express that pre-class learning activities in the course were a helpful tool. However, she expressed that it required an abundance of time. Barbara expressed her frustration in the flipped classroom by stating:

I can’t I can’t....if I have it completed and it’s for a grade then I would be more dedicated to do it. But since it’s not for a grade and it’s just to help me out on my own time...if I...if I don’t have the time to do it then I’m not gonna...you know...dedicate myself to do it.

***Difficult to adjust.*** Several students reported that they experienced difficulty in adjusting in the course. For this study, difficult to adjust is defined as a hardship experienced while adapting to the learning environment. However, their responses related to difficulty in adjusting varied. Some students indicated that their difficulty in adjusting was related to changing their thought process in applying critical thinking when transitioning from the role of a paramedic to the role of a registered nurse whereas other students stated that their difficulty in adjusting was related to the instructional approach used in the course.

Students reflected on difficulty in adjusting to the instructional approach on the questionnaire and during focus group interviews. One student indicated on the questionnaire that the traditional approach was preferred when responding to the question, “What would you change about the course?” Several participants indicated that they were experiencing difficulty in adjusting due to the amount of material that they were expected to learn in the course. Three

students indicated on the questionnaire that they found the amount of material that they were expected to learn in one semester challenging. In fact, one student even suggested on the questionnaire that less material be covered in one semester when responding to what they would change in the course.

Carla stated that this was her second time enrolling in the course because she had to withdraw from the course previously due to difficulty in adjusting to the instructional approach. She expressed that the first time that she enrolled in the course she did not like the instructional approach because she was not familiar with the approach and did not know what to expect.

When providing her current experience with the approach she stated,

The second go round...just because I knew what to expect has made it a lot better cause I've sat down, I've prioritized, and I'm like ...ok. I'm going to sit here. I'm going to do all this prep work this day and get everything that I want to get done that day. So I've found ways to prioritize this time. So it's just prioritizing and knowing when to do stuff. So I actually enjoy it now. Cause when I come to class I already have this week and next weeks stuff prepared and I already know what she's gonna talk about and go over and it's kind of a refresher and if I have any questions then it's my time to ask her questions.

Due to student reports of difficulty adjusting, the researcher also investigated student performance. Students reported that they did not feel that the instructional approach impacted their performance in the course. However, there was not a way to compare student performance in this course because pre-class learning activities were assigned to each module in the course.

### **Research Question Three**

Research question three aimed to gather data related to how faculty prepared for teaching in the flipped learning environment. This included obtaining information related to the selection of content for students to complete outside of class and content that would be taught in-class.

Furthermore, data were collected to obtain the necessary steps that the instructor used to

determine the types of learning activities. Two themes derived from the data that were collected to answer the research question.

**Responsibility.** Responsibility refers to holding an individual accountable for their actions. Ms. Jones indicated that she required students to complete worksheets that covered concepts and exemplars prior to class. She also indicated that there were videos available for the students to view prior to class. When asked how she adjusted her teaching in the event that she was able to identify that a student did not complete prep work she responded by stating:

Hopefully that is not the case, but if somebody doesn't it really is on them. That is their loss. They are not really getting the full benefit of that day. So I don't necessarily adjust but sometimes the prep work may not have gotten the outcome that I wish for in class. Maybe I didn't put the prep work together to where they really picked up on the concepts that I really wanted them to get so I might have to review a little content prior to us doing an activity.

Ms. Jones indicated that there was no difference in how she prepared for instruction for students who completed prep work and those who did not. She stated, "That all goes back to being accountable for yourself and accountability is a huge part of nursing."

**Collaboration.** Collaboration refers to the act of working with an individual or a group of individuals. Ms. Jones expressed that when planning learning activities in her class she often collaborated with fellow instructors to gain ideas. She stated that she collaborated with faculty in other programs to gain ideas on learning activities for various topics. In addition, she indicated that every now and then she gained ideas at conferences and incorporated the activities in her course. When discussing planning the amount time needed for learning activities Ms. Jones indicated:

Sometimes I don't do a good job with that. You really don't do a good job with that. You really don't know until you have actually done it. It seems that I have a lot more activities planned than I ever could accomplish in class, but would rather have it that way than run out of things to do. So I always have more prepared than I will ever get to do in class.

When asked how she determined the amount of time to spend on content in class, Ms. Jones replied:

Just depending on content. The class that I have specifically now...their background is emergency medicine so I wouldn't spend as much time with oxygenation on them as I would maybe somebody with nutrition issues. Nutrition we are going to hit that pretty hard versus I think the following week we will do oxygenation which we won't have to spend much time with at all. So it really depends on their background and what they have had in the curriculum.

She explained the flipped classroom took a lot of preparation on the instructor's part beforehand, but she felt that the instructional approach made the classroom much more enjoyable for the teacher and the students. When Ms. Jones was asked how she was able to determine what content would be complete in-class and what content would be completed outside of class in selecting intentional content she replied:

Umm...we...That is a good question. We are moving towards a concept-based curriculum. We have not fully adopted that yet, but I am a huge promoter for teaching the concepts. So...I teach...say I am working on a respiratory module. I will make sure that they understand the concept of oxygenation and that might be what I hit the hardest in the classroom and we may cover some of the exemplars related to that as well like COPD, asthma, what have you...umm...but really nailing down the concepts. I think that it the most critical information. Also the videos that they can go watch...the prerecorded videos...they go a lot in depth into the medical model which is what our current curriculum is based around. It's going to talk about pneumonia and bronchitis and all of the respiratory issues where if I can focus on oxygenation, they will know how to take care of their patients.

Ms. Jones concluded the interview by indicating that instructor's transitioning to the flipped classroom did not have to flip all of the modules in the course all at once. She indicated that there were still modules that she still had not flipped. She stated,

It's not something you would totally 100% jump into. It's gotta be a gradual transition, but I don't see myself ever going back to PowerPoints. I'm not gonna do it.

Ms. Jones further implied that not all faculty and students had bought into the idea of the flipped classroom. She said that her instructional approach was much different from what most students

were accustomed to due to the limited number of faculty implementing the instructional approach. She said that she accepted the fact that many people had not bought into the instructional approach, but she would continue to use flipped learning.

### **Case A Summary**

Questionnaire responses related to the pillars of flipped learning suggested that the components of flipped learning were favorable. One theme derived from the faculty description of the flipped classroom whereas three themes derived from student descriptions of the flipped classroom. Two themes derived from faculty teaching experiences in the flipped classroom whereas four themes derived from student learning experience. Only two themes derived from faculty preparation which included responsibility and collaboration.

### **Case B Analysis**

Ms. Abrams, a pseudonym, was selected for the study due to her experience with flipped learning. She had approximately four years of teaching experience; two years in the clinical arena and two years in academia with students seeking to obtain a Bachelor's degree in nursing. She transitioned to flipped instruction after her first year in the classroom. She stated that when she first started teaching she focused more on the comprehensive component, but later felt that it was more about students being able to apply the concepts learned in order to be better prepared for the NCLEX examination and practice in the clinical arena. This is her explanation of why she made this transition:

Just the fact that the students umm...when I was instructing the students and students were having a hard time reading and comprehending the textbook and so that....I did what I call a learning styles survey to determine what type of learner my students were and then realizing that you know....your traditional classroom or seminar lecture type is not able to learn and be able to reach all of our students...we have to be able to adapt to their different learning strategies and different learning styles and so umm...you know a lot of students do better being able to prepare ahead of time versus reading by themselves and then coming to the class listening to the lecture.

Ms. Abrams explained that she used a variety of instructional strategies in her classroom including case studies, audience response questions, and the traditional lecture with PowerPoint presentations as she had not had the opportunity to flip all of the content in the courses in which she provides instruction. This is how she described flipped learning:

In the flipped learning environment I have students prepare before and then they come in to class and we umm...we implement the content that we've learned through case studies and do some critical thinking.

Ms. Abrams further explained that in the role of the professional educator using the flipped instructional approach she was able to assess students through learning activities in class prior to course examinations whereas in the traditional classroom she was not able to assess their understanding until the examination. She stated,

I work really really hard on trying to make sure that students actually learn...so assessing what they've learned is the same...umm as far as them being able to apply a concept umm...I hope I do a little bit different now with actually umm assessing that before it's time for a test. I also try that when we do the case studies and those kinds of things in the classroom setting before the exam.

### **Description of Learning Activities**

Students enrolled in the pharmacology course were expected to complete weekly course assignments prior to class. Weekly course assignments included textbook readings, completion of learning activities within the study guide that correlated with the textbook readings, and completion of Assessment Technologies Incorporated (ATI) modules related to the assigned topic. Each ATI module consisted of video tutorials and included a posttest at the end of each tutorial consisting of 25 questions each in which students had to achieve a score of 85 percent. Students who did not achieve a score of 85 percent were required to remediate in areas in which the assessment found students lacked full understanding of content. Students were allowed to take the posttest as many times as they desired to achieve a score of 85 percent although

remediation activities were still based upon areas of deficit identified on attempts in which the student achieved a score of less than 85 percent. Ms. Abrams how she evaluated the learning activity:

The main items I pay attention to is the amount of time the student viewed the tutorial, the day they view the tutorial....most of the time it is the day of class...how long it took them to take the exam...for example, it is impossible to answer 25 questions in 5 minutes unless they got help from a colleague or continued to retake the test and were selecting different answers...and the number of times they took the post-test and how close together they took them.

The researcher did not have access to the learning activities that were assigned for the students to complete outside of class. Therefore, the researcher met with the instructor weekly to obtain the data related to learning activities that students were required to complete prior to class.

Ms. Abrams reported that students were provided with required readings in the course textbook and the ATI textbook within the course syllabus that was available on the course learning management system. The syllabus also contained assignments that students were required to complete prior to class for the quarter. Assignments that were listed in the course syllabus included ATI modules and chapters for completion in the study guide that accompanied the textbook. Students were required to complete ATI modules prior to each class session and submit evidence of completion of the module and posttest with a passing score of 85 or above at the beginning of each class session. Lori, a student enrolled in the course provided a description of the ATI modules. She stated,

It's basically a lecture of the drug that you're going over and so the lady's talking about....basically she almost reads the material that you are reading and looking at too so...but the other part of the ATI's are more helpful because they actually showing you somebody doing something.

In addition to completing ATI modules, there were instructor-created videos available for two units in which students were required to view prior to the scheduled class session. Instructor-

created videos were not available for the first class session, but were posted during the quarter. Table 5 provides a description of learning activities completed outside of class and instructional strategies used during each class session that was observed by the researcher.

