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# DNP FINAL REPORT: THE FLIPPED CLASSROOM: AN EVIDENCE-BASED, COURSE REDESIGN TO INCREASE RETENTION RATES IN A VOCATIONAL NURSING PROGRAM

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by

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# Dedication

I dedicate this project to my best friend and husband, Dan whose sacrificial care for me and our children made it possible for me to complete this work. To our three children Tyler, Kamden and Whitley, your combined joy is the sum of my everlasting gratitude and inspiration to pursue change. You are indeed a treasure from the Lord. To the memory of my father, Ben who encouraged me to eternally seek knowledge. God is good.

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# Abstract

DNP Final Report: THE FLIPPED CLASSROOM: AN EVIDENCE-BASED, COURSE REDESIGN TO INCREASE RETENTION RATES

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Over the past three decades, Vocational Nursing has been taught using a conventional didactic method that is content heavy and lecture focused. Despite having a group of highly qualified professors and an excellent student pass rates on the National board examinations, student retention in a Vocational Nursing Program in central Texas remains below the National benchmark. With a unique student demographic that is identified as non-traditional (over 21, full-time working adults, English Second Language and single parents), we embarked upon the redesign of a Medical-Surgical Nursing course using the flipped pedagogical framework to increase retention rates. Therefore, in 2019 we flipped our classroom. In flipping our classroom, we eliminated the didactic delivery of content via lectures by uploading all lecture content into our learning management system (VidGrid), The focus was towards higher level thinking, applying and understanding of the online didactic modular content. The effectiveness of the FC approach was evaluated by analyzing the exam grades in the piolet FC and at the end of the semester. The data generated from this analysis indicated an 85 percent increase in exam grades and 70.4 percent increase in retention rates.

# Chapter 1

## Development of the Leadership Question and Problem Identification

### Background and Significance of Leadership Issue

Student retention rates in nursing programs have been associated with student success and strong academic support. They are fundamental to the ability of an institution to carry out its mission (Post, Deal, & Hermanns, 2015). “According to the free application for federal student aid, retention rate is defined as the percentage of a school's first-time, first-year undergraduate students who continue at that school the next year ”(FASFA, 2018). Colleges and nursing programs associate higher retention rates among first-year nursing program students with a nursing program's ability to employ rigorous standards to assure graduates can successfully demonstrate the comprehension and abilities essential for the safe and competent practice of professional nursing (Betihavas, Bridgman, Kornhaber, & Cross, 2016; Bishop & Verleger, 2013). The nursing curriculum must center around activities that emphasize high levels of critical thinking and clinical application within the nursing program. If so, students will have an 80% higher retention rate. They will prepare nursing graduates to function in a dynamic healthcare environment and successfully pass the National Council of Licensure Examination (NCLEX-PN), the benchmark for measuring minimum standards of competency and quality at entry-level practice (National Council of State Boards of Nursing, 2011; NCSBN, 2013, & Schwartz, 2014). Faculty miss the opportunity to change content delivery due to a lack of a standardized evidence-based-practice teaching framework or method.

Several solutions have been recommended to fix evident insufficiencies that exist within current educational models. I found a body of literature that consistently speaks to the need to rethink traditional in-class, lecture-based teaching methods (Basile, 2013; DeLozier, & Rhodes,

2017; Tune, Sturek, & Basile, 2013). One such proposed model proving to be a productive, innovative way to teach nursing students that keeps cost low is the flipped classroom (F.C.) (Singla, Saini, & Kaur, 2016).

Research suggests that when followed cohesively by all faculty, the addition of a standardized framework (when implementing the F.C.) can increase retention rates by 15% (Betihavas et al., 2016; Bishop et al., 2013). The F.C. is defined as a method of educating where the learner is introduced to content at home and then practices working through the content at school through learning activates that reinforce the content introduced to at home (Betihavas et al., 2016; McGivney-Burelle & Xue, 2013). The basic premise of the flipped teaching method is to move the passive transmission of content out of the classroom to provide an increase in collaborative learning activities (Bishop et al., 2013). “In terms of Bloom's revised taxonomy (2001), (Figure 1) this means that students are doing the lower levels of cognitive work (gaining knowledge and comprehension) outside of class, and focusing on the higher forms of cognitive work (application, analysis, synthesis, and evaluation) in class where they have the support of their peers and instructor”(Billings, 2016). This model contrasts from the traditional model in which "first exposure" occurs via lecture in class with students assimilating knowledge through homework; thus, the term "flipped classroom" (Betihavas et al., 2016; McGivney-Burelle & Xue, 2013; McLaughlin et al., 2013; McLaughlin et al., 2014; Slomanson, 2014). Institutions who have introduced the flipped-classroom teaching model found an increase in student retention and critical thinking application and in the nursing students' ability to synthesize material in the first two years (McLaughlin et al., 2013; McLaughlin et al., 2014; Slomanson, 2014; Schwartz, 2014).

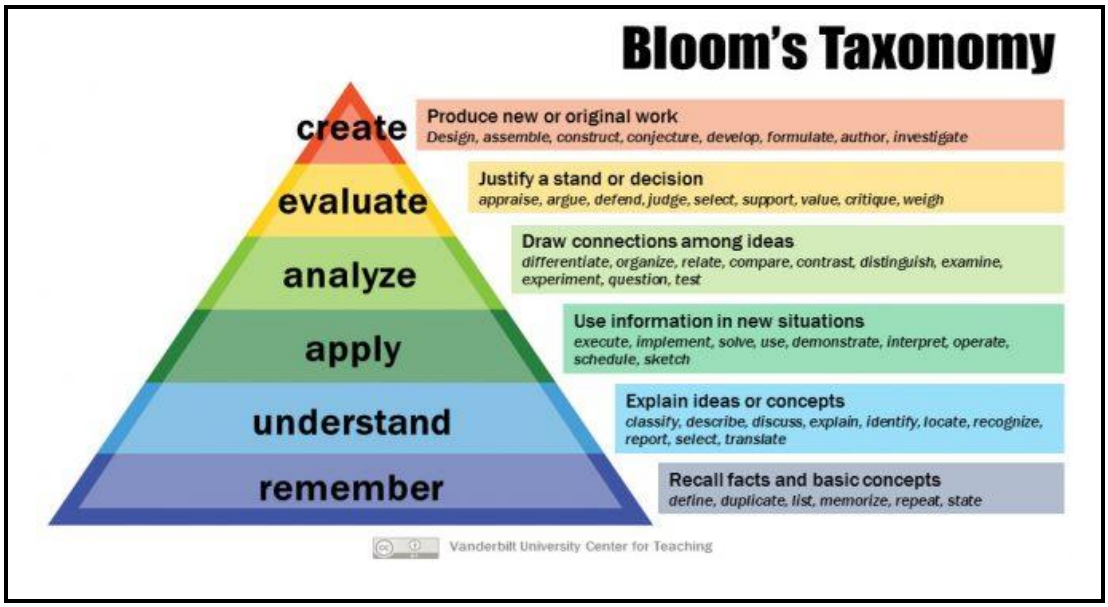



***Figure 1.*** *Blooms Revised Taxonomy of Student Learning.*

**External evidence**

The International Organization for Migration (IOM) report regarding nursing education stressed that information about health has grown as health care systems have become increasingly complex and educational programs must also change to meet the innovations in technology and pedagogy to prepare nursing students to think critically within the everchanging environment of nursing (Simpson & Richards, 2015; IOM, 2010).

**Internal evidence**

An alarming number of students at a Vocational Nursing Program (VNSG) in central Texas have not met the minimum requirements to progress to graduation summating in a steadily decline in the program's retention rates over the past three years. Therefore, in response to this decline and the educational reform requirements set forth by the IOM, the program began to evaluate areas of improvement. An analysis of the internal data based upon unidentified student records extracted from program files for five consecutive cohorts from Fall 2015-Fall 2018, a total of two hundred and thirty-two student records were identified, and all were tracked through

graduation. After program student files were reviewed, the data specified one major area contributing to the decrease in retention rates: pedagogy style. Anecdotal data taken from the student's course evaluations found content overload and long lectures were consistently reported by students (ACC, 2017).

Every year we summit data to the Accreditation Commission for Education in Nursing (ACEN) so that we have a bench mark to help guide our curriculum and program. When we looked at our organizational data for student retention rates from the unidentified student records compared to the ACEN accrediting organizational benchmarks for acceptable retention rates; we found VNG program is currently not meeting minimum requirements. The Board of Commissioners identified the following areas needing development. Standard 6 Outcomes, Criteria 6.4.2 develop and implement strategies to improve the program retention/completion rate (ACEN, 2017; ACC, 2017).

**PICOT Clinical Question**

Therefore, the question arises in Vocational Nursing Program students. How does the implementation of a flipped classroom compared to a traditional lecture classroom affect Basic Nursing Skills Theory course retention rates within one academic semester?

Chapter 2

Evidence Synthesis & Model of EBP

**Systematic Search for evidence processes and results**

The search for the best evidence to the clinical question began by conducting a literature search. The literature search displayed the empirical and theoretical findings on research conducted in nursing programs that implemented the flipped-classroom method of teaching within higher education. The next search began by considering the elements of the PICOT question. The keywords from the PICOT question led the search (Melnyk & Fineout-Overholt, 2015). The PICOT question: In Vocational Nursing Program students (P), how does the implementation of a flipped classroom compared (I) to a traditional lecture classroom(C), affect the final exam pass rates in the Basic Nursing Skills Theory course within one academic semester (T). Directed by the PICOT issue, a systemic search of databases began per EBP search criteria (Melnyk & Fineout-Overholt, 2015). To establish the answer to the PICOT question three databases were searched, PubMed, Cochrane and Cumulative Index to Nursing and Allied Health Literature that produced 42 papers (CINAHL) (see Appendix A). Keywords searched contained *"nursing," "nursing education," "flipped classroom," "higher education," and "critical thinking and learning,"; the "search with AND"* feature yielded 37 reviews (see Table A2) using the search standards. The review methods used to search were expanded to include the clinical queries option because the PICOT question is that of an interventional question. After assessment of inclusion and exclusion standards, we evaluated each paper using a critical appraisal tool. Next we completed a data extraction and analysis of all included studies. The outcomes of the systematic review screened 27 titles and abstracts, resulting in 18 included studies. The final phase of the evidence searches included hand-searching for systematic reviews, randomized controlled trials, or other works of literature in the reference lists of already-

discovered materials. The exhaustive search resulted in 13 systematic reviews or studies. All articles went through another review using the general appraisal overview form (GAO) and the rapid critical appraisal form (RCA) for each study (see Appendix B).