Table 5

*Description of Learning Activities Case B*

Week	Module/Topic	Pre-Class Learning Activities	Classroom Strategies
1	Emergency Drugs	<u>Textbook Readings</u> Chapter 59  <u>Study Guide</u> Chapter 59	Did not observe
2	Drugs Affecting Endocrine Balance	<u>Textbook Readings</u> Chapters 51-52 ATI Chapters 39-40  <u>Study Guide</u> Chapter 51-52  ATI Module Endocrine (2:30:00)	<ul style="list-style-type: none"> <li>• Lecture (1:33:00)</li> <li>• YouTube Video - <i>Diabetes Drugs Made Simple</i> (39:46)</li> </ul>
3	Drugs Affecting the Respiratory System	<u>Textbook Readings</u> Chapters 40-41 ATI Chapters 17-18  <u>Study Guide</u> • Chapters 40-41  ATI Module Respiratory (1:30:00)  <u>Respiratory Instructor-created videos</u> Chapter 40 (25-30 minutes) Chapter 41 (25-30 minutes)	<ul style="list-style-type: none"> <li>• Exam I (1:30:00)</li> <li>• Discussion - <i>exam performance; class preparation</i> (1:10:00)</li> </ul>
4	Drugs Affecting the Gastrointestinal System, Nutrition and Electrolytes	<u>Textbook Readings</u> Chapters 15-17; 47-49 ATI Chapters 39-40  <u>Study Guide</u> Chapters 15-17; 47-49  ATI Module Gastrointestinal (2:00:00)  <u>GI Instructor-created videos</u> Chapter 47 (25-30 minutes) Chapter 48 (25-30 minutes) Chapter 49 (25-30 minutes)	<ul style="list-style-type: none"> <li>• Overview of class (20: 00)</li> <li>• Group learning activity – chapters 15 &amp; 16 (1:00:00)</li> <li>• Individual group presentations (12 minutes)</li> <li>• Lecture – <i>Chapter 47</i> (1:00:00)</li> </ul>
5	Drugs Affecting Women's & Men's Health	<u>Textbook Readings</u> • Chapters 53-59 ATI Chapters 31-32  <u>Study Guide</u> Chapter 53-59	<ul style="list-style-type: none"> <li>• Exam II (1:30:00)</li> <li>• Group Learning Activity (29:00)</li> <li>• Individual Group Presentations (8:00)</li> </ul>

Week	Module/Topic	Pre-Class Learning Activities	Classroom Strategies
		ATI Module Reproductive (2:30:00)	
6	Cancer Chemotherapy Hematopoetic Agents	<u>Textbook Readings</u> Chapters 37-39 ATI Chapters 25-27; 42  <u>Study Guide</u> Chapter 37-39  ATI Module Hematologic (2:00:00)	<ul style="list-style-type: none"> <li>• Overview of class (15:00)</li> <li>• YouTube video – <i>Cell cycle</i> (13:34)</li> <li>• Lecture – chapter 37(46:00)</li> <li>• 7 Audience Response Questions (7:00)</li> <li>• Group learning activity (16:00)</li> <li>• Group presentations (12:00)</li> </ul>
7	Drug Therapy for Infectious and Parasitic Diseases	<u>Textbook Readings</u> Chapters 29-34 ATI Chapters 43-48  <u>Study Guide</u> Chapter 29-34  ATI Module Infection (1:30:00)	<ul style="list-style-type: none"> <li>• Exam III (1:45)</li> <li>• Lecture – chapter 29 (45:00)</li> <li>• Lecture – chapter 30 (13:00)</li> </ul>
8	Drug Therapy for Infectious and Parasitic Diseases	<u>Textbook Readings</u> Chapters 29-34 ATI Chapters 43-48  <u>Study Guide</u> Chapter 29-34  ATI Module Infection (1:30:00)	Did not observe
9	Immunologic Agents	<u>Textbook Readings</u> Chapters 35-36 ATI Chapters 33; 42  <u>Study Guide</u> Chapter 35-36  ATI Module Immune System (2:30:00)	Did not observe
10	Drugs for Eye, Ear, and Skin Disorders	<u>Textbook Readings</u> <ul style="list-style-type: none"> <li>• Chapters 49-50</li> <li>• ATI Chapters 14</li> </ul> <u>Study Guide</u> <ul style="list-style-type: none"> <li>• Chapter 49-50</li> </ul>	Exam IV Did not observe

## **Descriptive Characteristics of Participants**

During the focus group interviews, only one participant reported having previous experience or previous exposure to instructor created or online videos. She indicated that she had received this exposure at a different institution in two separate English courses. She stated that the English courses at the institution were delivered using a hybrid instructional approach and the videos were available as a component to the online portion of the course. When providing her initial impression of instructor-created or online videos she responded by reflecting on her experience in the English courses. She stated,

Well...it was very new so I was kind of scared because I'm not very good at English (*laughing*) but it actually worked out really well...being able to use the resources.

She further reflected on the instructional approach by stating that the type of material covered in the course and the type of course in which the instructional approach was used could impact an individual's initial impression. This is how she reflected on her impression of flipped learning in her pharmacology course:

Well. Umm. I'm trying to think of how I like this material because I think it does help but at the same time with Pharmacology sometimes it seems like it helps more to actually be there to be able to ask the questions while she is going through it right then for any initial questions.

Several course participants reported not having previous experience with the instructional approach and their responses varied when they were asked to provide their initial impression of the flipped learning environment. Table 6 provides the names (pseudonyms) of the participants, their gender, and their experience or exposure to instructor-created or online videos. Lori provided her initial impression of the instructional approach by stating:

This is the first class that I've really seen them. Other's I have seen them use YouTube in class where they have used videos to pull up certain things but like...as far as the actual instructor videos or what not...this is the first time I've ever seen them. I feel because I didn't prepare to study that way I'm a little behind on my reading.

Table 6

*Participant Information Case B*

Participant (Pseudonym)	Gender	Exposure to Instructor-Created or Online Videos
Jessica	Female	No previous exposure/experience
Lori	Female	No previous exposure/experience
Kelly	Female	No previous exposure/experience
Summer	Female	Previous exposure
Melissa	Female	No previous exposure/experience
Bethany	Female	No previous exposure/experience
Rhonda	Female	No previous exposure/experience

Jessica’s initial impression of the videos was “I didn’t feel that they were going to be productive in class.” Melissa stated, “I mean I was kind of excited about the thought of the video idea...but since I haven’t actually been able to view them... I think it’s kind of hurting me a bit grade wise.” Bethany reported that she had not viewed any of the videos but provided her initial impression of the instructional approach. She stated,

I mean. I don’t know. The thing. The thing with learning in the classroom and out of the classroom as for myself cause I can only speak for myself but it’s umm really...because it’s self...you have to be self-motivated. It’s like you can have the video playing and you know go off and do whatever it is. And because I kind of have a short attention span sometimes it’s like it can be good because you know you can have the video playing and I guess sitting on the kitchen counter while you’re washing dishes or whatever but it’s like I don’t know that the videos would be....I don’t know that they would 100% work for me. I guess they could cause you can play them over as many times as needed but I guess I’m still...I’m still ugh...a fan of actual in classroom you know...instruction. Even with the videos being available.

**Questionnaire Responses**

The questionnaire (see Appendix B) was used during the first phase of data collection to obtain data from student participants. A total of seven students completed the questionnaire (100% of the class completed the questionnaire). The questionnaire was designed to collect

responses related to the four pillars of flipped learning. The survey contained three sections. The first section of the questionnaire required participants to provide demographic data which included their gender and their classification as a student. All seven of the participants were female and indicated that they were junior level students.

Section two of the questionnaire consisted of ten Likert-type survey questions (1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree). This section within the questionnaire was designed to assess the pillars of flipped learning in the flipped learning environment. Results of this section of the survey is displayed in Table 7. This figure provides the frequency of responses to each question on the survey. The pillar mean, the average of responses to each pillar component, is also included.

Section three of the questionnaire consisted of four open-ended questions that provided participants with the opportunity to reflect on what they liked in the course, what they found challenging in the course, what they would change in the course, and the strategies from this course that they would like to see used in other courses. Data collected section three were used to help answer the research questions. This information was added to themes generated to the interview data obtained.

Table 7

*Case B Questionnaire Responses*

	Frequency					Mean	Pillar Mean
	1	2	3	4	5		
<i>Flexible Learning Environment</i>							
1. In this class, students are allowed to work individually or in groups to interact and reflect on learning.	1	1	0	4	1	2.7	3.0
2. In this class, the instructor observes and monitors student learning and makes adjustments if necessary.	1	0	3	3	0	3.1	
3. In this class, I am provided with different ways to learn content.	1	1	2	2	1	3.1	
<i>Learning Culture</i>							
4. In this class, I engage in learning activities during class time that allow me the opportunity to explore topics in greater depth without the teacher as the primary source of information.	1	1	0	5	0	3.3	3.4
5. In this class, the learning activities are structured and accessible to all students with collaboration and feedback.	1	0	1	5	0	3.4	
<i>Intentional Content</i>							
6. In this class, I access instructional content in the form of video lectures during my own time.	1	1	0	4	1	2.9	3.4
7. In this class I use instructor created and/or online videos from sources such as You Tube or Khan Academy to assist me with understanding course content outside of class.	1	1	0	4	1	3.4	
8. The videos used in this class the videos are relevant to content within the course.	1	0	0	4	2	3.9	
<i>Professional Educator</i>							
9. In this class, the instructor is available to all students and provides feedback as needed.	1	0	0	3	3	4	3.7
10. In this class, the instructor modifies teaching and learning activities to improve student learning.	1	0	2	3	1	3.3	

**Flexible learning environment.** The first category of questions on the questionnaire assessed the three components of the flexible learning environment. Overall, the flexible learning environment received positive responses from students. In response to item one, “In this class students are allowed to work individually or in groups to interact and reflect on learning” 71.43% of students responded with either strongly agree or agree. In contrast 28.58% of students responded with disagree or strongly disagree. In response to item two, “In this class the instructors observes and monitors student learning and makes adjustments if necessary” 42.86% of students responded positively whereas 42.86% selected the neither agree or disagree option, and the remaining 14.29% strongly disagreed. The last component of the flexible learning environment, “In this class, I am provided with different ways to learn content” received various responses with 42.86% of students responding positively by indicating that they strongly agree or agree, 28.57% selected the neither agree or disagree option, and the remaining 28.58% disagreeing or strongly disagreeing. The pillar mean was 3.0 which suggested that the majority of participants were neutral when reflecting on the components within the flexible learning environment.

**Learning culture.** According to the responses for the second category of questions, the majority of students, 71.43% responded positively to item four, “In this class, I engage in learning activities during class time that allow me the opportunity to explore topics in greater depth without the teacher as the primary source of information. The remaining 28.58% of students responded by either indicating that they disagreed or strongly disagreed. In response to item five, “In this class, the learning activities are structured and accessible to all students with collaboration and feedback” 71.43% of students responded with agree whereas 14.29% selected the neither agree or disagree option, and 14.29% strongly disagreed. The pillar mean was slightly

higher than the responses received related to the flexible learning environment. The pillar mean was 3.4 which suggested that the majority of participants were neutral when reflecting on the learning culture.

**Intentional content.** The third category of questions assessed the use of online or instructor-created videos. In response to item six, “In this class, I access instruction content in the form of video lectures during my own time” 71.43% with strongly agree or agree. The remaining 28.58% disagreed or strongly disagreed. Similarly, 71.43% of students responded positively to item seven, “In this class, I use instructor created and/or online videos from sources such as YouTube or Khan Academy to assist me with understanding content within the course” and 28.58% disagreed or strongly disagreed. In response to item eight, “The videos in this class are relevant to content within the course” students responded positively with 85.71% in agreement whereas 14.29% of students responded with strongly disagree. The pillar mean was 3.4 which also suggested that the majority of participants were neutral when reflecting on intentional content.

**Professional educator.** The final category of the 10-question survey was intended to capture information about the instructor. In response to item nine, “In this class, the instructor is available to all students and provides feedback as needed” 85.72% of students responded by selecting agree or strongly agree. The remaining 14.29% strongly disagreed. In response to item ten, 57.15% of students responded positively, “In this class, the instructor modifies teaching and learning activities to improve student learning” whereas 28.57% selected the neither agree or disagree option. This pillar received the highest average with a mean of 3.7 which suggested that students were pleased with the responsiveness of the instructor.

## Research Question One

Research question one aimed to obtain data on faculty and student descriptions of the flipped learning environment. The researcher sought to obtain data from observations, focus group interviews, and semi-structured interviews with faculty to obtain data related to the description of the learning environment. Three themes derived from the data that were collected to answer the research question.

**Faculty description.** When describing her classroom, Ms. Abrams began by the describing the students enrolled in her course. She stated that students enrolled in her course ranged from 20 to 40 years of age. Some students had previous backgrounds in healthcare settings whereas some did not. She expressed that the physical layout of the learning environment was flexible in accommodating individual or group activities.

*Flexible.* For the purpose of this study, flexible refers to the ability to be easily modified. The physical layout of the learning environment provided the opportunity for students to rearrange furniture for participation in individual or group activities. The learning environment was structured with 12 tables containing two chairs per table. A multimedia podium was located at the front of the classroom with a computer that was connected to a ceiling mounted projector. A whiteboard was also available at the front of the classroom.

The nursing lab was another location in which classes were held. The lab was located downstairs in a secure location. Entry was only permitted by students and faculty who had access with their student or faculty IDs. Most of the doors in the institution had secure entries in which an ID had to be obtained to enter the building from any entrance other than the main entrance. The lab was composed of three tables containing a total of 12 chairs. There were also hospital beds with mannequins in the learning environment. A television was mounted on the

wall in the front of the classroom. There was also a lectern that contained a computer at the front of the class. A ceiling mounted projector was also available for audiovisual opportunities in the learning environment.

**Student descriptions.** Students provided various descriptions of the learning environment. They reflected on activities in which they collaborated with their peers when working in groups. Overall, they viewed their learning environment as student-centered though they felt that it required them to have the ability to learn the content on their own.

*Collaborative and student-centered.* Collaborative refers to interacting with an individual or group of individuals. Student-centered refers to the learning environment shifting the focus from the instructor to the students. Ms. Abrams and the seven participants enrolled in her course described the learning environment as student-centered. However, when reflecting on the learning environment, several of the participants reflected on learning activities that required them to work in groups. Some students enjoyed group-based learning activities whereas some students preferred to work individually. However, several of the students indicated that working individually for group-based learning activities were not an option in the course. Bethany reflected on the use of group-based learning activities in the course by stating:

I think most of the time...most of the time I guess we're working individually...like...the past few classes we've been doing case studies and with case studies we work as a group of between two to four students. I myself...I find that kind of work better in a group just to have people to kinda like...cause I work better being able to I guess bounce ideas off of you know people being able to put heads together to come up with something. I mean somebody else might be thinking of something that I'm not and vice versa.

Rhonda stated,

I guess I am more like an individual because I can actually sit there and make myself know the information, but in groups I might get side tracked and won't talk about the information.

Summer stated,

I learn individually first at least. Like I learn better individually. Umm. Just because I can put it in my brain and I get on a set track and I just go with it. But then sometimes when I get in groups it helps because something I might not be thinking about somebody else might have looked at if I have group members who have not looked over anything yet or something...then it's kind of that imbalancing and that's when I get of talking about something else.

Ms. Abrams used various strategies in her course to place students in groups for group-based learning activities. On the day of the gastrointestinal lecture, Ms. Abrams began class by providing students with an overview of the learning activity planned for the scheduled class day. She then placed seven folded pieces of paper on a table at the front of the classroom that were labeled with the number one or the number two. Four pieces of paper were labeled with the number one and three pieces of paper were labeled with the number two. Students were placed in groups based on the number they selected from the pieces of paper that were located at the front of the room. Students who selected the number one were assigned a case study that correlated with content from chapter 15 in the textbook whereas the students who selected the number two were assigned a case study that correlated with content from chapter 16 in the textbook. Each group was allowed one hour to complete the learning activity in the learning environment of their choice. Both groups completed the learning activity in the campus library. Ms. Abrams encouraged students who had not viewed the videos prior to class to view the videos prior to completing the learning activity with their group.

Ms. Abrams used a similar approach to place students in groups when reviewing drug affecting the reproductive system. For this group-based learning activity Ms. Abrams placed seven small, folded pieces of paper on a table in the back of the room that were labeled with the number one, two, or three. There were a total of three groups for the learning activity. Students were allowed 20 minutes to collaborate with their group member(s) to complete the learning

activity. All groups completed the learning activity within the classroom setting. Several students were observed using their cell phones to complete the learning activity. At the completion of the learning activity, groups were provided with the opportunity to volunteer in the order in which they preferred to present. Each group presented discussed and presented answers to their cases study in a format in which they appeared to be teaching the information to their peers.

***Requires the ability to self-teach.*** For the purpose of this study, self-teach refers to one having to learn and understand content without an instructor as the primary source for providing instruction on course content. During focus group interviews, five of the seven participants stated that completion of the learning activities prior to class made them feel as if they had to learn the material on their own. The term used repetitively during the interviews by participants was referred to as “self-teach.” They described the learning environment as an environment in which they had to teach the content to themselves and then apply what they read or viewed when completing pre-class learning activities to learning activities and discussions during class. Jessica reflected on self-teaching by stating, “I’m not very good with self-teach and I feel like with the flipped learning we’ve had to do a lot of that. A lot of self-teach.” All of the participants expressed that there were several learning activities that had to be completed prior to class and they described that their role as a student was to learn, but also to arrive to class prepared. Lori reflected on her role as a student by stating:

To actually probably prepare better ahead of time. I don’t feel like I am doing as well in that this quarter...but I probably should prepare ahead of time before we come in so we won’t be like we’re just going...what...I’ve never...I’ve never seen that material before.

When describing the role of the teacher, participants expressed that the role of the instructor was to teach and find better ways to help them understand course content. Kelly stated,

I think her role is to do things...to teach and mentor. That's the way I would like to see it for my teachers. Especially for...since we're small. That they can see where we are struggling and kind of tailor.

This is how Ms. Abrams described her role as a teacher:

As a mentor. One that can facilitate and develop exercises that enhance critical thinking and application of content that is presented through the textbook, the textbook website, and e-companion.

## **Research Question Two**

Research question two aimed to obtain the teaching experience of faculty in the flipped classroom. Research question two also aimed to obtain learning experiences of students in the flipped classroom. One theme derived from the data that were collected from the faculty. Two themes derived from the data that were collected from the students to answer the research question.

**Faculty teaching experience.** In efforts to gain the teaching experiences in the flipped classroom, Ms. Abrams was asked to describe learning activities in her class. She was asked to provide a description of learning activities that students were required to complete prior to class and the learning activities completed during class. Ms. Abrams was also asked to describe the types of activity occurring in the classroom during learning activities between students and her as an instructor.

**Interactive.** Interactive includes student engagement with their peers and engagement in learning with their instructor. Ms. Abrams expressed that most of the interaction in her class was group-based interaction, but there were opportunities for one-on-one interaction. She stated that she aimed to promote student engagement through use of activities that allowed students to apply what they have learned outside of the classroom to activities completed in the classroom during

activities. Strategies that Ms. Abrams used to promote student engagement included, but were not limited to, case studies, class discussions, and audience response questions. She stated,

We are trying to turn the classroom into clinical using case studies and practice questions to make it as engaging as we can by making them use critical thinking and applying what they know.

Ms. Abrams incorporated learning activities during most of her class sessions in which students interacted with each other in groups. There was also interaction between Ms. Abrams and the students during individual group activities as she provided feedback and clarification to each group. She also engaged in discussion with the class as a whole presented their cases at the completion of group-based learning activities. Though each class session consisted of learning activities that consisted primarily of case studies, students reported that the activities were only helpful for the material that they covered. Summer stated,

I feel like they help with that case and it gives us kind of like that missing puzzle piece. So we get to see what it's like in the real world. And at the same time it's like it's just one or two medicines and we still have three other chapters that might go along with that day so I think that's the only downfall.

Jessica stated,

I think the projects are fun but I think because we are not getting as much of actual content in class it's affecting our test grades because we are not sure what we need to be studying for and what we're not supposed to be because we are not getting emphasis on certain thing that we're used to getting.

Ms. Abrams also interacted with students in her course through discussion. During lectures, Ms. Abrams was frequently observed asking questions that led to interaction with the students in the learning environment. Ms. Abrams reflected on the effectiveness of her using discussion to increase interaction in her class by stating:

Umm. I think these students are new to this concept so I think they're having....a few of them are having ...a few of them are having a hard time grasping actually being prepared before class...umm...learning I think overall in the education system...there are students that are going to prepare for class and students that aren't. Ummm...and the

students...I'm having more of a difficult time per se that are going to read the chapter, listen to the lectures, and be prepared when they come to class versus before...I stood up there and I lectured and there was some dialogue, but not near as much dialogue as there is now.

Audience response questions were an additional instructional strategy that Ms. Abrams incorporated in her class to increase interactions. Audience response questions were NCLEX-style questions that were displayed on a PowerPoint presentation. When using this instructional strategy, Ms. Abrams was observed interacting with students by providing them with feedback for incorrect and correct answer choices. Lori reflected on this form of interaction by stating:

I like when she has sample questions up on the slide. I like when she says *why* something's not right. It's still...She can say where here's why these are wrong and why you want this one. I like when she does that.

All seven of the students enrolled in the course expressed that they enjoyed the use of audience response questions in the learning environment because they felt that the learning activity assisted them in applying critical thinking. However, many of the participants were specific in indicating that if audience response questions were used in class that they preferred the questions used in class to be similar to questions on course examinations. They expressed that the types of questions on the course examinations were similar to NCLEX-style questions in NCLEX review books whereas the practice questions in the textbook or on the ATI modules were not as similar.