### Rapid Critical Appraisal

Critically appraising the body of evidence ensures the evidence will be relevant and specific to a particular set of inquiries. The process of critical appraisal began by organizing the collection of articles to determine how the flipped-classroom approach in a postsecondary environment. I synthesized the data with the use of the general appraisal overview (GAO) and the rapid critical appraisal (RCA), noting the studies' validity, reliability, and application toward the PICOT question. Critically appraising a body of evidence and conducting a rapid critical appraisal of the studies was essential to conclude the outcomes of the studies and if the studies agreed or disagreed. This is an essential measure when evaluating the body of evidence on a clinical practice issue (Melnyk & Fineout-Overholt, 2015). Harrington et al. (2015) discuss the effects of nursing students in a flipped classroom. The aim was to quantitatively associate the learning outcomes of the FC versus traditional teaching methods measured via exam grades (Harrington et al., 2015). The researchers used an experimental design, randomizing a convenience sample of 82 nursing students. An extensive body of evidence supports an active-learning , student-centered, teaching method to increase retention rates (see Appendix C ) (Hew & Lo, 2018). Hew & Lo (2018) found "active learning is associated with improved academic performance, increased learning and achievement, higher engagement, improved critical thinking skills, and better attitudes toward learning " (Hew & Lo, 2018). Through a quasi-experimental design Missildine, Fountain, Summers, and Gosselin (2013) observed students' semester average grade scores were significantly higher in the FC ($p < 0.001$) with the use of a FC framework and

involving teaching assistants (Missildine et al., 2013). According to the literature, this would be indicative of a successful education method (see Table 2C) (Missildine et al., 2013). A systematic review was included to facilitate a broad inspection of the FC methods in nursing programs within higher education and the outcomes associated with this approach to teaching and learning (Post et al., 2015; Simpson & Richards, 2015; Schwartz, 2014). The review found increases in both student course satisfaction and improved retention rates. The validity and reliability of the methods for collecting data clearly describe each study. The study's results, conducted by Simpson and Richards (2015), concluded the FC generally were higher than those in a traditional class. The design involved in flipping the classroom used materials that a traditional lecture format provides. For example, multiple studies concluded the teaching strategies that worked best when implementing the flipped classroom included "voice-over power point lectures that use voiceover, interactive modules, instructional simulation videos and readings from the assigned text (Post et al., 2015; Simpson & Richards, 2015; Schwartz, 2014). The FC method of teaching endorsed students' autonomy within their learning and increased accountability for the outcomes to their learning while keeping the sense of community provided during the face-to-face course meetings (Simpson et al., 2015; Tune et al., 2015). Pre-class assignments (i.e., online quizzes, completed before the start of class) was another outcome measured by the studies within the body of evidence (Simpson and Richards, 2015). A research survey from McLaughlin et al. (2015) of students (N=162) in a first-year medical course discovered substantial dissimilarities between pre-course and post-course exam scores following a FC course redesign (McLaughlin et al., 2015). McLaughlin et al. (2015) also found that preferences for the FC method improved from "27.3% (n=41) before the course to 84.6% (n=126) after the course."

**Evaluation and Synthesis**

In critically appraising the body of evidence, the creation of three synthesis tables helped to organize the data in a way that made comparisons manageable (see Table C1). Educators distribute several pedagogical challenges when doing on-line instruction and among the most important are communication, dialogue, engagement, and interaction between teacher-student. These challenges are reinforced by the fact that the teacher communicates through technology in a digital context. In "Flipped Classrooms: A Review of Key Ideas and Recommendations for Practice" (see Appendix C), the researchers aimed to observe the impact FC had on student learning. Mainly, when assessment approaches to the flipped classroom and focused on activities frequently used in these settings. Among these, the researchers examined both out-of-class activities (e.g., video lectures) and in-class activities (e.g., quizzes, student discussions). El-Banna, Whitlow, and McNelisb examined the differences of exam scores between a flipped and traditional classroom, in a mixed method, crossover repeated measures design. They concluded exam scores improved in the flipped classrooms. cautious use of this instructional pedagogy with dense or difficult content, particularly in accelerated programs, is not recommended. Instructors should provide students with detailed information. Such as course schedules, specific F.C. course syllabus, F.C. expectations, and rationale for using the F.C. approach. The evaluation table continued with a collection of 10 total keeper studies. This included one level 1 systematic review, two level 2 randomized control trial studies, one controlled trial (level 3), three quasi-experimental studies (level 2), one study in level 4, and one descriptive study (level VI). Many of the level 2 studies were pretest and posttest designs (see Table C2). Of the 13 studies reviewed, only one evaluated the implementation process, four identified challenges with implementing the flipped classroom approach, and four student-related challenges were identified (Bentihavas et al., 2015; Harrington et al., 2015; Missildine et al., 2013). Harrington et al. (2015) and

Missildine et al. (2013) reported that students initially struggled to adjust to the flipped classroom and did not seem to perceive the value of interactive learning approaches. Missildine et al. (2013) suggested that increased preparation time may have negatively influenced student exam scores and decreased levels of personal relationships. Some students reported difficulty staying organized without regular faculty contact and were dissatisfied with a shift toward self-motivation to learn. Hew et al. (2018) observed that these issues lessened over the semester. Faculty challenges were identified by Harrington et al. (2015), who discovered that faculty members' inexperience in teaching a flipped classroom could influence outcomes. They recommended that all current and new teachers must receive formal F.C. training before implementing the F.C. (Harrington et al., 2015). A virtual recording of the training should be developed and published as the faculty's reference throughout the semester. Bentihavas et al. (2015) noted that with the increase in preparation time needed to implement the flipped classroom, faculty members would require mentoring to facilitate interaction in the flipped classroom setting. Other operational challenges identified by Missildine et al. (2013) included infrastructure, classroom availability, and limited high-speed internet access for rural and remote students. Observing that the flipped classroom was heavily dependent on information technology (I.T.) support, Billings (2016) recommended that when implementing the F.C., students should have full access to the library as well as the technology center. Despite these challenges, three studies suggested the flipped classroom model (Bentihavas et al., 2015; Geist et al., 2015; Simpson & Richards, 2015). The extracted data can be seen in the evaluation table as it outlines the entire body of evidence (see Table B1).

The PICOT question in a Vocational Nursing Program. How does the implementation of a flipped classroom compared to a traditional lecture classroom affect a Medical Surgical II

Theory courses' retention rate within one semester. The F.C. intervention has been shown to improve student retention rates, increase critical thinking outcomes, and align with the new legislative 30X60TX rule. The evidence resoundingly supports the need for F.C. faculty training and F.C. implementation as an evidence-based strategy.

### Recommendations

Therefore, it is recommended, as per evidence synthesis, to develop and implement an F.C. course redesign into the summer 2019 semester. A common theme emerging from several studies included the endorsement for the framework on how to implement the flipped classroom (DeLozier et al., 2016; Hermanns et al., 2015). Addressing the practice problem were several studies whose key findings reported that the actual design of a flipped classroom is crucial and perhaps an area of trepidation for faculty members who are considering redesigning. One recommendation extracted from the evidence was the need for Instructional designers or learning experts that must be involved with topics, modules, and course designs to avoid pitfalls and realize the full potential of this methodology (Bishop et al., 2013; Critz & Knight, 2013; 2014; Hermanns et al., 2016; Hew et al., 2018). Hermanns et al. (2016), together with Singla et al. (2016), advised ongoing mentoring and support to assist faculty members during the transition towards the flipped classroom paradigm. The findings of the study by Hermanns et al. (2016), proposed the importance of the pre-class lecture content as it prepares students with the common foundation of knowledge required for active and collaborative learning in the classroom. Therefore, the pre-class work must go through the approval of the curriculum committee before implementation (Bishop et al., 2013; Critz & Knight, 2013; 2014; Hew et al., 2018; McGivney-Burelle & Xue, 2013; McLaughlin et al., 2013; McLaughlin et al., 2014; Slomanson, 2014; Yeung & O'Malley, 2014).

Finally, assessment methods were changed to follow the F.C. framework. Teaching for application but testing primarily for knowledge will lead to disconnection and likely result in student dissatisfaction. Therefore, the body of evidence recommended the use of instructional designers to determine what content will transfer into a voice-over lecture and facilitate the curriculum design of in-class learning activities. Instructional designers provided the project with numerous individual- and group-based faculty development opportunities and also assisted faculty members in the paradigm change. Educators linked all pre-class and in-class activities to a database that allowed students the opportunity to view lectures and complete work before the class meeting day and time to promote student's success as we implemented a flipped classroom (Hurley & Olson, 2015).

**EBP Model: Ace Star Model of Knowledge Transformation**

The application of the Star Model of Knowledge Transformation helped to craft the framework for the preliminary implementation plan (see Appendix D). The data extracted from the evidence formed a clear line from synthesis to intervention, outcomes, and processes. The Ace Star Model identifies problem-focused areas; the implementation of the flipped classroom method expended upon the same tools that are used to assist in understanding the process of knowledge discovery and transformation in evidence-based practice (Geist, Larimore, & Rawiszer, 2015; Schwartz, 2014). The ACE Star Model used to implement the EBP course redesign FC project assists to comprehend the process of knowledge discovery and transformation (Geist et al., 2015; Schwartz, 2014). Knowledge transformation is a recurrent procedure that interchanges through discovery, summary, translation, integration, and evaluation. Thus, the model is used to convert knowledge from research findings to impact outcomes through evidence-based practices (Harrington et al., 2015). In conclusion, the ACE Star Model

of Knowledge Transformation was a useful instrument in developing and implementing the evidence-based approach.

**Change Model: Lewin's Stages of Change**

The Lewin's Stages of Change Model helped to cultivate an environment of inquiry and change and mold the preliminary implementation plan (see Table D1). With the Lewin's Stages of Change Model, core competencies of change arise from three steps: unfreezing, changing, and refreezing (Hussain, Lei, Akram, & Haider, 2016). The model represents the area to focus on when practical changes are needed. Lewin's change model identifies unfreezing to determine what change is needed. This was beneficial to help faculty ensure there was strong enough support from management to implement the needed changes and allowed for the management and understanding of the doubts and concerns of faculty (Hussain, Lei, Akram, & Haider, 2016). The change process helped the project move toward the new, desired outcomes and supported an environment to empower action. Part of this process, as identified in the Lewin's Stages of Change Model, was to develop ways to communicate often and involve people in the change process (Harrington et al., 2015). For example, professors are allowed academic freedom and are not obligated to abide by a particular lecture delivery style.

The college institutional rules on lecture style are vague and open for interpretation. However, the college is currently moving towards increasing the number of online courses offered and the VNG program chair has urged the faculty to develop innovative, interactive ways of teaching the students. This will align with the NCLEX-PN next gen impending changes that will be made to the NCLEX-PN examination. Therefore, faculty were encouraged to be involved in the F.C. implementation process. The early involvement helped to increase awareness of outcomes, observe students' feedback, and learn how to implement the F.C. into other courses as

well. Finally, in refreeze, the changes made to the organizational process, goals, and structure became the new norm. Part of this process, as delineated by Lewin's Model for Evidence-Based Practice, involved sustainability. Efforts occurred from the beginning to cement the flipped-classroom framework into the organization's culture to ensure the changes were not lost. Thus, the sharp outline from syntheses to sustainability will develop from the evidence (Geist et al., 2015; Harrington et al., 2015; Schwartz, 2014).

# Chapter 3

## Project Design and Methodology

A need to increase the program semester retention rates, meet the student's course evaluation feedback, requesting an alternative lecture delivery style, and increase critical thinking learning experiences of the VNG students inspired the course redesign. The role of workload and frequent quizzes is recommended to have a positive outcome on test scores and improving end of semester retention (Tune, Sturek, & Basile, 2013).

### Fully operationalized plan: The Organization

The organization is a two-year community college with three nursing campuses. The intervention was within the Vocational Nursing department. The Vocational Nursing (VNG) program is a three-semester diploma program. Upon successful completion of the program, graduates are eligible to take the NCLEX-PN exam to become Licensed Vocational Nurses (LVN). The program is one of merely two Vocational Nursing Programs in the state of Texas who hold a national accreditation status from the Accreditation Commission for Education in Nursing (ACEN). The program holds a 92% passing rate for the NCLEX-PN and 100% job placement for graduating students (Appendix F; ACC, 2019; BON, 2018). The approximately 12 full-time faculty and three adjunct faculty who teach within the VNG program hold a master's degree or higher and the Assistant Department chair co-developed the program and curriculum for the first Bachelor of Nursing program offered at a community college in Texas. The key stakeholders for this project included the Dean of Health Sciences, Pat Reck, department chair and assistant chair, VNG Medical-Surgical II faculty, VNG course nursing students, I.T. department liaison, instructional designers, and the curriculum committee chair.