Lori reflected on this by stating:

Maybe with the flipped learning the focus could be more...critical thinking. Because I think that is what some people are having problems with and me too. It's like you're trying to learn the basics and now you've got to apply it to little examples of patient's in your questions. Maybe if they taught you how to think through...why this one' wrong and this one's right and why this one's close but here's the clue."

Jessica stated, "Yeah. Use the flipped learning to teach us how to apply things and then expect us to know the content coming into class maybe."

**Student learning experiences.** Two major themes were derived from focus group interviews and questionnaire responses to obtain data related to the learning experiences of students in the flipped classroom. Some students found the flipped classroom overwhelming and experienced difficulty in adjusting to the instructional approach. However, some students expressed that the learning activities assigned for them to complete prior to class better prepared them for class.

**Overwhelming.** For the purpose of the study, overwhelming refers to a mass amount of circumstances that led to frustration. While reflecting on experiences in the flipped learning environment, several of the participants expressed that they felt overwhelmed. This term was used repetitively. Rhonda stated, “It’s just so much material. It’s so many chapters and so many medications.” Summer stated, “I’m just so overwhelmed by the material.” Summer further reflected on how she felt overwhelmed in the course by stating that she was experiencing this because she was not viewing the instructor-created videos prior to class, but prior to course examinations. Kelly stated,

I feel like when we do the flip I just feel totally out there by myself. It doesn’t feel like we’re getting...really the support that we get when we are actually in class doing lectures.

Another occasion in which students reported feeling overwhelmed was after their initial exposure to instructor-created videos. All seven of the participants reported that they felt overwhelmed initially because the audio was not audible on the first set of instructor-created videos. However, Ms. Abrams responded to this issue by re-recording and reuploading the videos. Students also reported that they felt overwhelmed because they were unable to view the videos from multiple devices. Jessica stated, “You have to be able to be at home and have access to a computer.” Kelly stated,

Yeah. Cause like you can download it and email it to yourself so that you can open it on any of your devices but the voice recording part doesn't work on my phone or tablet. If it's not on my coumpter....it doesn't work.

*Difficult to adjust.* For this study, difficult to adjust is defined as a hardship experienced while adapting to the learning environment. All seven of the students enrolled in the course expressed that they did not feel that there was enough clarification on flipped days in the course. Though they were informed of the various instructional approaches in which they would be exposed to in the class on the first class day, they experienced difficulty in adjusting. Several students reported that it was difficult to complete all of the learning activities, especially viewing the videos, prior to class in order to arrive to class prepared. Lori stated,

This course right now...I think people are frustrated because we are not getting the lecture that we normally get and because we didn't quite prepare for this new learning. We are still kind of in the old way of learning so I think that's where people...cause honestly I pick up on a lot of things she does say and it sticks in my head.

Several students also reported that they felt that their difficulty in adjusting was related to time management and difficult in transitioning to the instructional approach. Summer stated, "She told us to do the practice ATI. She told us to do the study guide. And she told us to listen ahead of class." Kelly stated,

I just learn better when I come to class. It doesn't matter if I read or do like the ATI's or anything. A lot of the stuff I pick up on is listening to them explain it....cause then like I'll see the test question and be like...Oh. I remember so and so saying this about it.

Several students expressed that they were experiencing difficulty in applying critical thinking to in-class learning activities when they did not complete the required learning activities prior. They also expressed that waiting until the night prior to the scheduled class session to complete the pre-class learning activities was not an adequate amount of time to arrive to class prepared. Some students even felt that the instructor-created videos were not available far

enough in advance for them to view which made it difficult for them to manage their time in getting ahead. Summer stated,

I think it's more both schedules conflicting. I mean she might put them up in time. It might be days that we are in clinical all day or something and that kind of thing...but sometimes it's very close to our next class day. So it just depends I guess on when she has time to put them up.

Kelly reflected on instructor-created videos by stating:

My main issue with it was timing. It seems like they were posted at the wrong time so we didn't have ample time to actually listen to some of them before we got to class.

***Better prepared.*** For the purpose of this study, better prepared refers to the level of readiness for learning activities. Ms. Abrams shared with the researcher that she had the ability to view the date in which instructor-created videos and ATI modules were accessed by the students. Due to student performance not being at the level in which Ms. Abrams expected, she accessed this information and scheduled individual one-on-one interviews with each student. She learned at this time that six out of seven of the students in the course were not viewing the instructor-created videos nor were they completing the ATI modules over the specified amount of time. She also learned that only one student was completing all of the pre-class learning activities and this was the only student in the course that was performing well. Students who were not viewing the videos within the ATI modules were not completing the modules over the specified amount of time. Many of the participants were completing modules that required two hours of viewing in 10 minutes or less because they were only answering the questions continuously until a passing score of 85 or above was achieved. This led to the researcher investigating student performance. The researcher obtained this information during focus group interviews and follow-up interviews with faculty. Summer indicated that she was not completing

all pre-class learning activities prior to the scheduled class session and was waiting until the night before class to complete the activities, but reflected on her performance by stating:

My performance per se is not up to par at all but I think it's more of just a...my own study habits. It has nothing so much to do with what I am gaining in class. I think it's just hard material that I'm not used to. Being able to...I don't know how to study for it yet.

Summer also reflected on a day in which she felt that she arrived to class prepared by stating:

I tried it today but the reason I knew one of the answers is because I had actually, whenever she mentioned something, I looked for the signs and symptoms that in the book...that was in that chapter. I went ahead and wrote down a lot of it so then whenever she mentioned it later I knew even though she hadn't went over exact signs and symptoms....so I think I'm gonna start reading along with her when she's going through her PowerPoints.

Summer further reflected on how the use of the video recorded lectures in the course could enhance her performance if she viewed them prior to class. She stated,

I think the videos, especially the lectures that are recorded makes it easier for me to take something outside of class when I have time to study it. I can listen to what she's saying because it was actually online.

A total of three examinations were administered during the observation period in the course. Of the three examinations, examination two was the only examination in the course that included content in which instructor-created videos were an addition to pre-class learning activities. Data revealed that one student had increased performance on examination two, whereas three students had no change in performance on any of the three examinations. The remaining three students experienced a decrease in performance on examination two, whereas their performance on examination one and three were similar.

### Research Question Three

Research question three aimed to gather data related to how faculty prepared for teaching in the flipped learning environment. This included obtaining information related to the selection of content for students to complete outside of class and content that would be taught in-class. Furthermore, data were collected to obtain the necessary steps that the instructor used to determine the types of learning activities. Two themes derived from the data that were collected to answer the research question.

**Assessment.** For the purpose of this study, assessment refers to evaluating learning in an individual or a group of individuals. Ms. Abrams aimed to incorporate learning activities in her classroom that enhanced critical thinking. She prepared for teaching in her class through frequent assessments. Ms. Abrams stated that she began her assessments by obtaining information from the students in the course on their learning styles. She expressed that identifying the learning styles assisted her in reaching out to each individual student. Ms. Abrams stated,

Umm...I try to hit on all different types of learning styles. So when we....we may be working on a case study, the next week we may work on a module, the next week we may have the students do us a PowerPoint to try to ensure that every single learning style is addressed in the learning activity.

Ms. Abrams also indicated that she used assessment as a method of determining the amount of time that she would need to cover content. She reflected on this by stating:

I look at the beginning....usually the first class...I do an overall assessment of the content that they've covered so far in the nursing program and enforce the content that we're going to be covering this quarter...see how much prior knowledge they have...see how much knowledge they have on the information that they've already covered...see if there is any particular area that we really need to address the content on...umm...and you know when those topics that may vary come up I usually try to spend a little bit more one on one time you know on hypertension meds...students have been having difficulty with hypertension...say they didn't score well on hypertension on the exam the first day of

class then when I'm covering that course content material I make sure specifically that I take time out to address hypertension...ummm more in a classroom setting as well as give them resources outside of the classroom to review so they can make up for where their deficits are.

Ms. Abrams even reflected on the use of assessment for instructors transitioning to the flipped classroom. She stated,

First and foremost, you would have to do an assessment of each cohort or each class that you teach to see what type of learning style they have so that you can adequately adjust your teaching strategy. Ummm...I think that it's important that we empower students to take learning into their own hands and their not just going to be a by-product in the classroom and they actually have an active role. So empowering the students and educating them that they have an active role in their own learning is crucial to their learning and the effect of the learning.

**Current practice.** Current practice refers to the recent evidence. Ms. Abrams shared that she selected content that she placed emphasis on in class and out of class based on information that would be essential for students to achieve success on the National Council Licensure Examination. She stated that even if students were to review content outside of class, there were still content areas that she placed emphasis on during class. She stated,

The content that is taught in class is taught in front of the classroom is the core content that it outlined by NCLEX...ummm...as well as curriculum developers who are in Savannah. They deal with their syllabi, that essentially outline the course materials that we have to teach from week to week. From there I look at it in relation to what is specifically on the NCLEX so you're teaching what is important for your student nurses to know about side effects...if they give medication administration and those type things are highly important and so...though they might be covered outside of the classroom they may be covered inside of the classroom as well.

Ms. Abrams used a similar approach when determining the amount of time that she would need for in-class learning activities. She stated,

Based on the core content and how relevant it is to NCLEX some samples of some other products are conditions such as HTN, DM. They weigh a little bit more heavy on NCLEX versus oral contraception so with that I can change the heavier course content also to kind of allow them whatever their case study...whatever their assignment may be

based on how heavy that is going to be on the licensure examination in which we are preparing them for.

Ms. Abrams indicated that she did not adjust her teaching for students who did not prepare for each class session, but she did meet with students who arrived unprepared. She indicated that she was able to identify students who did not prepare because their ATI modules were not completed prior to class. Ms. Abrams was observed meeting with students who were not prepared providing counseling on study habits and time management. Students who were identified as unprepared were required to complete the pre-class learning activities under instructor supervision and were not allowed to enter the next class session unprepared.

### **Case B Summary**

The faculty in case B described the flipped classroom by providing a description of students enrolled in her course in addition to a description of the physical layout of the learning environment. Students described the learning environment as student-centered. They reflected on learning activities in which they collaborated with their peers during class. Students also described the learning environment as a setting which required the ability to self-teach.

Faculty in case B described their teaching experience in the flipped classroom as interactive. Similarly, students described their learning experiences as interactive. Because the instructional approach was new to the majority of the students in the course, they expressed feeling overwhelmed. Despite their difficulty in adjusting to the instructional approach in the course, students in case B reported that pre-class learning activities better prepared them for class. Themes that derived from faculty preparation in the course included assessment and current practice. This reflected the role of the professional educator related to the pillar that implied that the instructor conducts ongoing formative assessments during class time through observation and by recording data to transform future instruction.

## **Cross-Case Analysis of Lived Experiences**

The purpose of cross-case analysis was to identify similarities and differences in the cases. Cross-case analysis compared and contrasted data in case A and case B. Data examined included questionnaire responses and participant responses to the research questions.