## Course Description

This twelve-month Vocational Nursing Program involves three semesters of course work in the classroom and 256 hours of clinical training. Medical-Surgical Nursing II (VNSG 1332) is the third Medical-Surgical course in a three-semester sequence and is a prerequisite for graduation. This course is a "continuation of Medical-Surgical Nursing I with the application of the nursing process to the care of the adult patient experiencing medical-surgical conditions along the health-illness continuum in a variety of health care settings" (ACC Course Syllabus, 2019).In the five years before the course redesign, the VNSG 1332 course only used a traditional lecture format (see Appendix G), that was mainly taught over a 4-hour lecture and an occasional in class quiz or learning activity. Instructors used high stakes examinations to assess students' knowledge of lecture material; 85% of the questions were multiple-choice, while the remaining were multiple answers/select all that apply (ACC, 2017).

## Intervention

The flipped classroom implementation project plan was developed grounded on the synthesis of the evidence (see Appendix H). We offloaded (6) of the in-class lectures to 20-30-minute voice-over power point videos. We then used the scheduled class time for assessment activates, typically 2-3critical thinking exercises. The flipped classroom pilot occurred over the summer semester, from May 28, 2019–August 2, 2019. According to the research, when implementing a new EBP change educators must first restructure the course of the day so that the educator can provide learning in a new way. Therefore, evidence suggests pilot testing in a select number of F.C. educational areas before moving to widespread implementation. Therefore, we began the F.C. course redesign with a pilot testing. This proved to be useful in recognizing issues

of clinical applicability and feasibility that had an impact on future efforts when we implemented the widespread EBP project in the fall of 2019.

Before beginning the implementation, an intensive EBP-flipped classroom to train the trainer workshop was provided to the VNG faculty who volunteered to become flipped-classroom implementation champions (Bernard, 2015; Schlairet et al., 2014). The official implementation occurred in August–December 2019 within the VNSG 1332 course that was delivered to 23 third level VNG nursing students and met in a classroom in Austin, Texas. The scheduled course meetings were held on Monday mornings for16 weeks a total of 16 classes. The course consisted of three exams and a cumulative final exam. The course coordinator (J.H.) was responsible for developing and uploading the modular content using the VidGrid lecture capture software. Attendance in class was mandatory, and all course lectures were recorded using VidGrid students were able to log-in to the system at their convivence.

Lastly, faculty acknowledged that the FC method needed to have explicit instructions and expectations therefore a comprehensive FC syllabus was provided and reviewed with each student. The comprehensive FC syllabus consisted of a detailed explanation of the course. One modification from the pilot to the final implementation was the addition of a tips for success guide that we provided to the students with tips for success in the F.C. course. That This highlighted the expectations of the students while learning in a FC environment. The students signed a syllabus acknowledgment form that indicated they agree to actively engage in their learning and it was the responsibility of the student to review the voice over PowerPoint lectures prior to each class.

**Step 1: Develop a Lesson Plan**

The first step to developing an EBP course redesign is to develop a lesson plan, as it will serve as the manual to implementing the FC method. It detailed the expected learning outcomes, pre-class responsibilities, such as reviewing the VidGrid uploaded lecture videos, and in-class learning activities (build time into the lesson to allow students to learn and receive feedback), and in-class assessments. that will help to conclude if learners were meeting knowledge objectives. When we developed the lesion plan, we ensured the distribution of time could fluctuate in an effort to meet student learning needs and to accommodate activities that help the students to apply the higher level of learning concepts. Each class began with a 30-45 minutes at the beginning of class to review or clarify modular concepts introduced to students during their pre-class audio recorded lecture which may still be unclear. Having an hourly plan to coincide with the lesion plan allowed each class meeting to be productive and remain on schedule. The lesion plan and proved to be a valuable portion of the first step to implementing a F.C. framework.

**Step 2: Develop Pre-class Preparation**

Students prepared for the in-class meeting by reviewing uploaded PowerPoint voiceover videos as underpinnings for application in-class (Billings, 2016). An assortment of resources was used during the implementation of the F.C. and were available which assisted students in achieving foundational knowledge. One example was the use of a lecture capture software titled VidGrid © (Billings, 2016). VidGrid allowed assisting professor's and me to record a PowerPoint presentation that the students can view on their own time. Other learning activities used in the implementation included reading assignments, short nursing instructor made "mini-lectures, virtual assessment's, and simulations that are offered by the VNG students' textbook publishers.

**Step 3: Develop In-class learning activities**

The F.C. allocated in-class time to application activities such as case studies, one-minute papers, simulation scenarios, and group activities that prompted application and clinical decision making. It was the student's responsibility to review and listen to a pre-recorded lecture. Each lecture was available for one week before the beginning of the face-to-face meeting time. The student had ample time to review the lecture as well as the required reading before coming to class. Given that most undergraduate nursing courses have a three-hour time frame, every subject was tailored to fit every section. During the face-to-face course meeting time (three-hour course, 8 am–11 am), the course began with students filling out a 3x5 notecard and the professor will ask each student to state their first and last name on one side and a question or area which was their "muddiest point" found within their at-home learning. This notecard served as a tool to assess who needs more guidance, what areas I am finding a trend of students to be unclear on, and a record of attendance (Billings & Halstead, 2012). Another activity that was incorporated on the weekly meetings prior to the exam was to have the students complete a pre-quiz assessment for 20 minutes. Pre-quiz is the ungraded test that serves as a guide to areas of deficiency. The remaining 40 minutes was dedicated critical thinking exercises such as group case studies. Students each had a different case study based on the overall lecture. For example, if we are to discuss Endocrine Disorders, one group may have a case study on Addison's Disease while another group may have one on Hyperthyroidism. The second section was for presentation of the case studies, review of pathophysiology, signs, and symptoms along with nursing management. Studies have indicated that implementing this form of exercise can introduce learning through conversations and examples of real patient scenarios (Persky & McLaughlin, 2017). In the last hour of the class, students reviewed the "muddiest point" note cards and assessment activities would allow students who are tactile learners to gain an understanding of the material.

**Step 4: Provide Weekly Assessment Activates**

Assessment included suggestions from the body of evidence such as "the use of polling questions displayed on slides and audience response systems (in which students used a handheld remote control, often referred to as a "clicker," to respond to questions)." The assessment was also guided through student-led solutions to case studies. Other assessment techniques included activities such as a one-minute paper where students were asked a question related to the modular topic and projected to provide a written answer within 60 seconds (Billings, 2016).

**Step 6: Configuration of the Classroom**

Classrooms were configured each morning to facilitates communication, learning, and dialog, which is vital in a flipped classroom. Therefore, students had access to the Internet from handheld devices or computers in the computer lab to access VidGrid software. The classroom projection systems was configured in the center of the room to allow for all student to participate and collaborate in the discussion. Access to an e-learning platform—such as Blackboard—helped to facilitate progress monitoring. VNG students had access to Blackboard learning systems. The college provides the Blackboard system to all students. Within this system, they were able to obtain a file containing each module. Each course module included an objectives page outlining the learning expectations, goals, and outcomes for that lecture along with a link to the voice-over PowerPoint lecture.

**Step 7: Link to clinical learning experiences**

The relationship between classroom learning and clinical practice is the apex of the FC method (Billings, 2016). Therefore, we developed in class activities based on clinical scenarios gathered from clinical faculty. We also utilized live connections to clinical experiences via the ACC nursing programs' simulation program. VidGrid was used and is a featured system that is

added into the student's tuition and will not increase the cost overhead of the implementation project.

### Step 8: Post-class activities and evaluation

Evaluation of learning occurred after each class session. One evaluation method that proved to be effective, was to have students facilitate discussion and reflection online for practice tests after each module in order to confirm the student has attained the expected learning outcomes. We were able to incorporate a variety of evaluation approaches that reinforced the students at-home learning (see Figure 3).

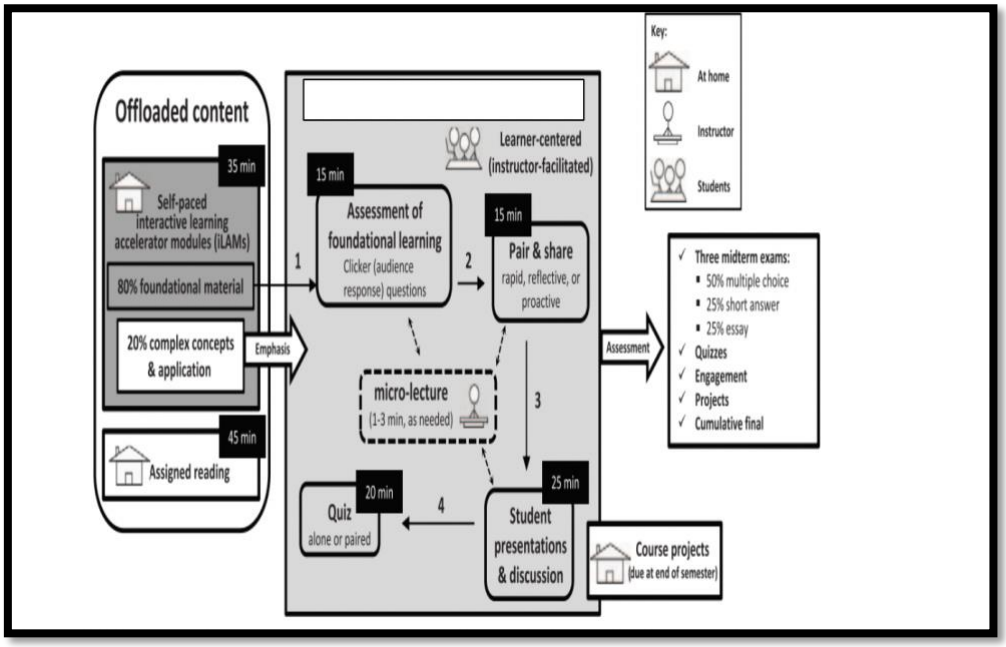



**Figure 2.** Flipped Classroom Learning Methods

### Logic Model

The logic model is the roadmap from implementation to sustainability. It is essential to guide the implementation process effectively and in the planning of the short term, medium, and

long-term outcomes of the EBP project. Within the logic, the model is the input that follows the steps of the EBP process, such as beginning with a culture of inquiry, literature search, synthesis and recommendations, and an implementation plan based on the evidence. Outputs were students meeting the criteria towards passing the course, opening the pre-recorded lectures, arriving to class with a foundation of knowledge for the day's lecture, understanding the importance of increasing retention, and reducing low course evaluations with a financial return on investment (See Appendix J). The short- and medium-term goals focused on increasing faculty understanding of the flipped classroom, while the long-term goal was to be sustainable, and increasing retention and ACEN benchmark scores.

### Project Approvals

The project approvals included the University of Texas at Tyler Program Ethics panel and assigned documentation of clearance forms, Organizational/agency Approval, Industry Mentor Contract, and approval (see Appendix K).

### Final Budget

The resources necessary for successful implementation of a nurse-driven faculty teaching framework is heavily based on labor cost, the project faculty, the hourly pay for one adjunct faculty, the project lead for who will facilitate assessment, course unloading of virtual voice lectures to the VidGrid system, and planning and evaluating the outcome data metrics. Faculty education and resources are accounted for in the budget plan (see Appendix K). Therefore, bringing the total cost to the college to $1200/LEH (Lecture Equivalent Hour), 1–2 LEH/semester course brought the projected total from $1,200–$2,200 per semester. However, this amount will double when the project manager is compensated for implementing the flipped classroom (see Table 2). Instructional designers or learning experts should be involved with the

topic, module, and course design to avoid pitfalls and realize the full potential of this methodology. Adjunct faculty or teaching assistants should facilitate all students' learning needs. A lesson map, learning objectives, and outcomes for each module as well as a flipped classroom guide, will be provided to students during the first-class meeting. The development of course expectations and directions handout for students will be provided online within the Blackboard learning system. The students will have the opportunity to access them anytime throughout the course. Access to technology for instructor and student technology requirements for students is a resource available to all faculty and students at the college.

**Data Collection Plan**

Data analysis metrics was plotted and updated in an excel spreadsheet then placed in a password-protected shared google drive file at the summation of each semester (Summer & Fall). The data progress will be reviewed and evaluated monthly.