### **Questionnaire Responses**

Results of the questionnaire from case A and case B were analyzed to compare and contrast student responses. The pillar means were the primary areas investigated to identify similarities and differences in the two cases. The four pillars examined included the flexible learning environment, the learning culture, intentional content, and the role of the instructor as a professional educator.

**Flexible learning environment.** The flexible learning environment assessed opportunities that were available for students to work individually or in groups to interact and reflect on learning. In addition, this pillar assessed the instructor in making adjustments as necessary while observing and monitoring student learning. Furthermore, this pillar assessed whether students were provided with various methods of learning course content.

Students in case A found indicators within the flexible learning environment favorable whereas students in case B did not find the flexible learning environment as favorable. In fact, on the open-ended question that assessed what students liked best about the course one student in case A responded “The interaction with my peers and group time. It makes class time more interesting.” The pillar mean for the flexible learning environment in case A was 4.8 whereas the pillar mean for the flexible learning environment for case B was 3.0.

**Learning culture.** The learning culture assessed the learning environment to determine if the class was student-centered or teacher-centered. This pillar evaluated learning activities

during class time to determine if students were taking responsibility for their own learning without the teacher as the primary source of information. This pillar also evaluated learning activities to determine if they were organized and accessible to all students and provided opportunities for collaboration and feedback.

Students in case A responded positively to questions related to the learning culture whereas students in case B remained neutral. The pillar mean for the learning culture in case A was 5.0 and the pillar mean for the learning culture in case B was 3.4. Of the seven participants in case B, only 71.43% responded positively in response to the question that assessed learning activities allowing the opportunity to explore topics in greater depth without the teacher as the primary source of information. All 13 (100%) students in case A responded positively to this item.

**Intentional content.** The pillar associated with intentional content primarily evaluated the use of instructor-created or online videos. This pillar assessed whether students were accessing the videos outside of class during their own time. Furthermore, this pillar assessed how well students felt that the instructor-created or online videos prepared them for class and the relevance of the content within the videos.

Student responses in case A related to instructor-created videos were not as favorable as responses in previous pillars. However, students in case A had a more favorable response to instructor-created videos than the students in case B. The pillar mean for instructor-created or online videos in case A was 4.4 whereas the pillar mean was 3.4 in case B.

**Professional educator.** The professional educator pillar evaluated the instructor in the role of a professional educator by assessing the availability of the instructor during class. This included the instructor providing feedback to students as necessary during class. This pillar also

evaluated the role of the instructor as a professional educator in conducting ongoing formative assessments during class time through observation and modifying teaching and learning activities to improve student learning.

Students in case A and case B had favorable responses to the role of the instructor as a professional educator. The pillar mean in case A was 5.0 whereas the pillar mean in case B was 3.7. Of the 13 participants in case A, 100% responded positively to all questions assessed whereas in response to the instructor availability to all students and providing feedback as needed only 85.72% of students in case B responded positively. In addition, only 57.15% of students responded positively to the question related to the instructor modifying teaching and learning activities to improve student learning in case B.

### **Description of the Flipped Classroom**

Faculty in case A and case B described their classrooms as flexible. The physical layout of the learning environment in case A and case B was structured with tables and chairs which provided flexibility in the classroom. This flexibility provided opportunities for students to rearrange furniture for participation in individual or group learning activities. Both learning environments also contained audio/visual resources that consisted of a multimedia podium and a ceiling mounted projector. However, the learning environment in case A contained additional resources which included a smartboard located at the front of the classroom in the center of the whiteboard with an additional whiteboard on the wall at the back of the classroom. The classroom in case B only contained one whiteboard that was located at the front of the classroom and did not have a smartboard or an additional whiteboard. However, case B had an alternative learning environment that contained a wall mounted television whereas the learning environment in case A did not have this resource.

Students in case A had favorable responses when describing the flipped classroom whereas students in case B did not have responses that were as favorable. Students in case A found the learning environment convenient in the ability to view the videos as often as they preferred in the setting of their choice. In addition, they reflected on the convenience of having the ability to pause and rewind the videos which provided the opportunity for self-paced learning.

Students in case B did not describe the learning environment as convenient, but described it as an environment in which one had to have the ability to understand the content on his or her own. They referred to this as a learning environment that required the ability to self-teach. Several of the students in case B indicated that they would did not prefer to have to learn material on their own. Furthermore, based on student responses to interview questions, the instructor-created videos and ATI modules used as learning objects for pre-class learning activities in case B were only accessible from a computer. Because the instructor-created videos and ATI modules were only accessible form a computer, this limited the flexibility in the learning environment for students in case B. Therefore, students in case B did not have the option to access videos in the setting of their choice whereas students in case A reported having this option.

### **Faculty Teaching Experiences**

Faculty in case A and case B had similar responses in describing their teaching experiences as interactive. The faculty in case A and the faculty in case B used terms such as engaging and application-based when reflecting on interaction in the learning environment. The instructor in case A incorporated a variety of learning activities during each four-hour class session transitioning back and forth between discussion and learning activities. The instructor in

case A allotted approximately two to three hours of each class session for learning activities. Learning activities in the course varied and were individual or group-based depending on the learning activity assigned. However, the learning environment provided the opportunity to engage in meaningful learning activities without the instructor being the central. During learning activities, the instructor in case A was frequently observed walking around the room to make herself available to all students to provide feedback as needed.

The instructor in case B aimed to keep the classroom engaged, but incorporated interaction using a different approach. The instructor in case B allotted 45 minutes to one hour of each three hour class session to engage in discussion with the class as a whole on course content using a traditional lecture approach by standing at the front of the classroom with a PowerPoint presentation. During the presentation, the instructor interacted with students by asking questions throughout the lecture primarily in the form of discussion but also through use of audience response questions. The instructor in case B presented this content all at once rather than engaging in learning activities in between the content areas as the instructor did in case A. In addition, there were no individual learning activities in the course. Learning activities in case B were group-based and primarily consisted of case studies. However, the learning activities in the class were accessible to all students through differentiation. The learning activities provided the opportunity for students to engage in meaningful learning activities as well without the instructor being the primary source.

### **Student Learning Experiences**

Students in case A reported difficulty in adjusting in the flipped classroom. Several of the students related this to the transition from the role of a paramedic to the role of a registered nurse. Other students expressed difficulty in adjusting in the course related to the amount of

content presented in the course. Similarly, students in case B reported difficulty in adjusting in the flipped classroom. However, student reports of difficulty adjusting in case B were different from reasons reported in case A. Students in case B reported difficulty in adjusting in the flipped classroom related to the instructional approach. Of the seven participants, one out of seven reported having previous exposure to a similar instructional approach. The remaining students in the course reported experiencing difficulty in adjusting because they were unable to determine what was expected of them because the instructional approach was new.

Students in case B also reported feeling overwhelmed when reflecting on their learning experiences in the flipped classroom. Students in case B expressed that they felt overwhelmed related to the amount of material that they were required to complete prior to class. They expressed that it was difficult to complete all of the learning activities prior to the scheduled class session. Similar to the students in case B, some students in case A found it difficult to complete all of the pre-class learning activities prior to the scheduled class session. However, rather than reflecting on their learning experience in the flipped classroom as overwhelming students in case A indicated that the flipped classroom required a dedicated individual. Rather than expressing that they felt overwhelmed they reflected on how time had to be set aside to complete pre-class learning activities prior to the scheduled class sessions.

Another difference identified between the two cases was related to clarification. Students in case A reported that they were able to receive clarification on content completed outside of class during class. They expressed that the instructor was informative and was able to fill the gaps in their knowledge whereas students in case B expressed that they did not feel that they were receiving enough clarification in the course.

Though students in case B expressed not receiving enough clarification in the course and feeling overwhelmed, they did express that they felt that the learning activities assigned for them to complete prior to class assisted in them being better prepared for class. However, students in case B reported only completing ATI modules prior to each class session. Students in case B expressed that they did not view content in the textbook or instructor-created videos prior to the scheduled class sessions, but delayed the review of content until prior to the examination in the course. In contrast, students in case A reported completing pre-class learning activities prior to the scheduled class session which assisted them in arriving to class better prepared. This included listening to instructor-created videos and completing worksheets that functioned as guide to identify essential content in the course.

### **Faculty Preparation**

Faculty preparation in case A and case B were different. The instructor in case A incorporated instructor-created videos that were recorded by several faculty within the department that had expertise in the various subject areas for students to view prior to class. All of the videos that students were required to view prior to the scheduled class session were instructor-created. In addition to the instructor-created videos, the instructor in case A provided students with instructor-created worksheets. The worksheets functioned as a guide in highlighting essential content that students should know prior to the scheduled class session. These worksheets guided students as they recorded notes while accessing the instructor-created videos.

The primary learning objects that the instructor in case B used were ATI modules and textbook readings. There were a total of five instructor-created videos during the observation period in case B whereas there were a total of 32 instructor-created videos during the observation

period in case A. In addition, the instructor in case B did not provide students with any resources or tools such as worksheets to guide them as they completed pre-class learning activities.

Furthermore, the instructor in case A provided students with access to all instructor-created videos in the course for the entire semester on the first day of class. The instructor in case B did not provide students with instructor-created videos until one week prior to the scheduled class session. However, ATI modules for the entire quarter were available to students on the first class day.

Similarly, the instructor in case A and the instructor in case B reported that they did not adjust their teaching for students who did not complete the pre-class learning activities prior to the scheduled class session. However, there was a penalty for students in case B who did not complete the ATI modules prior to the scheduled class session. Students in case B who did not complete ATI modules prior to the scheduled class sessions were not allowed to attend the upcoming class session until the modules were complete. This was one method in which the instructor in case B could assess student preparation prior to class. There were no pre-class learning activities in case A that students had to submit to the instructor; therefore, there were no penalties in the course. Furthermore, there was no method of assessing student preparation prior to class in case A rather than through assessing student responsiveness during class discussions and learning activities.

In efforts to plan for learning activities in the flipped classroom the instructor in case A reported collaborating with faculty members at other institutions to find out what strategies were successful and what strategies were unsuccessful in helping students understand content. Though the instructor in case B did not report collaborating with other faculty members, she stated that she planned for learning activities and the amount of time that she would need to

cover content in her course by assessing her learners. She also indicated that she placed emphasis on content in her course based on the NCLEX outline. The instructor in case A reported that she experienced difficulty in determining the amount of time to spend on learning activities and she based the amount of time that she would spend covering content based on the background knowledge of the learner.

### **Other Findings**

The instructor in case A reported having 13 years of teaching experience whereas the instructor in case B reported having four years of teaching experience. Despite the difference in years of teaching experience, the instructor in case A and the instructor in case B both provided similar definitions of the flipped classroom. The instructor in case A and case B defined the flipped learning as an environment which consisted of students completing learning activities prior to class so that class time could be used for more application-based learning in which students applied knowledge that they learned outside of class.