**Data Analysis Plan and Process Markers**

During the implementation of the flipped classroom, ongoing monitoring for improved outcomes was captured weekly by the course instructor and submitted to the department chair for comparison against the ACEN benchmark and other surrounding Texas community college VNG programs on an annual basis. The collected data was on six primary standards (see Appendix I). A course evaluation administered before and after the implementation of the F.C. course occurred in the middle of the semester to record student progression and course grades. Another evaluation occurred after the semester to review outcomes. The goals of the course redesign were to (1) increase semester and program retention rates by improving students' learning; (2) engage

students and instructors throughout the learning process and (3) stimulate higher order thinking through the use of creative technologies and applications. The outcomes that apply to the DNP project are the retention rates of the Vocational Nursing students during their first semester of nursing school.

# Chapter 4

## Project Implementation, Outcomes, Impact, and Results

### Process Indicators

Data for this DNP project was collected and maintained by numerous processes. First, the submission of the data was obtained through the college's online grade center and sent to the department chair and Dean of Health Sciences for review. The department chair then compiled the data, which included semester retention and retention of the cohort from the initiation of the VNG program to graduation. The retention is reviewed for each course in each of the three levels of the VNG program monthly and each semester the data outcomes are discussed and deliberated concerning areas for improvement. The data for the F.C. implementation project was gathered using unidentified student files from analysis of the internal data based upon unidentified student records extracted from program files for two consecutive cohorts from summer 2019 to fall 2019. A total of 45 student records were identified, and all were tracked through the end of the final semester towards graduation.

### Project Results

#### Baseline

The EBP project goal was to increase the current 35% retention rate to 65% of student retention over one academic semester (See Table I1). The baseline student data was collected on students over five semesters from the fall of 2015 to the fall of 2017, and a total of 232 deidentified student data records were analyzed and tracked through graduation. The data indicated that during the five semesters, the retention rate has consistently averaged about 35%–40%, and the overall student retention to graduation was at 35% (ACC, 2015–17). Looking at the individual student's course average and overall course grades, 80% of the decline in retention is

occurring either in the student's first semester or the third and final semester of the three-semester VNG program. Therefore, the implementation of the course redesign was set to begin in the third and final semester in December of 2019

### Completion

After the summer semester, the VNG programs department chair, assistant department chair, the facility mentor, and myself reviewed the data from the previous semester's course grades and retention rates. We also looked at the data collected from the flipped classroom course grades, and retention data for the pilot flipped classroom Summer 2019 semester. The retention and course grades on final exams and course exams we analyzed displayed an 82.1% increase in the summer semester retention rates and a 62% increase in the fall semester retention rates. The course evaluations for VNG 1332, as well as the pre and post-course surveys, revealed significant improvements in student course satisfaction (ACC, 2019; See Appendix I).

## Barriers and Lessons learned

The barriers were considered and anticipated before the implementation of the project occurred and were evaluated with the notion to diffuse them prior to implementation with the goal of sustainability in mind. One barrier coincided with the changing of the course design, as the application of an F.C. had the potential to bring several trials for professors and students. One potential setback for professors is the was the workload at the start and during class. The faculty and I found most of the work in converting a course from a traditional teaching approach to an F.C. format occurred at the front-end, the investment from the faculty and myself was where most of the financial cost stemmed from (Margoniner, 2014). Another significant challenge was the cost as we needed additional faculty. Having a supplemental instructor (adjunct hourly faculty) for a class of more than 25 was necessary and recommended by the evidence to facilitate

and ensure students' learning needs are met (Margoniner, 2014). Evidence suggested some faculty may express a degree of discomfort related to the flipped classroom model implementation due to the fear of a decline in student attendance (Enfield, 2013; Freed et al., 2014). Although attendance was not an issue in this F.C. project. Some faculty observed students were not prepare for class, could not benefit from the analytical problem-solving and application exercises during the face-to-face class sessions (McLaughlin et al., 2014). Another challenge instructor commented was the students who lacked metacognitive and organizational skills struggled in FC and would eventually add to the high retention rate. (Margoniner, 2014).

**Data Collection and Analysis**

The following data was collected and analyzed on 23 third semester VNG nursing students

- Retention rates: fall 2014–fall 2018 compared to summer 2019 and fall 2019.
- Student beginning of semester versus the end of semester course evaluation surveys.
- Student course satisfaction survey using a five-point Likert scale.

**Outcome Measures**

The F.C. project went according to the implementation plan. In the fall of 2019, within the Advanced Medical-Surgical Nursing II course, the students were introduced to the flipped classroom method during a course orientation. During the orientation, students were given a F.C. handbook that included a detailed overview of a F.C., expectations of the F.C., tips on how to be successful in the F.C., course schedule with due dates of assignments, open and close dates of quizzes and a list of faculty numbers that included numbers to the organizations online help desk and the Information Technology (I.T.) department.

A lesson learned was the importance of follow-up, and evaluation pertaining to the students' compliance with reviewing the video recorded lectures prior to class. Therefore, in addition to the in-class ungraded assessment quiz, the students had a graded 20-question quiz due at least two hours before class began. Follow-up weekly update meetings were conducted one week before the semester among any co-faculty who were assisting in the course.

The driving force behind a change from the pilot F.C. implementation to the final F.C. implementation came from the evidence that recommended reducing the length of online videos and multimedia power-point presentations to encourage student engagement; thus, the prerecorded lecture videos were changed from one long lecture covering all material into multiple mini-lectures each no more than 20 minutes (Azemi, 2013; Critz & Knight, 2013; Gaughan, 2014; Guerrero et al., 2013; Kellogg, 2009; Schwartz, 2014; Slomanson, 2014; Toto & Nguyen, 2009; Van Veen, 2013). Limits suggested included under 10 minutes (Guerrero et al., 2013; Slomanson, 2014), between 10 and 15 minutes (Gaughan, 2014; Schwartz, 2014), or between 20 and 30 minutes (Azemi, 2013; Critz & Knight, 2013; Toto & Nguyen, 2009; Van Veen, 2013).

**Outcome Analysis: Project Completion Outcomes**

The end of semester data reflected the outcomes of the Implementation of the Flipped Classroom: An Evidence-Based, Course Redesign to Increase Retention Rates was collected and maintained by numerous processes. The data indicates there was an increase in student retention, student course satisfaction, improvement in critical thinking, and faculty cohesiveness within the course. The internal data collection process was summated at the end of the Fall 2019 semester and throughout the implementation of the F.C. The progress of the course was evaluated in the middle of the semester for student progression, course grades, and evaluation of student

anecdotal feedback. The course was then re-evaluated in December 2019 as the end of the semester. The goals achieved during the course redesign towards a flipped classroom framework were (1) we had an increase in semester and program retention rates by 79.4%, (2) completely engage students throughout the FC by improving students' learning and developing critical thinkers; and (3) the F.C. stimulated higher-level thinking through the use of creative technologies and applied assessments .

### Flipped Classrooms

The outcomes observed were in line with my evidence; student satisfaction within the course evaluations went from 20.3% to 72.1% over one semester. The data from August 2019 through December 2019 demonstrated an average percentage of 34.2% increase of students' collaborative learning opportunities, from one opportunity to seven opportunities a semester for kinesthetic hands-on collaboration during the summer and fall 2019 semesters (ACC, 2018). The students demonstrated an increase in critical thinking, which was assessed with a pre-class versus post-class fill in the blank quiz to assess an understanding of knowledge was achieved. The F.C had an increase in grades from pre-assessment, which had an average grade of 61%, compared to the post-assessment average grade of 91%. The increase in individual student semester exam grades, and therefore, increase in semester retention rates increased as well. For the summer semester, a rise of 45% (1) student withdrew, citing personal reasons within the exit interview. The outcome in the semester retention to graduation rate showed 79.4 % increase indicating project success.

### Retention Rates

The percentage of students who were retained upon completion of the EBP project The Flipped Classroom: An Evidence-Based Course Redesign to Increase Retention Rates went from

33.2% to 79.4%; overall, averaging an 85% increase in retention prevalence rates as compared to the previous five semesters (fall 2015–fall 2018) by implementing the FC Framework and using the EBP initiatives with a multi-teaching approach.

### Accreditation Commission for Education in Nursing ® (ACEN)

The organization is nationally accredited through the Accreditation Commission for Education in Nursing (ACEN). The program is required to submit data based on the six ACEN standards through an annual report. The report serves to demonstrate that the organization is continuing to meet the benchmark, which guides the curriculum. The program completion rate (percentage) for the 2015-2016 academic year was fifty-five percent. This was below the programs seventy percent Expected Level of Achievement (ELA) goal. However, December of 2019, the organization exceeded the standard mean at 86 percent. This was a significant outcome for the VNG program and a move toward the ACEN recommendations to develop and implement approaches to learning that will improve the program completion rate (ACEN, 2017).

### Financial Impact

Before the implementation of the EBP project, of the 50 students within the 16 cohorts from 2015-2018, we found an average of 5 students every semester who were not successful towards a subsequent semester; ultimately leaving the college with a loss of $40,350 - $171,475 ($1,614 - 34,295 x 5 students not retained) . Eventually saving the collage 382,652 dollars a year. Although for each student, one semester of the vocational nursing program may range from $1,615 for those who reside in district and up to $6,859 for the students who do not reside within the Austin city limits (see Appendix L). The credit hours taken within the VNG program are non-transferable unless program is completed. Therefore, the potential financial impact to the

student is a loss of time and finances that they will be ill equipped to procure. If the program were to retain the 5 students toward graduation, the total college would also retain an average of $8,075- $514,425 (loss for 5 students/semester =$121,050 - $171,475 x 3 semesters) over the three semesters depending on area of student residence. Therefore, the implementation of the Flipped Classroom: An Evidence-Based, Course Redesign to Increase Retention Rates project produced an outcome that reflected a substantial return on investments by retaining the students for the entirety of the semester. Thus, providing a reward for the college, VNG program and the nursing students.

# Chapter 5

## Project Sustainability, Conclusions and Dissemination

### Implications of Project Results

The project EBP plan was based on sustainability. The process markers and data collection were selected to increase retention. The project changed the organizational culture and allowed for the iterative process to move the VNG faculty from a PowerPoint lecture method towards an interactive learning environment by virtue of the flipped classroom method that follows an EBP method of teaching. In terms of student learning outcomes, the non-traditional teaching and learning method can encourage students to be in charge of their learning (Post, Deal, & Hermanns, 2015).

### Sustainability

Plans for sustainability include collaboration with the states 60x30TX rule. “In 2015, Texas launched 60x30TX, the state’s higher education strategic plan, which aims to position Texas among the highest achieving states in the country and maintain its global competitiveness. 60x30TX is entirely student-centered: its overarching goal is that 60 percent of young adults (25–34) in Texas will hold some type of postsecondary credential by 2030” (thecb, 2019). As a tool for sustainability, an F.C. committee has been formed and will hold monthly meetings to monitor progress, discuss barriers, and offer support/feedback. Another essential for sustainability will be the incorporation of the new F.C. standard of teaching method into the faculty mentor-mentee mentoring check form for new adjunct or full-time faculty. The new faculty mentoring style consists of all educator competencies to be defined by the organization as competent to educate and assess future nursing students. Therefore, monitoring the process and

outcomes periodically with the use of a pre-course quiz, preclass quiz and end of class quiz to assess the F.C. method is improving knowledge and reinforcing material learned at home.

## Project Recommendations

The DNP Project reflects a synthesis of all the knowledge and skills gained by an understanding of the EBP implementation to the sustainability process (ACEN, 2016). The last phase in the evidence-based practice implementation procedure is to disseminate the outcomes of the EBP change project. The Flipped Classroom: An Evidence-Based Course Redesign to Increase Retention Rates has been disseminated throughout the VNG program where it was implemented, and future plans have begun to implement the F.C. into other courses in the VNG program in the Fall of 2020. A poster presentation of the F.C. project will also be presented at the October 2020 Texas Association of Vocational Nurse Educators (TAVNE) in San Antonio. The final dissemination will be to send the project for publishing.

## Conclusion

In conclusion, the F.C. method can be more informative and engaging by enhancing the learning experience for nursing students in Medical/Surgical courses; however, there must also be a formal framework for implementation to reveal long-term learning gains. The Flipped Classroom: An Evidence-Based Course Redesign to Increase Retention Rates is projected to function as a guide to educators who are pursuing alternative methods of teaching as well as facilitate in the development implementaion, and evaluation of innovative strategies to improve retention rates (McLaughlin, 2014).

# Chapter 6

## DNP Practice-Scholar Role Actualization

### Role Impact

The F.C. course redesign project was a success as the F.C. framework has become the preferred teaching method within the level 3 faculty at the organization. While this does not mean all students will be successful in completion of the program or that the ACEN benchmark is fully achieved, it does mean that the F.C. framework method has initiated movement towards the increase of student retention outcomes within the VNG program. The F.C. has started to become the norm it is embedded into the end of program students learning outcomes (EPSLO's). Prior to the project implementation, significant training and mentoring was done with the adjunct who assisted in the implementation of the F.C. and were full abreast to the processes of the evidence-based practice process. I assessed the organizations culture of inquiry by sharing the background and significance providing the faculty data analysis of where we should be with our retention rates compared with the organizations current retention analysis and created an environment of inclusion were imperative in creating that culture of inquiry. The buy-in from the faculty into the F.C. process proved to be a crucial portion of the success of the F.C implementation. Through efficient leadership, the culture of the faculty shifted from being content to formulating activities and critical thinking application opportunities that can be incorporated into each course.

The Flipped Classroom: An Evidence-Based Course Redesign to Increase Retention Rates project has gone beyond that of increasing the programs retention rates, it has influenced a philosophy of unity to delivering the highest quality VNG nursing program and producing students who are critical thinkers without expanding the organization's annual expenses (Melnyk & Fineout-Overholt, 2015). The impact has been one of a changing culture which has influenced

another faculty toward empowerment and full buy in of the flipped classroom. Despite the new changes in the program, such as the evening/weekend distant learning program (DLC) VNG tract and faculty turnover rates continue to be low and sustainability has been at the core of the course redesign of learning initiatives for VNG students.

**Summary**

The role of the DNP is essential for evaluating the effectiveness of our teaching approaches while maintaining the ethical practice and quality of our program student learning outcomes (SLO's). The DNP graduate must, therefore, maintain the essentials outlined in the foundational competencies that are core to all advanced nursing practice roles and be profession clinicians who create unique approaches to complex issues facing modern health care.

References

Austin Community College. (2017). *Austin Community College-wide 2017 snapshot* Retrieved from http://www.austincc.edu/oiepub/initiatives/effectiveness/snapshot.pdf

Austin Community College. (2017). *Austin Community College* ACC Course Syllabus, 2019 Retrieved from https://drive.google.com/file/d/14K6cTXXz1mECOh_YZ2p7YTtf_7T53bO4/view

Austin Community College. (2019). *Austin Community College* ACC retention demographics, 2019 Retrieved from unidentified student data files.

American Association of the Colleges of Nursing. (AACN) (2011). Core competencies for interprofessional collaborative practice: Report of an expert panel. Inter-professional Education Collaborative, Washington, DC: Interprofessional Education Collaborative.

Betihavas, V., Bridgman, H., Kornhaber, R., Cross, M. (2016). The evidence for 'flipping out': A systematic review of the flipped classroom in nursing education. *Nurse Education Today 38* (1) 15-21. doi:10.1016/j.nedt.2015.12.010

Bishop, J. L., & Verleger, M. A. (2013). The flipped classroom: A survey of the research. In *ASEE National Conference Proceedings*, Atlanta, GA.

Billings, D.M., & Halstead, J.A. (2012). *Teaching in nursing: A guide for faculty*. St. Louis, MO: Elsevier/Saunders.

Billings, D.M. (2016). *Teaching in nursing: A guide for faculty*. St. Louis, MO: Elsevier/Saunders.

Blackboard™ [Computer software]. (ND). Washington, DC: Blackboard, Inc.

Commission on Collegiate Nursing Education (CCNE). (2009). *Standards for accreditation of baccalaureate and graduate nursing programs*. Washington, DC: American Association of Colleges of Nursing.

Critz, C.M., & Knight, D. (2013). Using the flipped classroom in graduate Nursing education. *Nurse Education 38* (5), 210-213. doi 10.1097/NNE.0b013e3182a0e56a

DeLozier, S., & Rhodes, M. (2017). Flipped Classrooms: A review of key ideas and recommendations for practice. *Journal of Professional Nursing 29*(1), 14. doi: 10.1007/s10648-015-9356-9

El-Banna, M., Whitlow, M., & McNelis, M. (2017). Flipping around the classroom: Accelerated Bachelor of Science in Nursing student's satisfaction and achievement. *Nurse Education Today* 56,41-46. doi: 10.1016/j.nedt.2017.06.003

Geist, M.J., Larimore, D., & Rawiszer, H. (2015). Flipped versus traditional instruction and achievement in baccalaureate nursing, pharmacology course. *Nursing Education Perspectives* 36(2), 114-115. doi: 10.5480/13-1255

Gillette, C., Rudolph, M., Kimble, C., Rockich-Winston, N., Smith, L., & Broedel-Zaugg, K. (2018). A meta-analysis of outcomes comparing flipped classroom and lecture. *American Journal of Pharmaceutical Education, 82*(5), 6898. doi:10.5688/ajpe6898

Greenwood, V., & Caroline Mosca, C. (2017). Flipping the nursing classroom without flipping out the students. *Nursing Education Perspectives 38*(6), 342-343. Retrieved from https://www.nursingcenter.com/journalarticle?Article_ID=4368834&Journal_ID=3332683&Issue_ID=4368417

Harrington, S., Bosch, M., Vanden Schoofs, N., Beel-Bates, C.,& Anderson, K. (2015). Quantitative outcomes for nursing students in a flipped classroom. *Nursing Education Perspectives* 36(3), 179-181. doi: 10.5480/13-1255

Hermanns, M., Post, J., & Deal, B. (2015). Faculty experience of flipping the classroom: Lessons learned. *Journal of Nursing Education and Practice 5*(10). doi: 10.5430/jnep. v5n10p79

Hew, K. F., & Lo, C. K. (2018). Flipped classroom improves student learning in health professions education: a meta-analysis. *BMC Medical Education*, *18*(1), 38. doi:10.1186/s12909-018-1144-z

Holman, R., & Hanson, A. (2016). Flipped classroom versus traditional lecture: Comparing Teaching models in undergraduate nursing courses. *Nursing Education Perspectives, 37*(6). doi: 10.1097/01.NEP.0000000000000075

Hussain, L., Akram, H., Muhammad, J., Hussain, H., & Ali, M. (2018).

Kurt Lewin's change model: A critical review of the role of leadership and employee involvement in organizational change. *Journal of Innovation & Knowledge, 3*(3), 123-127.doi: 10.1016/j.jik.2016.07.002

Institute of Medicine of the National Academies. (2010). The future of nursing: Focus on nursing education**.** Retrieved from https://www.nationalacademies.org/hmd/~/media/Files/Report%20Files/2010/The-Future-of-Nursing/Nursing%20Education%202010%20Brief.pdf

McGivney-Burelle, J., & Xue, F. (2013). Flipping calculus. *PRIMUS*, *23*(5), 477-486. doi: 10.1080/10511970.2012.757571

McLaughlin, J., Roth, M., Glatt, D., Gharkholonarehe, N., Davidson, C., Griffin, L., Esserman, D., & Mumper, R. (2013). Pharmacy student engagement, performance, and perception in a flipped satellite classroom. *American Journal of Pharmaceutical Education, 77*(9), Article 196. doi: 10.1097/ACM.0000000000000086

McLaughlin, J., Roth, M., Glatt, D., Gharkholonarehe, N., Davidson, C., Griffin, L., Esserman, D., & Mumper, R. (2014). The Flipped Classroom: A Course Redesign to Foster Learning and Engagement in a Health Professions School. *Academic Medicine* 89(2), 236-243. doi: 10.1097/ACM.0000000000000086

Melnyk, B., & Fineout-Overholt, E. (2015). *Evidence-based practice in nursing & healthcare: A guide the best practice.* (3rd edition). Philadelphia, PA: Lippincott, Williams & Wilkins.

Missidine, K., Fountain, R., Summers L., & Gosselin., K. (2013). Flipping the classroom to improve student performance and satisfaction. *Journal of Nursing Education*, 52(10), 597-599.doi: https://doi.org/10.3928/01484834-20130919-03

National League for Nursing (2010). *Outcomes and competencies for graduates of practical/vocational, diploma, associate degree, baccalaureate, master's practice doctorate, and research doctorate programs in nursing.* New York: Author.

Persky, A. M., & McLaughlin, J. E. (2017). The Flipped Classroom - From Theory to Practice in Health Professional Education. *American Journal of Pharmaceutical Education*, *81*(6), 118. doi:10.5688/ajpe816118

Post, J., Deal, B., & Hermanns, M. (2015) Implementation of a flipped classroom: Nursing students' perspectives. *Journal of Nursing Education and Practice*, 5(6), 2530.doi: 10.5430/jnepv5n6p25

Roehl, A., Reddy, S.L., & Shannon, G.J. (2013). The flipped classroom: An opportunity to engage millennial students through active learning strategies. *Journal of Family and Consumer Sciences*, 105(2), 44-49.

Simpson, V., & Richards, E. (2015). Flipping the classroom to teach population health: Increasing the relevance. *Nurse Education in Practice* 15(3), 162-167, Retrieved from https://doi.org/10.1016/j.nepr.2014.12.001

Singla, N., Saini, P., & Kaur, J. (2016). Evaluating the flipped Vs traditional teaching method on student nurse's performance. *International Journal of Community Health and Medical Research* 2(4), 30-37. doi: 10.21276/ijchmr.2016.2.4.06

Slomanson, W. R. (2014). Blended learning: A flipped classroom experiment. *Journal of Legal Education, 64*(1), 93. Retrieved from http://ssrn.com/abstract=2381282

Schwartz, T. (2014). Flipping the statistics classroom in nursing education. *Journal of Nurse Education and Practice, 53*(4), 199-206. doi:10.3928/01484834-20140325-02

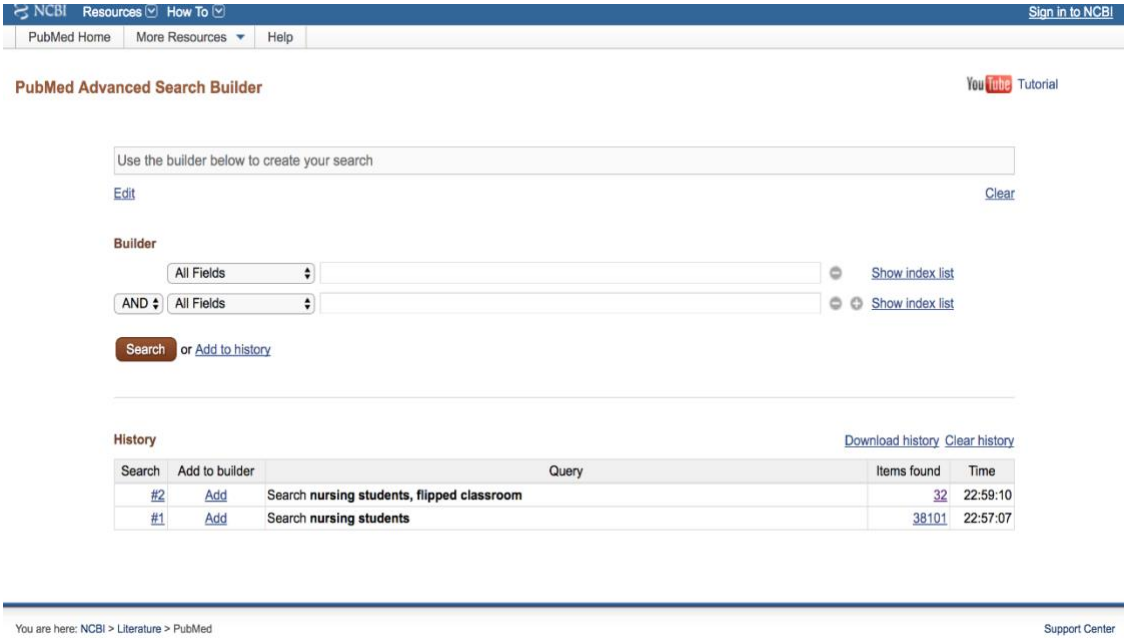
Tune, J., Sturek, M., & Basile, D. (2013). Flipped classroom model improves graduate student performance in cardiovascular, respiratory, and renal physiology. *Advances in Physiology Education, 37*(4), doi: http://dx.doi.org.ezproxy.uttyler.edu:2048/doi:10.1152/advan.00091.2013

Yeung, K., & O'Malley, P. J. (2014). Making 'the flip' work: Barriers to and implementation strategies for introducing flipped teaching methods into traditional higher education courses. *New Directions, 10*(1), 59-63. doi:10.11120/ndir.2014.00024

Zaccagini, M., & White, K. (2011). *The Doctor of Nursing practice essentials: A new model for advanced practice nursing.* Sudbury, MA: Jones and Bartlett Publishers.