The amount of time spent on units or modules was also different between the two cases. Students enrolled in the role transition course in case A met weekly for four hours whereas students in case B met weekly for a total of three hours. In addition to variance in hours allotted for theory, the students in case A received content for the various modules over multiple class sessions whereas students in case B were primarily exposed to a new unit each week. However, this variance was related to the students in case A being enrolled in an institution using a semester-based system with 15 weeks allotted for class whereas the students enrolled in case B being enrolled in an institution implementing a quarter-based system over a period of 10 weeks.

The background experience of the students and their exposure to instructor-created or online videos were additional findings during the analysis. Ten out of twelve participants in

case A reported having previous exposure to instructor-created or online videos during focus group interviews, whereas only one participant in case B reported having previous exposure to instructor-created or online videos. Furthermore, students in case A were senior level nursing students that were licensed healthcare professionals whereas students in case B were junior level nursing students with little to no experience in the healthcare setting.

### **Summary**

Chapter IV provided an analysis of case A and case B with themes presented to answer each research question. Data that were analyzed were collected from the questionnaire, faculty interviews, focus group interviews, and observations. Cross-case analysis was then conducted that provided similarities and differences between the cases for each research question. Cross-case analysis revealed that the learning environments in case A and case B were flexible and provided opportunities for students to rearrange furniture for participation in individual or group activities. Students in case A presented similar themes to students in case B though many of their learning experiences were different. Faculty teaching experiences in the two cases were similar in the two learning environments though the content delivery methods, background of students, and the length of the courses were different. The differences may have also impacted faculty preparation for the flipped classroom. Chapter V will summarize the research findings and provide recommendations for practice and recommendations for future research.

## CHAPTER V: DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

According to Khanova, McLaughlin, Rhoney, Roth, and Harris (2015), the flipped model is student-centered with the student functioning as a self-directed learner. Lessons learned from this study provide additions to the growing body of research on the instructional approach. As mentioned in the introduction, several studies have investigated the instructional approach in various disciplines. Previously reported implementations of flipped learning provided literature on the effect of the instructional approach rather than faculty and student experiences.

Betihavas, Bridgman, Kornhaber, and Cross (2016) conducted a systematic review of the flipped classroom in nursing education and reported that there were only five studies related to the implementation of the instructional approach in higher education in the discipline of nursing.

The researcher in this study sought to investigate the instructional approach to fill the gaps in the literature, answer the research questions, and fulfill the purpose of the research. Chapter V provides a discussion of the findings, relating it back to findings, a conclusion, recommendations for practice, and recommendations for future research.

The purpose of this study was to describe the lived experiences of faculty and students in the flipped learning environment. The overarching research question that guided the study was: What are the lived experiences of faculty and students in the flipped learning environment? Five sub-questions were used to better describe the lived experiences of faculty and students in the flipped learning environment. They included the following:

- 1) How do faculty describe the flipped classroom;
- 2) How do students describe the flipped classroom;
- 3) How do faculty describe their teaching experience in the flipped classroom;
- 4) How do students describe their learning experience in the flipped classroom; and
- 5) How do faculty prepare for teaching experiences in the flipped classroom?

The flipped learning model, previously shown in Figure 1, was the conceptual framework used for this study. The model consists of four pillars that serve as a guide for faculty implementing the instructional approach. The pillars of flipped learning consist of a flexible learning environment, learning culture that shifts instruction using a student-centered approach, use of intentional content, and a professional educator (Yarbro, Arfstrom, McKnight, & McKnight, 2014). The model in Figure 1 contains a total of 11 indicators that are available for instructors to use as a method of self-assessment of the flipped learning environment.

### **Discussion**

An analysis of this study was obtained from the research questions to add to the existing empirical research on the flipped instructional approach. This study obtained the lived experiences of faculty and students in the flipped learning environment. Faculty were asked to describe the flipped classroom, describe their teaching experiences in the flipped classroom, and discuss how they prepared for teaching experiences in the flipped classroom. Students were asked to describe the flipped classroom and their learning experiences in the flipped classroom. Faculty descriptions of the flipped classroom were limited to the physical layout and flexibility within the learning environment.

In this study, the questionnaire provided insight on student learning experiences in the flipped classroom. Results revealed that responses were much more favorable in case A than

they were in case B. This may have been a result of the majority of students in case A having previous experience with the instructional approach. According to Simpson and Richards (2015), students with no previous exposure to the instructional approach often experience discomfort in transitioning from in-class lectures.

### **Description of the Flipped Classroom**

This study also revealed that students described the flipped classroom as convenient. They related the convenience to the ability to view instructor-created videos as often as they preferred in the setting of their choice. Mok (2014) found that students were more willing to take responsibility of their learning because of the availability of video recorded lectures. In addition, students reported findings in the learning convenient related to functions such as pause and rewind that were available with the use of instructor-created or online videos. Hanson (2016) found that students found features such as pause and replay beneficial because the features provided students with opportunities to study during their own time and listen to information as often as they preferred.

Additionally, students described the flipped classroom as self-paced. This finding is consistent with Simpson and Richards (2015). They found that the flipped classroom provided greater flexibility in providing students with the ability to control the pace of their learning while also making them more responsible for their own learning. Though responses were positive related to the ability self-pace learning in the course, students suggested that time management was also required in the flipped classroom.

Furthermore, this study revealed that students new to the instructional approach viewed the flipped classroom as a learning environment in which students had to teach and learn the content on their own. They also expressed that in this type of learning environment there was a

limited amount of guidance from instructors. This finding is also consistent with previous studies. Khanova, McLaughlin, Rhoney, Roth and Harris (2015) investigated student perceptions in the flipped classroom in a pharmacotherapy course and found that students felt that everything in the course was self-taught with a lack of guidance from professors. Students that were unfamiliar with the instructional approach required additional guidance in preparing for class sessions. Khanova, McLaughlin, Rhoney, and Harris (2015) reported that additional guidance was a necessity in the flipped classroom to assist students in identifying essential content.

### **Teaching Experiences in the Flipped Classroom**

In this study, faculty described their teaching experiences as interactive. They reflected on providing students with different ways of learning content through learning activities such as case studies, audience response questions, and role-play. This allows students to engage in more meaningful learning activities without the instructor being the primary source of information. Gilboy, Heinerichs, and Pazzaglia (2015) found that students prefer to participate in learning activities during class rather listen to the instructor lecture. Student reported that learning activities were beneficial in helping them understanding course content (Kim, Kim, Hera, & Getman, 2014).

### **Learning Experiences in the Flipped Classroom**

Though pre-class learning activities resulted in students feeling better prepared in the flipped classroom, findings in this study suggested that students also experienced difficulty in adjusting to the instructional approach. Students expressed that it was difficult to complete all of the learning activities prior to class not only due to lack of guidance, but also as a result of the amount of content that they required to complete prior to each class session. Though previous

literature did not provide findings of the instructional approach as difficult to adjust, previous literature was consistent with the amount of information that students were required to review prior to class. Khanova, McLaughlin, Rhoney, Roth, and Harris (2015) found that modules that contained too much information were more difficult for students to complete prior to class. Furthermore, some students described their learning experiences in the flipped classroom as overwhelming for the same reasons reported for difficulty in adjusting to the instructional approach.

Findings of the study also revealed that students felt that the instructional approach provided clarification. They reported that because they were able to complete learning activities prior to class, they were able to listen during class and gain understanding on content in which they may not have previously understood. Hanson (2016) found that introducing to students to content prior to class made content easier to comprehend.

Furthermore, findings of the study revealed that students felt that the flipped learning environment required dedication. Students frequently reported that the flipped classroom required dedication and required a committed individual when reflecting on their learning experience in the flipped classroom. Students reported that because pre-class learning activities were to be completed during their own time they had to dedicate time outside of work and family to complete the activities. Khanova, McLaughlin, Rhoney, Roth and Harris (2015) found that students with family, work, or health commitments did not access digitally recorded lectures due to the conflicting commitments.

## **Faculty Preparation for Teaching in the Flipped Classroom**

Findings in the study revealed that faculty prepared for teaching experiences in the flipped classroom by collaborating with other instructors using the instructional approach. Findings also revealed that in order to implement the instructional approach, students have to be held accountable for completion of pre-class learning activities. Therefore, the instructors in the study reported that they did not adjust their teaching for students who arrived to class unprepared. There is no research available to support this finding as there is limited empirical research available on faculty experiences in the flipped classroom.

### **Conclusions**

Six conclusions resulted from this study. This study revealed that the flipped classroom is (1) flexible, (2) convenient, (3) self-paced, (4) interactive, (5) provides clarification, and (6) allows students to arrive to class better prepared. Other findings included that pre-class learning activities required much time. Because the study occurred in two different learning environments in which the students received different instructional approaches, several conclusions were made about flipped learning.

Previous experience in the flipped classroom may affect how students adjust in the learning environment. Students with previous experience in the flipped classroom had more favorable responses than students who did not have previous experience. However, the positive responses from students in case A may be related to the guidance received to complete pre-class learning activities. Students in case A received worksheets that they had the ability to complete while viewing the instructor-created videos whereas the students in case B reported not having a learning guide to assist them while completing pre-class learning activities.

The flipped classroom provides flexibility inside and outside the class. Classrooms structured with tables and chairs allow students to rearrange furniture for individual and group learning activities. Learning objects such as instructor-created videos also increase flexibility in the learning environment when they are downloadable and viewable from multiple devices. This provides opportunities for students to choose when and where they learn.

The learning culture within the flipped classroom is student-centered and consists of students engaging in learning activities without the teacher as the primary source of information. Students with previous experience in the flipped classroom described the learning environment as convenient and self-paced whereas students with no previous exposure to the instructional approach described the flipped classroom as a learning environment in which they had to teach and learn content on their own. Therefore, it would be essential for instructors to provide students with outlines or study guides to assist them in completing pre-class learning activities. Pre-class learning activities in the flipped classroom leads to students that are better prepared for class. This allows students to increase their knowledge during class through application-based learning activities that allow them to fill the gaps in their knowledge. This also allows them to receive clarification on content during class.

Intentional content assigned by instructors for students to complete prior to class should be accessible to all students. Students in case B reported that they could only view the instructor-created videos from a computer and not from multiple devices. This limits access to students that may only have mobile devices such as tablets rather than desktop and laptop computers.

In the role of the professional educator, faculty in case A and case B implemented flipped learning using different approaches. The instructor in case A incorporated flipped learning

through collaboration with other educators who were using the instructional approach. The instructor in case B did not report collaborating with other educators but indicated that she incorporated current evidence-based practices related to nursing content that was essential for students to learn when implementing flipped instruction. Therefore, not all flipped instruction follows the four pillars of flipped learning.

### **Recommendations for Practice**

Based on the findings of the study, it is recommended that faculty implementing flipped learning consider the following suggestions for instructional practice.