Appendix A

Table 1A. PUBMED Search



Appendix A continued

Table 2A. CINAHL Search

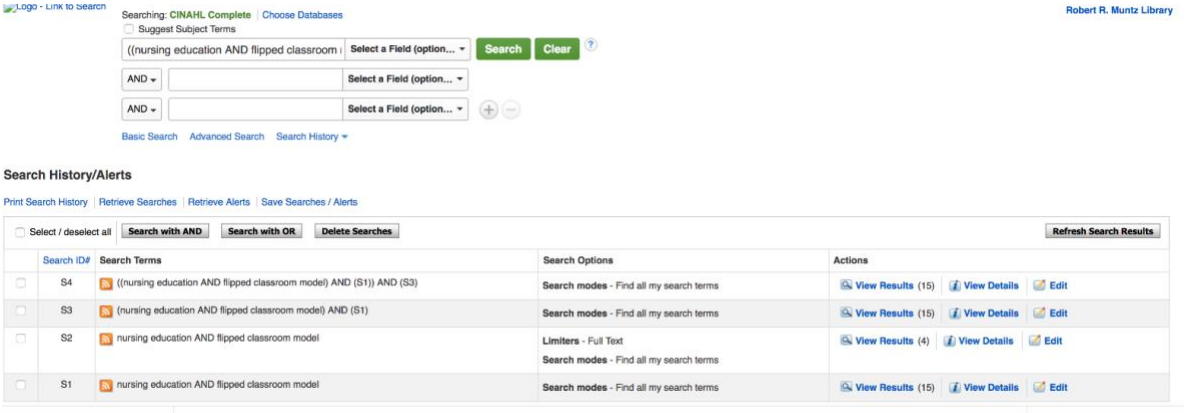


Table A3. Cochrane Library

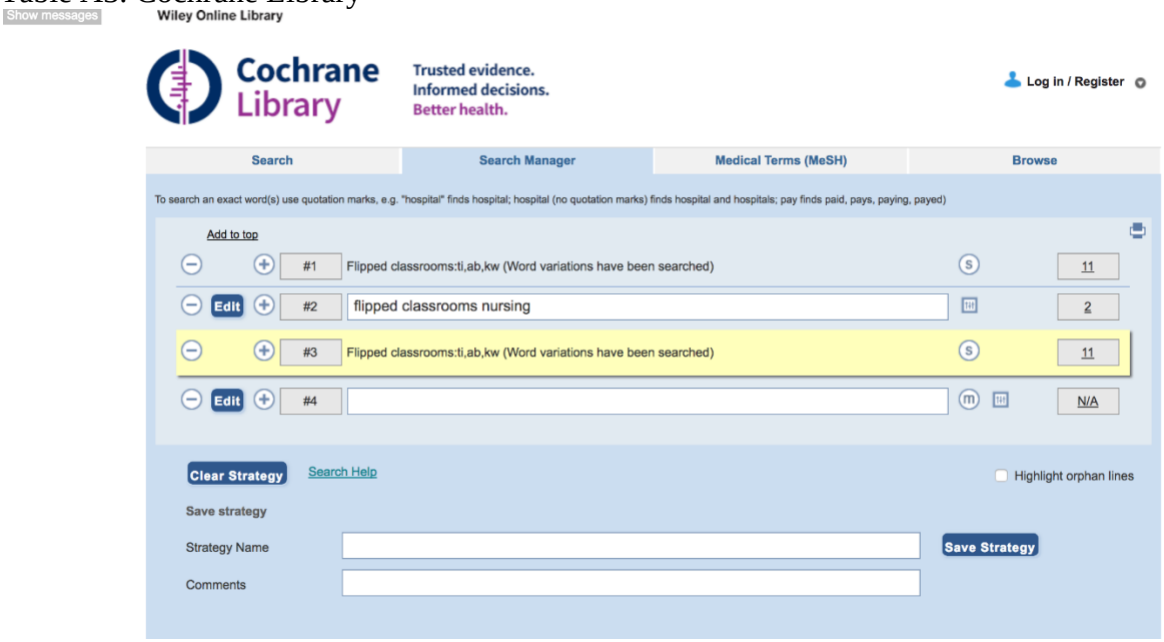
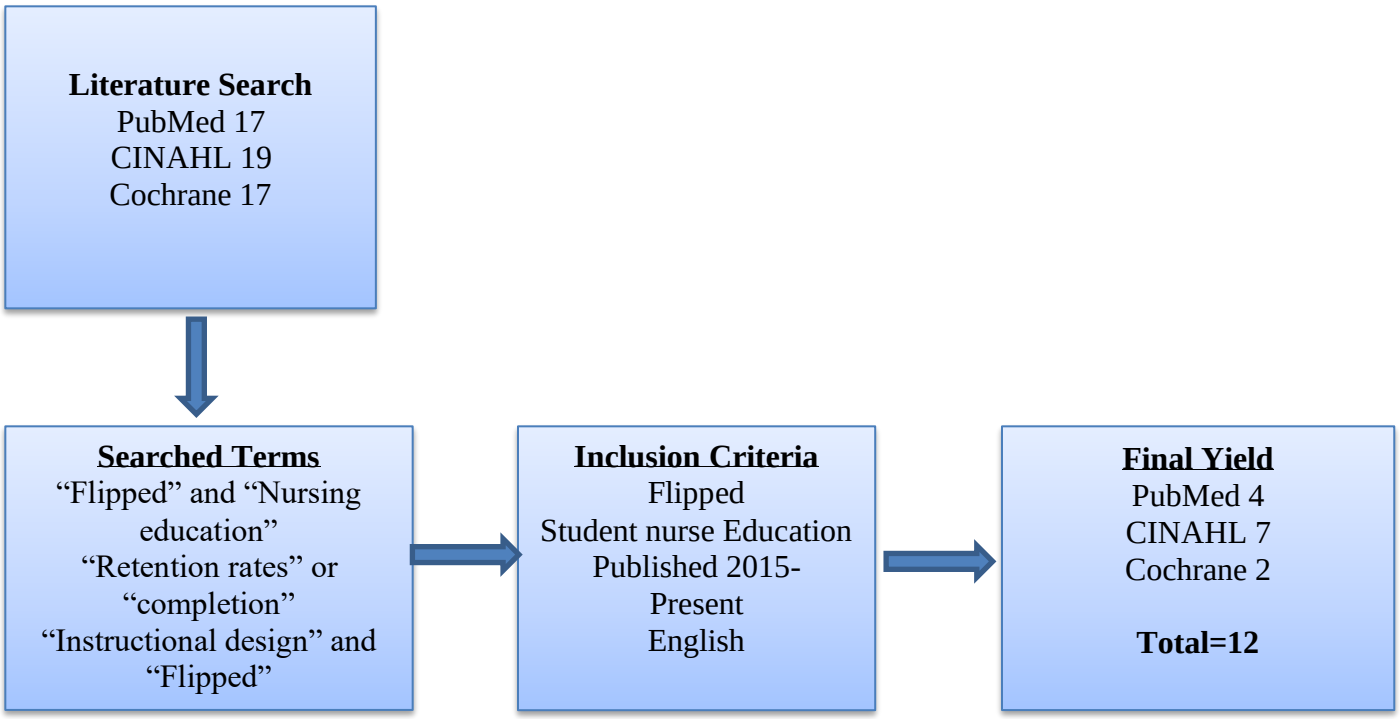


Table 2A. Systematic Search



Appendix B

**Evaluation Table Template**



Table 3B. Evaluation Table

| **Citation: author(s), date of publication& title** | **Purpose of Study** | **Conceptual Framework** | **Design/ Method** | **Sample/Setting** | **Major Variables Studied and Their Definitions** | **Measurement of Major Variables** | **Data Analysis** | **Study Findings** | **Appraisal of Worth to Practice Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses]) RECOMMENDATIONS** |
|---|---|---|---|---|---|---|---|---|---|
| 1.Betihavas, V., Bridgman, H. Kornhaber, R. Cross, M. (2016). The evidence for 'flipping out': A systematic review of the flipped classroom in nursing education. | Examine evidence of FC in NE and associated outcomes | None | **Design:** Level: I SR Systematic Review of clinical interventions. | **Asses:** (N=5) studies met the inclusion criteria and suitable for standard for SR.<br><br>5 studies involving 934 participants.<br><br>**Setting:** Higher education classrooms.<br><br>**Attrition rate:** NR | **Asses:** IV1: FC IV2: TC<br><br>DV1: NS DV2: SO, for FC | FC applied in NE. OC of FC and TC on examination grades. | RR | **APO:** 3/5 studies compared the academic performance of students participating in the FC to TC.<br><br>CINAL Studies reported ↓ test. | **LOE-I**<br>**Weakness:**<br>Small number of studies that meet the IC and QC.<br><br>Findings of Heterogeneity studies included in review meta-analysis.<br><br>**Strengths**<br>Limited number and heterogeneity of studies included.<br>provide a student-centered approach prepare nursing students to apply learning into practice.<br><br>**Conclusion**<br>-Flipped classroom in higher education yielded neutral or positive academic outcomes.<br>**RECOMMENDATION:**<br>Further research needed to examine the IP,<br>value of pre- and IC outcomes of FC.<br>-Examine refinement of flipped classroom in higher education. |

| **Citation: author(s), date of publication& title** | **Purpose of Study** | **Conceptual Framework** | **Design/ Method** | **Sample/Setting** | **Major Variables Studied and Their Definitions** | **Measurement of Major Variables** | **Data Analysis** | **Study Findings** | **Appraisal of Worth to Practice Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses]) RECOMMENDATIONS** |
|---|---|---|---|---|---|---|---|---|---|
| 2. Hew, K. F., & Lo, C. K. (2018). Flipped classroom improves student learning in health professions education: a meta-analysis. | To examine the outcomes of study examined the findings of comparative articles through a meta-analysis in order to summarize the overall effects of teaching with the flipped classroom approach. We focused specifically on a set of flipped classroom studies in which pre-recorded videos were provided before face-to-face class meetings. | None found | **Design:** Level: I Meta-analysis | Using predefined study eligibility criteria, seven electronic databases were searched in mid-April 2017 for relevant articles. Methodological quality was graded using the Medical Education Research Study Quality Instrument (MERSQI). Effect sizes, heterogeneity estimates, analysis of possible moderators, and publication bias were computed using the COMPREHENSIVE META-ANALYSIS software | **Asses:** IV1: FC and team-based learning<br><br>DV1: Learning outcomes | Convenience sample of n = 64 and n = 93 third year undergraduate nursing students | ARI<br>OR | A meta-analysis of 28 eligible comparative studies (between-subject design) showed an overall significant effect in favor of flipped classrooms over traditional classrooms for health professions education (standardized mean difference, SMD = 0.33, 95% confidence interval, CI = 0.21–0.46, $p < 0.001$), with no evidence of publication bias. In addition, the flipped classroom approach was more effective when instructors used quizzes at the start of each in-class session. More respondents reported they preferred flipped to traditional classrooms. | **LOE-I**<br>**Weakness:**<br>-Small number of studies that meet the IC and QC.<br><br>-Found no Level 1 evidence.<br><br>-Findings of Heterogeneity studies included in review meta-analysis<br>-No studies examined the process and ongoing evaluations.<br><br>**Strengths**<br>-Limited number and heterogeneity of studies included.<br>-results indicate the potential for the flipped classroom to transform nursing education.<br>-provide a student-centered approach<br>-prepare nursing students to apply learning into practice.<br><br>**Conclusion**<br>-Flipped classroom in higher education yielded neutral or positive academic outcomes.<br><br>**RECOMMENDATION:**<br>- An additional benefit was the opportunity to remediate, when needed. |
| 3. Gillette, C., Rudolph, M., Kimble, C., Rockich-Winston, N., Smith, L., & Broedel- | a synthesis and meta-analysis of intervention studies | none | **Design:** Level: I meta-analysis | At the end of each of the 2 semesters, we polled students (n = 20) about their | **Asses:** IV1: FC IV2: TC<br><br>DV1: NS | Six studies were included in the | OR | Meta-analysis findings indicate there was not a statistically significant difference on final examination | **LOE-I**<br>**Weakness:**<br>-Small number of studies that meet the IC and QC. |

| **Citation: author(s), date of publication& title** | **Purpose of Study** | **Conceptual Framework** | **Design/ Method** | **Sample/Setting** | **Major Variables Studied and Their Definitions** | **Measurement of Major Variables** | **Data Analysis** | **Study Findings** | **Appraisal of Worth to Practice Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses]) RECOMMENDATIONS** |
|---|---|---|---|---|---|---|---|---|---|
| Zaugg, K. (2018). A Meta-Analysis of Outcomes Comparing Flipped Classroom and Lecture. | investigating the evidence of the effectiveness of flipped classroom compared to traditional lecture. | | Authors of team-based learning reviews report that team-based learning improves students' end of course grades, test performance, and classroom engagement. | satisfaction with the flipped classroom approach. | DV2: SO for FC | qualitative synthesis and five were included in the quantitative synthesis. | | scores comparing the two educational models in observational study designs (WMD=2.90, 95% Confidence Interval (CI): -0.02-5.81, *p*=.05). The $I_2$ statistic ($I_2$=91%) indicates high heterogeneity among the studies and the funnel plot indicates asymmetry in the analysis (results not shown). However, an ad hoc analysis which added the Anderson and colleagues' study to the quantitative synthesis found a significant difference in favor of flipped classroom (WMD=3.44, 95% CI=0.60-6.27, *p*=.02). | -Found no Level 1 evidence.<br><br>-Findings of Heterogeneity studies included in review meta-analysis<br>-No studies examined the process and ongoing evaluations.<br><br>**Strengths**<br>-Limited number and heterogeneity of studies included.<br>-results indicate the potential for the flipped classroom to transform nursing education.<br>-provide a student-centered approach<br>-prepare nursing students to apply learning into practice.<br><br>**Conclusion**<br>-Flipped classroom in higher education yielded neutral or positive academic outcomes.<br><br>**RECOMMENDATION:**<br>- Further research needed to examine the IP, value of pre- and IC outcomes of FC. |

| **Citation: author(s), date of publication& title** | **Purpose of Study** | **Conceptual Framework** | **Design/ Method** | **Sample/Setting** | **Major Variables Studied and Their Definitions** | **Measurement of Major Variables** | **Data Analysis** | **Study Findings** | **Appraisal of Worth to Practice Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses]) RECOMMENDATIONS** |
|---|---|---|---|---|---|---|---|---|---|
| 4. Critz and Knight (2013). Using the flipped classroom in graduate nursing education | To test the flipped classroom model as a strategy to energize and engage nursing students in new and more meaningful ways | None | **Design:** Evaluation results from 2 classes of graduate students (a total of 20 students) taking our pediatric course in the Family Nurse Practitioner program i | N = 20 Graduate students in the Family Nurse Practitioner Program | **Asses:** IV1: FC<br><br>DV1: Learning outcomes | Descriptive frequencies | AR | 100% considered the content worthwhile or very worthwhile. Evidence-based articles and short lectures are particularly useful. 95% positive for out-of-class readings 85% felt that level of quizzes is appropriate. | **LOE-II**<br>**Weakness:**<br>-Small number of studies that meet the IC and QC.<br><br>-Found no Level 1 evidence.<br><br>-Findings of Heterogeneity studies included in review meta-analysis<br>-No studies examined the process and ongoing evaluations.<br><br>**Strengths**<br>- Flipped classroom group performed significantly better (p b 0.001) than traditionally taught group on all three unit tests.<br><br>**Conclusion**<br>-Flipped classroom in higher education yielded neutral or positive academic outcomes. |

| **Citation: author(s), date of publication& title** | **Purpose of Study** | **Conceptual Framework** | **Design/ Method** | **Sample/Setting** | **Major Variables Studied and Their Definitions** | **Measurement of Major Variables** | **Data Analysis** | **Study Findings** | **Appraisal of Worth to Practice Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses]) RECOMMENDATIONS** |
|---|---|---|---|---|---|---|---|---|---|
| 5. Singla, N., Saini., and Kaur, J., (2016).Evaluating the flipped Vs traditional teaching method on student nurse's performance. | A quasi experimental (non-randomized Pretest-Posttest control group) design was used to assess the efficacy of flipped classroom method with traditional teaching method on student nurses' performance. | none | **Design:** Mixed methods systematic review<br><br>73 Nursing students divided into two groups | IV: students<br><br>DV: Positive impact on behavioral, exam grades, attitudinal, relational and motivational outcomes (outcome variable) | Qualitative synthesis | Descriptive | Positive impact of | Percentage, mean, standard deviation, t-test and ANOVA were used for describing the findings of the study. Table 1 depicts that in both the groups, most of the subjects were female belonging to age group 21-25 years with mean age 21.2 + 3.12 in Traditional teaching method and 20.3 + 3.09 in Flipped classroom method. Most of the subjects 18 (51.5) and 22 (57.8) passed with CBSE board of examination in both Group A and B. The qualification of mother 22 (57.9) and 15 (42.9) was matric to secondary education and fathers 13 (37.2) and 18 (47.2) were graduate and above in both groups | **LOE**: I<br>**Weakness:**<br>were mitigated by involving the four reviewers independently during the selection and extraction stages.<br><br>**Strengths:**<br>Limited number and heterogeneity of studies included.<br><br>**Conclusion:**<br>Flipped classroom in higher education yielded neutral or positive academic outcomes.<br><br>**RECOMMENDATION:**<br><br>learning material was not evaluated. There was no evaluation on whether students who spent more time on online learning material performed better in the flipped environment or students who put their own efforts for learning spent more time on online learning material. It was assumed that all the students had an access to internet services and all were using smart phones. The study was limited to a particular topic which may be of less interest to the undergraduate nurses.<br>**NOTES:**<br>quantitative outcomes for nursing students in a flipped classroom, that the aim was to objectively compare learning outcomes of two pedagogies as measured via exam questions. |

| **Citation: author(s), date of publication& title** | **Purpose of Study** | **Conceptual Framework** | **Design/ Method** | **Sample/Setting** | **Major Variables Studied and Their Definitions** | **Measurement of Major Variables** | **Data Analysis** | **Study Findings** | **Appraisal of Worth to Practice Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses]) RECOMMENDATIONS** |
|---|---|---|---|---|---|---|---|---|---|
| 6. Geist et al. Flipped versus Traditional instruction and Achievement in a Baccalaureate Nursing Pharmacology Course.(2015). | To test the effects of the flipped classroom on knowledge acquisition | None | **Design:** Level 4 quasi-experimental design Pre-test–post-test non-equivalent control group | Control group (traditional teaching) *n* = 40 Treatment group (flipped classroom) *n* = 46 Undergraduate nursing students enrolled in consecutive semesters | IV: HESI TS<br><br>DV: NS | FC introduced to 2 cohorts in BSN program.<br><br>1 semester in Pharm II course used 2 pedagogical approaches. | RR | CG= 40 students enrolled in a required Pharmacology II course in fall 2012, average upper (GPA) of 3.8, with a mid-curricular Health Education Services, Inc. (HESI) exam score of 965. The treatment group, 46 students enrolled in the identical course in spring 2013, had an average upper division admitting GPA of 3.7, with a mid-curricular HESI score of 911. | **LOE-VI**<br><br>**Weakness:**<br>- Statistical analysis using the HESI mid-curricular exam as a covariate confirmed findings of no difference in performance for the final exam.<br><br>**Strengths**<br>- CH participating in the flipped classroom treatment performed better on the three-unit tests during the course. incorporating the four principles of HPL instructional design, the<br><br>**Conclusion**<br>- flipped classroom model provided a learning environment structured for deeper understanding of nursing concepts.<br><br>**RECOMMENDATION:**<br>- Further research needed to examine the IP, value of pre- and IC outcomes of FC.<br>-Examine refinement of flipped classroom in higher education.<br><br>**NOTES:**<br>This is an emerging pedagogy that supports the development of individual capabilities in complex environments and emphasizes the importance of turning the classroom over to the student |
| 7. Greenwood, V. and Caroline Mosca, C., (2017). Flipping the Nursing Classroom | Quasiexperimental design What is the | Theoretical framework of | **Design:** QE-level II used to answer the | Sample: Convenience sample of junior NS. Total | IV 1: FC IV2: TS<br><br>DV1: NS | FC were the students instructed | OR RR | An independent samples t-test was calculated and showed a statistically | **LOE-II**<br><br>**weakness':** |

| **Citation: author(s), date of publication& title** | **Purpose of Study** | **Conceptual Framework** | **Design/ Method** | **Sample/Setting** | **Major Variables Studied and Their Definitions** | **Measurement of Major Variables** | **Data Analysis** | **Study Findings** | **Appraisal of Worth to Practice Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses]) RECOMMENDATIONS** |
|---|---|---|---|---|---|---|---|---|---|
| without Flipping Out the Students. | relationship between a flipped class-room and test scores in pre-licensure baccalaureate nursing students? | Heutagogy | following research question: What is the relationship between a flipped class- room and test scores in pre-licensure baccalaureate nursing students? | number of subjects= 215.<br><br>Setting: Private woman's nursing school/college. N= 169 | | on expectations? | | significant average increase of 8.04 points after the change in instruction ($p < .001$). | - flipped classroom model provided a learning environment structured for deeper understanding of nursing concepts.<br>-challenging to implement, as it requires ongoing adjustments to instruction<br>**Strengths**<br>- better prepare students to embrace leader- ship roles in practice and is a direction for further research<br><br>**Conclusion**<br>-results of this study will help guide and advance the science of nursing education<br><br>-establish a stronger correlation between student outcomes and active learning techniques.<br><br>-can cause initial student dissatisfaction.<br><br>**RECOMMENDATION:**<br>- Further research needed to examine the IP, value of pre- and IC outcomes of FC.<br>**NOTES:**<br>-Examine refinement of flipped classroom in higher education |
| | | | | | | | | | |