1. Faculty should consider providing an orientation to include what is expected of students in the flipped classroom. In this study, several students reported experiencing difficulty in adjusting and feeling overwhelmed because they did not know what to expect because they had no previous exposure to the instructional approach.
2. Faculty should consider creating outlines or guides that provide students with what they are expected to understand when completing pre-class learning activities. In this study, students in case A reported having the option to come to class with the information completed and having the ability to fill in the gaps during class. They reported that this better prepared them for their learning experiences in the course and allowed them to listen more than focusing on recording notes during the class session.
3. Faculty should consider formatting the videos in a file type such as an MP4 file that provides the option for the videos to be downloaded on multiple devices to increase accessibility. In this study, the videos in case B were only accessible from a computer which limited the flexibility in which the learner could choose when and where to learn.

Mok (2014) found that students were more willing to take ownership of their learning because of the availability of video lectures.

4. Faculty should consider the quality of videos and content within videos when creating videos for lectures.
5. Faculty should consider reducing the length of the videos to less than 30 minutes. In this study, students in case A reported that videos in the course were long. Furthermore, in response to a survey question about the length of the videos, responses consisted of the videos being too long and the need for the content within the videos to be placed in smaller sections (Enfield, 2013).
6. Faculty should consider assessing the learning styles of each learner on the first day of class to ensure that learning activities in the course meet the needs of each learner. In this study, some students in case B reported preferring to work individually rather than in groups for learning.
7. Faculty should consider using quizzes at the beginning of class as a method to encourage students to complete learning activities prior to class. Mok (2014) used administered quizzes during the first 15 minutes of each class session as a method of evaluating student preparation.
8. Faculty should consider using course analytics to determine if students are viewing the instructor-created videos prior to class. In this study, the instructor in case A did not assess whether students viewed videos prior to class but the instructor in case B was able to determine the date and number of times that the video was accessed. Lasry, Dugdale, and Charles (2014) found that there was a high compliance rate in student preparation prior to class when course analytics were used to track student preparation.

9. Faculty should consider professional development to better assist with flipping effectively. In this study, case A and case B provided two different strategies that were used to implement flipped instruction and the impact the instructional approach had on student learning.

### **Recommendations for Future Research**

Current research in the flipped learning environment investigates student performance with limited data related to student and faculty experiences on the instructional approach. Furthermore, there is a lack of evidence on the flipped classroom in the discipline of nursing when compared to other health disciplines (Betihavas, Bridgman, Kornhaber, & Cross, 2016). Based on the findings in this study, it is recommended that researchers consider the following for future investigations in the flipped learning environment.

1. Future research should investigate the lived experience of students with no previous experience with flipped learning to determine if experiences vary based on previous experience in prior research. This study investigated the lived experiences of students with previous experiences and students who had no previous experience.
2. Future research should investigate the lived experiences of students with professional licensure in a healthcare profession compared to students in the traditional nursing program to determine if the level of knowledge has an effect on student adjustment in the flipped classroom.
3. Future research should investigate the lived experiences of students admitted to accelerated nursing programs to determine if prior education is a contributing factor to student adjustment in the flipped classroom. Students admitted to accelerated nursing programs typically hold degrees in other disciplines. Investigating this population of

students can aid in further determining if the level of knowledge has an effect on student adjustment in the flipped classroom.

4. Future research should investigate the lived experiences of students admitted in traditional associate degree nursing programs to obtain their descriptions and experiences in the flipped classroom. This study investigated the lived experiences of non-traditional associate degree-students enrolled in a mobility course.
5. Future research should investigate the effect of the flipped learning environment on student performance to determine if the instructional approach has an effect on learner outcomes.

### **Summary**

This study utilized a multiple case study research design to investigate the lived experiences of faculty and students in the flipped learning environment. Challenges experienced in the flipped classroom in addition to positive experiences in the flipped classroom were reported. The findings of this research filled the gaps in the literature, answered the research questions appropriately, and fulfilled the purpose of the research.

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## APPENDIX A:

### INFORMED CONSENT AGREEMENT

#### **Flipped Learning in Higher Education: A Case Study of the Lived Experiences of Nursing Faculty and Students**

You are being asked to participate in a research study. Before you give your consent to volunteer, it is important that you read the following information to be sure you understand what you will be asked to do.

#### **Investigators**

Katilya Harris (PhD Candidate; University of Alabama)  
334-663-2883

Dr. Angela Benson (Faculty advisor; University of Alabama)  
Associate Professor  
Department of Educational Leadership, Policy, and Technology Studies (ELPTS)  
The University of Alabama  
328F Graves Hall - Box 870302  
Tuscaloosa, AL 35487-0302  
205-348-7824

#### **Purpose of the Research**

The research study is designed to describe the lived experiences of faculty and students in the flipped learning environment. The data from this research will be used to add to the empirical research on the instructional approach; especially within the discipline of nursing. This study will assist faculty in higher education settings, especially in the discipline of nursing, gain an understanding of how students and faculty describe the flipped learning environment by sharing their lived experiences.

#### **Procedures**

Ms. Katilya Harris will be observing instructional approaches in the course throughout the semester. Observations will occur on flipped days and non-flipped days. The researcher will observe students and faculty in the learning environment. During the observations, the researcher will record descriptive field notes that will provide a description of the events, classroom configuration, learning activities, and student and faculty behavior in the learning environment. As a faculty participant, you will be interviewed one-on-one using a semi-structured format. Initial interviews will begin January 11, 2016 through February 17, 2016. Follow-up interviews with faculty will begin after February 17, 2016. The length of the faculty interview is approximately 45 – 60 minutes.

Documents provided to students, such as syllabi or teacher lesson plans, will be collected to provide a more detailed description of the observations and learning activities. In addition, the researcher will view the assigned videos, if any, and pre-class reading assignments assigned to students that correlate with the unit for observation to obtain a more detailed description. It may be necessary for the researcher to obtain permission to access Blackboard to review learning activities associated with the instructional approach.

### **Potential Risks or Discomforts**

Little or no risk is foreseen with the use of surveys in this study. As a participant in the interview you may become tired. If this occurs, you will be provided with a break or the interview will be rescheduled.

### **Potential Benefits of Research**

There are no direct benefits to you. However, this study may assist faculty in higher education settings, especially in the discipline of nursing, gain an understanding of the lived experiences of students and faculty in the flipped learning environment. This will allow faculty to better meet the needs of students.

### **Confidentiality and Data Storage**

Privacy will be maintained by interviewing participants in a private room. Participants will not be required to answer any questions in which they do not feel comfortable.

Information obtained during the interview will be recorded using a digital voice recorder and will be erased once the comments have been transcribed to paper. Notes may be taken during the interview and will be destroyed once the study is over. Ms. Katilya Harris will be the only individual that will have access to the audio recording and notes. All information discussed during the interview will remain confidential and your identification will remain anonymous. Transcribed interviews will be stored in a secure location for 3 years following the study as required by the Institution Review Boards.

### **Incentives to Participate**

Faculty participants will receive a \$5 gift card after their final interview. Participants will be notified when they have completed the final interview.

### **Participation and Withdrawal**

Your participation in this research study is voluntary. You may refuse to participate or stop at participating at any time, but may not receive the incentive if you withdraw. To stop, you may provide written notification to Ms. Katilya Harris.

### **Questions about the Research**

If you have any questions, concerns, or complaints about the study right now, please ask them. If you have questions, concerns, or complaints about the study later on, please call Katilya Harris at 334-727-8190 or Dr. Angela Benson at 205-348-7824.

This project has been reviewed by the Human Participant Review Committee for South University. If you have any questions about your rights as a participant in a research study,

contact Dr. Jessica Hillyer, the Institutional Review Board Director of Training and Compliance, at 512-516-8779.

This project has also been reviewed by the Human Participant Review Committee for the University of Alabama. If you have any questions about your rights as a participant in a research study, call Ms. Tanta Myles, the Research Compliance Officer of the University, at 205-348-8461 or toll-free at 1-877-820-3066.

You may also ask questions, make suggestions, or file complaints and concerns through the IRB Outreach website at [http://osp.ua.edu/site/PRCO\\_Welcome.html](http://osp.ua.edu/site/PRCO_Welcome.html) or email the Research Compliance office at [participantoutreach@bama.ua.edu](mailto:participantoutreach@bama.ua.edu).

After you participate, you are encouraged to complete the survey for research participants that is online at the outreach website or you may ask the investigator for a copy of it and mail it to the University Office for Research Compliance, Box 870127, 358 Rose Administration Building, Tuscaloosa, AL 35487-0127.

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I have read the consent form and have had an opportunity to ask questions. I agree to participate in this research study. I will receive a copy of this consent form to keep.

Signature of Research Participant: \_\_\_\_\_ Date \_\_\_\_\_

Signature of Person Obtaining Consent: \_\_\_\_\_ Date \_\_\_\_\_

I agree to have the interview audio recorded.       Yes       No

APPENDIX B:  
QUESTIONNAIRE

The purpose of this questionnaire is to obtain information on your experience in this course this semester. Neither your instructor nor any entity at this institution will see the results. They will be solely used by the researcher.

**Section I – Demographic Information**

1. Select your gender.  
\_\_\_\_\_ Male    \_\_\_\_\_ Female
  
2. Please indicate your classification.  
\_\_\_\_\_ Junior    \_\_\_\_\_ Senior

**Section II**

After reading each of the following statements about your experience in this course, please respond by placing an “X” in the box associated with the response that best reflects your position.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
<b>Flexible Learning Environment</b>					
1. In this class, students are allowed to work individually or in groups to interact and reflect on learning.					
2. In this class, the instructor observes and monitors student learning and makes adjustments if necessary.					
3. In this class, I am provided with different ways to learn content.					
<b>Learning Culture</b>					

4. In this class, I engage in learning activities during class time that allow me the opportunity to explore topics in greater depth without the teacher as the primary source of information.					
5. In this class, the learning activities are structured and accessible to all students with collaboration and feedback.					
<b>Intentional Content</b>					
6. In this class, I access instructional content in the form of video lectures during my own time.					
7. In this class I use instructor created and/or online videos from sources such as You Tube or Khan Academy to assist me with understanding course content outside of class.					
8. The videos used in this class the videos are relevant to content within the course.					
<b>Professional Educator</b>					
9. In this class, the instructor is available to all students and provides feedback as needed.					
10. In this class, the instructor modifies teaching and learning activities to improve student learning.					

**Section III.**

1. What did you like best about this course?

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2. What was the biggest challenge with the course?

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3. What would you change about the course?

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4. Was anything done in this class that you would like to see done in your other courses?

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**Provide your name if you are interested in participating in focus group interviews. I will be conducting interviews with small groups of four students. If you are willing to participate, please enter your name here. Interview participants will be given a gift card in the amount of \$5.**

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APPENDIX C:  
OBSERVATION PROTOCOL

Class: \_\_\_\_\_ Date: \_\_\_\_\_

Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

Class location: \_\_\_\_\_

Nonparticipant observer location in Learning Environment: \_\_\_\_\_

\_\_\_\_\_

Unit/Module Topic: \_\_\_\_\_

What is the teacher doing? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

What are the students doing? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

How are teachers and students interacting? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Observational Notes

\_\_\_\_\_

APPENDIX D:

FACULTY INTERVIEW PROTOCOL

The interview will be guided by the following questions using a semi-structured format.

Research Question	Interview Questions	Pillar
How do faculty describe the flipped classroom?	What is the configuration of your classroom?	Flexible Learning Environment
	What opportunities are available for your students to choose when and where they learn?	Flexible Learning Environment
How do faculty describe their teaching experience in the flipped classroom?	What instructional strategies do you use?	Learning Culture
	What type of learning activities do you incorporate in your class?	Learning Culture
	How would you describe the learning environment in reference to it being student-centered or teacher-centered?	Learning Culture
	What are the students doing in the classroom?	Learning Culture
	What type of interaction do you have with your students during class?	Professional Educator
	How would you describe your role in the classroom?	Professional Educator
How do faculty prepare for teaching experiences in the flipped learning environment?	What type of learning activities did you assign for students to complete prior to class?	Intentional Content
	What steps were necessary for you to determine what content would be taught in-class and what content would be taught outside of class?	Intentional Content
	Was student performance different because of the instructional approach? How?	Intentional Content

APPENDIX E:

FOCUS GROUP INTERVIEW PROTOCOL

The interview will be guided by the following questions:

Research Question	Interview Questions/Guidelines	Pillar
Opening Question	Tell me your name and your exposure to instructor created videos and/or online videos.	
Introduction Question	How did you learn about the use of instructor created vides and/or online videos for completion as homework outside of class?	
Transition Questions	Think back to when you were first exposed to instructor created videos and/or online videos. What was your first impression?	
How do students describe the flipped classroom?	What opportunities were available for you to work in groups or work individually?	Flexible Learning Environment
	What opportunities are available for you to choose when and where you learn?	Flexible Learning Environment
How do students describe their learning experiences in the flipped classroom?	What are teachers doing in the classroom?	Learning Culture
	What are students doing in the classroom?	Learning Culture
	What was particularly helpful?	Learning Culture
	What was particularly frustrating?	Learning Culture
	Was your ability to learn different because of the type of instruction you received? If so, how?	Learning Culture
	Was your performance different because of the instructional approach? How?	Learning Culture
	What type of interaction did you have with your instructor during class?	Professional Educator

	How responsive was the instructor to questions during class?	Professional Educator
	What type of learning activities did you complete prior to class?	Intentional Content
	What type of learning activities did you engage in during class?	Intentional Content
Ending Question	If you had a chance to provide advice on the instructional approach in which you were exposed, what advice will you give?	
	We want you to help us evaluate flipped instruction. Therefore, we want to know how to improve and what differences the instructional approach makes. What did we miss? Is there anything else that we should have discussed but did not?	

APPENDIX F:

CODES OBTAINED AT EACH CYCLE OF CODING

Case A	Case B
<p><b><u>First Cycle Coding (Holistic Coding) – Focus Groups</u></b></p> <ul style="list-style-type: none"> <li>• Preparation</li> <li>• Engaged</li> <li>• Flexible</li> <li>• Accessibility</li> <li>• Collaboration</li> <li>• Clarification</li> <li>• Convenient</li> <li>• Frustrations</li> <li>• Dedication</li> <li>• Prompt Feedback</li> <li>• Time consuming</li> <li>• Lots of information</li> </ul> <p><b><u>First Cycle Coding (Holistic Coding) – Faculty</u></b></p> <ul style="list-style-type: none"> <li>• Application</li> <li>• Engagement</li> <li>• Collaboration</li> <li>• Accountable/Responsible</li> </ul>	<p><b><u>First Cycle Coding (Holistic Coding)</u></b></p> <ul style="list-style-type: none"> <li>• Different concept</li> <li>• Timing</li> <li>• Self-motivation</li> <li>• Self-teach</li> <li>• Student-centered</li> <li>• Collaboration</li> <li>• Gaining understanding</li> <li>• Difficult transition</li> <li>• Preparation</li> <li>• Repetition</li> <li>• Overwhelmed</li> <li>• Convenient</li> <li>• Application</li> <li>• Prompt Feedback</li> </ul> <p><b><u>First Cycle Coding (Holistic Coding) – Faculty</u></b></p> <ul style="list-style-type: none"> <li>• Assessment</li> <li>• Application</li> <li>• Interactive</li> <li>• Collaboration</li> <li>• Student-engagement</li> <li>• Current Practice</li> </ul>
<p><b><u>Second Cycle Coding (InVivo Coding) – Focus Groups</u></b></p> <ul style="list-style-type: none"> <li>• Convenient</li> <li>• Self-paced</li> <li>• Fast-paced</li> <li>• Clarification</li> <li>• Repetition</li> <li>• Dedication</li> <li>• Preparation</li> <li>• Difficult Transition</li> </ul> <p><b><u>Second Cycle Coding (InVivo Coding) – Faculty</u></b></p> <ul style="list-style-type: none"> <li>• Clarification</li> <li>• Application</li> </ul>	<p><b><u>Second Cycle Coding (InVivo Coding)</u></b></p> <ul style="list-style-type: none"> <li>• Self-teach</li> <li>• Difficulty understanding</li> <li>• Preparation/Difficult transition</li> <li>• Overwhelmed</li> <li>• Collaboration</li> <li>• Interactive</li> </ul> <p><b><u>Second Cycle Coding (InVivo Coding) – Faculty</u></b></p> <ul style="list-style-type: none"> <li>• Assessment</li> <li>• Clarification</li> </ul>

<p><b><u>Third Cycle Coding (Versus Coding)</u></b></p> <ul style="list-style-type: none"> <li>• Difficult transition</li> <li>• Dedication</li> <li>• Preparation</li> <li>• Clarification</li> <li>• Time consuming</li> <li>• Convenient</li> </ul>	<p><b><u>Third Cycle Coding (Versus Coding)</u></b></p> <ul style="list-style-type: none"> <li>• Preparation</li> <li>• Self-teach</li> <li>• Difficult transition</li> <li>• Gaining understanding</li> <li>• Difficulty understanding</li> </ul>
<p><b><u>Themes that Resulted from Codes</u></b></p> <ul style="list-style-type: none"> <li>• <b>Better Prepared</b> <ul style="list-style-type: none"> <li>○ Preparation</li> <li>○ Clarification</li> </ul> </li> <li>• <b>Interactive</b> <ul style="list-style-type: none"> <li>○ Engaged</li> <li>○ Prompt Feedback</li> <li>○ Collaboration</li> </ul> </li> <li>• <b>Convenient</b> <ul style="list-style-type: none"> <li>○ Accessibility</li> <li>○ Convenient</li> <li>○ Self-paced</li> </ul> </li> <li>• <b>Self-paced</b> <ul style="list-style-type: none"> <li>○ Self-paced</li> </ul> </li> <li>• <b>Requires Time Management</b> <ul style="list-style-type: none"> <li>○ Lots of information</li> <li>○ Fast-paced</li> <li>○ Self-paced</li> </ul> </li> <li>• <b>Takes a Committed Individual</b> <ul style="list-style-type: none"> <li>○ Time consuming</li> <li>○ Lots of information</li> <li>○ Fast-paced</li> <li>○ Dedication</li> </ul> </li> <li>• <b>Difficulty in Adjusting</b> <ul style="list-style-type: none"> <li>○ Frustrations</li> <li>○ Difficult Transition</li> </ul> </li> <li>• <b>Provides Clarification</b> <ul style="list-style-type: none"> <li>○ Clarification</li> <li>○ Repetition</li> </ul> </li> <li>• <b>Responsibility</b> <ul style="list-style-type: none"> <li>○ Accountable/Responsible</li> </ul> </li> <li>• <b>Collaboration</b> <ul style="list-style-type: none"> <li>○ Collaboration</li> </ul> </li> </ul>	<p><b><u>Themes that Resulted from Codes</u></b></p> <ul style="list-style-type: none"> <li>• <b>Interactive</b> <ul style="list-style-type: none"> <li>○ Interactive</li> <li>○ Application</li> <li>○ Prompt Feedback</li> </ul> </li> <li>• <b>Requires the ability to self-teach</b> <ul style="list-style-type: none"> <li>○ Self-motivation</li> <li>○ Self-teach</li> </ul> </li> <li>• <b>Overwhelming</b> <ul style="list-style-type: none"> <li>○ Gaining understanding/Difficulty Understanding</li> <li>○ Timing</li> <li>○ Overwhelmed</li> </ul> </li> <li>• <b>Difficult to adjust</b> <ul style="list-style-type: none"> <li>○ Different concept</li> <li>○ Difficult transition</li> <li>○ Preparation</li> </ul> </li> <li>• <b>Better Prepared</b> <ul style="list-style-type: none"> <li>○ Preparation</li> <li>○ Convenient</li> <li>○ Repetition</li> </ul> </li> <li>• <b>Collaborative and Student-Centered</b> <ul style="list-style-type: none"> <li>○ Student-centered</li> <li>○ Collaboration</li> </ul> </li> <li>• <b>Assessment</b> <ul style="list-style-type: none"> <li>○ Assessment</li> </ul> </li> <li>• <b>Current Practice</b> <ul style="list-style-type: none"> <li>○ Current Practice</li> </ul> </li> </ul>

APPENDIX G:

IRB APPROVAL



January 6, 2016

Katilya Harris  
College of Education  
The University of Alabama  
Box 870302

Re: IRB # 15-OR-394, "Flipped Learning in Higher Education: A Case Study of the Lived Experiences of Nursing Faculty and Students"

Dear Ms. Harris:

The University of Alabama Institutional Review Board has granted approval for your proposed research.

Your application has been given expedited approval according to 45 CFR part 46. Approval has been given under expedited review category 7 as outlined below:

*(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.*

Please note: Recruitment of research subjects at South University may not begin until the study is approved by this institution's IRB. Please forward a copy of the South University IRB approval letter to [rcompliance@fa.ua.edu](mailto:rcompliance@fa.ua.edu) upon receipt.

Your application will expire on November 8, 2016. If your research will continue beyond this date, please complete the relevant portions of the IRB Renewal Application. If you wish to modify the application, please complete the Modification of an Approved Protocol Form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, please complete the Request for Study Closure Form.

Please use reproductions of the IRB approved stamped consent forms to obtain consent from your participants.

Should you need to submit any further correspondence regarding this proposal, please include the above application number.

Good luck with your research.

Sincerely,



Carpanito T. Myles, MSM, CIM, CIP  
Director & Research Compliance Officer  
Office for Research Compliance