| **Citation: author(s), date of publication& title** | **Purpose of Study** | **Conceptual Framework** | **Design/ Method** | **Sample/Setting** | **Major Variables Studied and Their Definitions** | **Measurement of Major Variables** | **Data Analysis** | **Study Findings** | **Appraisal of Worth to Practice Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses]) RECOMMENDATIONS** |
|---|---|---|---|---|---|---|---|---|---|
| 8. DeLozier, S. and Rhodes, M. (2016). Flipped Classrooms: A review of Key Ideas and Recommendations for Practice | Discuss the range of approaches to the flipped classroom and focus on activities frequently used in these settings. | None | **Design:** Expert opinion | Sample: 145 first year nursing students in an ADN program.<br><br>Setting: Community college nursing programs | IV: Goal directed FC implementation<br><br>DV1: NS<br>DV2: ES | In class activates | Frequency | 44 vs. 25 % of students were more likely to correctly answer | **LOE-VII**<br>**Weakness:**<br>- Benefits of group clickers depend on the size of the group.<br><br>**Strengths**<br>- incorporating the principles FC instructional design, the exam grades improved.<br><br>**Conclusion**<br>- Students would put course material on the internet, thus violating the copyright, privacy and HIPPA regulations.<br>**RECOMMENDATION:**<br>- Future research should focus on examination of the individual components of a flipped classroom.<br><br>**NOTES:**<br>Results support that the flipped approach was a useful instructional pedagogy. |

| **Citation: author(s), date of publication& title** | **Purpose of Study** | **Conceptual Framework** | **Design/ Method** | **Sample/Setting** | **Major Variables Studied and Their Definitions** | **Measurement of Major Variables** | **Data Analysis** | **Study Findings** | **Appraisal of Worth to Practice Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses]) RECOMMENDATIONS** |
|---|---|---|---|---|---|---|---|---|---|
| 9. El-Banna, M., Whitlow, M. and McNelis, M. (2016). Flipping around the classroom: Accelerated Bachelor of Science in Nursing student's satisfaction and achievement | Examine differences on exam scores and satisfaction of teaching between a 3-week FC and TC approach. | None | **Design:** Mixed methods, crossover repeated measures design.<br><br>76 ABSN students enrolled in two separate sections After six weeks of traditional classroom, students in Section 1 (n = 36) were taught using the flipped classroom approach for three weeks (period 1) while Section 2 (n = 40) continued with the traditional instruction | Control group (traditional teaching) Section 1 (*n* = 36) taught using the flipped classroom for 3 weeks Treatment group (flipped classroom) sectio n 2 (*n* = 46) Undergraduate nursing students enrolled in consecutive semesters<br><br>Setting: Private school of nursing located in the eastern United States. | IV1: FC<br>IV2: ABSN Students<br><br>DV: ES | Two separate sections of a NC received either a 3-wees of FC or TC.<br><br>Two exam scores measured knowledg e. | RR<br>Data were analyzed using the Statistical Analysis System (SAS version 9.4, SAS Institute Inc., Descriptive statistics (means, standard deviation, percentages , rank sum test was used to examine the differences on exam scores and satisfaction between teaching approaches and sections. | Students in the flipped classroom achieved significantly higher scores on the first Pharmacology exam than students in the traditional classroom, but there was no significant difference on the second exam. Three themes emerged from focus groups on student perception of integrating the flipped approach: don't fix what isn't broken; treat me as an adult; and remember the work is overwhelming. | **LOE-V**<br><br>**Weakness:**<br>- Benefits of group clickers depend on the size of the group.<br><br>**Strengths:**<br>- CH participating in the flipped classroom treatment performed better on the three-unit tests during the course. incorporating the four principles of HPL instructional design, the<br><br>**Conclusion**<br>- Comprehensive research on flipped classrooms is still in a nascent stage.<br><br>**RECOMMENDATION:**<br>- Future research should focus on ways to maintain the integrity of the course work that is published for flipped classroom model of teaching.<br><br>-Both traditional and flipped classroom approaches successfully prepared students for the Pharmacology exams.<br>**NOTES:**<br>-Results support the use of the flipped approach, judicious use of this instructional pedagogy with dense or difficult content, particularly in accelerated programs, is recommended.<br><br>-Instructors should also provide students with enough information and rationale for using the flipped classroom approach. |

| **Citation: author(s), date of publication& title** | **Purpose of Study** | **Conceptual Framework** | **Design/ Method** | **Sample/Setting** | **Major Variables Studied and Their Definitions** | **Measurement of Major Variables** | **Data Analysis** | **Study Findings** | **Appraisal of Worth to Practice Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses]) RECOMMENDATIONS** |
|---|---|---|---|---|---|---|---|---|---|
| 10. Harrington et al. (2015). Quantitative outcomes for nursing students in a flipped classroom. | To objectively compare learning outcomes of two pedagogies | None | **Design:** Experimental design using a randomized convenience sample | N: Control group (traditional teaching) *n* = 41 Treatment group (flipped classroom) *n* = 41<br><br>Setting: Undergraduate medical–surgical nursing course | IV: Traditional teaching<br><br>DV: Flipped classroom | Both groups' performance measured by three exams, 24 quizzes, and 1 written paper | RR | Descriptive and inferential statistics (t-tests, confidence intervals, equivalence intervals, MANCOVA) | **LOE-V**<br>**Weakness:**<br>- Benefits of group clickers depend on the size of the group.<br><br>-Unclear implementation information discussed.<br><br>**Strengths**<br>- CH participating in the flipped classroom treatment performed better on the three-unit tests during the course. incorporating the four principles of HPL instructional design, the<br><br>- Comprehensive research on flipped classrooms is still in a nascent stage.<br>**Recommendation:**<br>- Future research should focus on<br><br>**NOTES:**<br>• No significant differences between groups on any of the learning outcome measures. |
| 11. Hermanns, M., Post, J. Deal, B. (2015). Faculty experience of flipping the classroom: Lessons learned | Take the Medical-Surgical curriculum to new levels of learning through recorded lectures and simulated | None | **Design:** Controlled trial, Pretest-posttest design of 2 groups Purpose: Evaluate if faculty | N: 6 (faculty members<br><br>Setting: public university in the southern United States | IV: NF<br><br>DV:FC | Qualitative data were collected through focus groups interviews. | Chi-square test 90% CI Relative Risk Multivariable analysis | Descriptive phenomenological research study. Conducted over concurrent fall and spring semesters | **LOE-III**<br><br>**Weakness:**<br>- Benefits of group clickers depend on the size of the group.<br><br>-Unclear implementation information discussed.<br><br>**Strengths** |

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|---|---|---|---|---|---|---|---|---|---|
| | critical thinking hands on activities by FC. | | perspective on FC . | | | | | | - CH participating in the flipped classroom treatment performed better on the three-unit tests during the course. incorporating the four principles of HPL instructional design, the<br><br>**Conclusion**<br>- Comprehensive research on flipped classrooms is still in a nascent stage.<br>**Recommendation**<br>- Future research should focus on |
| 12. Holman, R., and Hanson, A. (2016). Flipped Classroom Versus Traditional Lecture: Comparing Teaching Models in Undergraduate Nursing Courses. | Purpose was to analyze the effect of the FM on student learning and to evaluate student perceptions. | None | **Design: Level** Descriptive study utilized design that included both quantitate and qualitative data collection methods. | N=119<br><br>Setting: Community college | IV1: FC<br>IV2: TC<br>DV: Mean Grade | Course examination averages for each student were determined.<br><br>16-item questionnaire was assessed using Cronbach's coefficient alpha. | OR<br>The level of significance was set at *p*=00.5 | The change in student mean grade was small but reflects an additional 47 students achieving passing grades over the course of the study in a FC. | **LOE-II**<br>**Weakness:**<br>- Classroom infrastructure, students who may have limited access to high-speed internet.<br>-<br>**Recommendation**<br>- Future research should focus on academic performance outcomes. |
| 13. Missidine, K., Fountain, R., Summers L., and Gosselin., K. (2013). Flipping the classroom to improve student Performance and Satisfaction | To determine the effects of a flipped classroom on academic success and satisfaction | None | **Design: Level II** Quasi-experimental design | Convenience sample $N = 589$ of undergraduate nursing students enrolled over three consecutive semesters | IV: LCI (FC)<br><br>DV: SS | Average examination scores<br><br>16-item faculty developed | RR<br>ANOVA, Kruskal–Wallis test, z-score<br>Level of significance | Average grade scores are significantly higher ($p < 0.001$) for the flipped classroom group compared to the other two groups. Students were | **LOE-II**<br>**Weakness:**<br>- limited by problems of infrastructure, including classroom availability and limited access to high-speed Internet by rural students. |

| **Citation: author(s), date of publication& title** | **Purpose of Study** | **Conceptual Framework** | **Design/ Method** | **Sample/Setting** | **Major Variables Studied and Their Definitions** | **Measurement of Major Variables** | **Data Analysis** | **Study Findings** | **Appraisal of Worth to Practice Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses]) RECOMMENDATIONS** |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Group 1 (lecture only) *n* = 130 Group 2 (lecture + lecture capture) *n* = 129 Group 3 (flipped classroom) *n* = 186 | | satisfaction survey using a 4-point Likert scale (75.55% response rate) | was set at p = 0.05 (two-tailed). | significantly less satisfied with the flipped classroom approach compared to the other two groups. | **Strengths**<br>- Strong method of blinding small sample from large university.<br>-Advantages of context = four changes for nursing education recommended by Benner et al. (2010)<br><br>**Feasibility:**<br>-flipped classroom and interactive classroom activities can result in improved learning;<br>**Recommendation**<br>- student satisfaction not a good indicator of learning. |

Appendix C

Table 4C. *Synthesis of Level of Evidence Tables*

| Type of Evidence | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Level I: Systematic review or meta-analysis | **X** | **X** | **X** | | | | | | | | | | |
| Level II: Randomized controlled trials (includes Quasi-Experimental Studies) | | | | | | | **X** | | | | | | |
| Level III: Controlled trials without randomization | | | | | | | | | | | | | |
| Level IV: Case-control or cohort study | | | | **X** | **X** | | | **X** | **X** | **X** | | | |
| Level V: Systematic review of qualitative or descriptive studies | | | | | | | | | | | | **X** | **X** |
| Level VI: Qualitative or descriptive study (includes evidence implementation projects) | | | | | | | | | | | **X** | | |
| Level VII: Expert opinion or consensus | | | | | | **X** | | | | | | | |

1= Betihavas 2016; 2= Hew et al.,2018; 3= Gillette et al., 2018; 4= Critz and Knight 2013; 5 = Singla 2016; 6= Geist et al.2015; 7= Greenwood et al., 2017; 8= DeLozier, et al., 2016; 9= El-Banna et al., 2016; 10= Harrington et al., 2015; 11= Hermanns, et al., 2015; 12= Holman et al., 2016; 13=Missidine et al., 2013; ES= Exam Scores; RR= Retention Rates, NE= Not evaluated; FCF=Flipped Classroom Framework;

Table 5C. Outcome of Flipped classroom

| **Intervention based on evidence** | **Pre class Learning Strategies** | | **In Class Learning Strategies** | |
|---|---|---|---|---|
| | Faculty increase time and resources for preparation of the flipped classroom. | Voice over PowerPoints<br><br>Teaching videos<br><br>Interactive online modules<br><br>Self-directed readings<br><br>Pre-recorded Lectures made available to students one week before class. | In class instructional assistant | 10 min student and faculty lectures.<br><br>Applied active learning strategies (case studies and nursing intervention strategies)<br><br>Immediate feedback<br>Weekly quizzes<br><br>Group problem solving<br><br>Simulation |
| **2** | ES↑<br>RR↑ | ES↑<br>RR↑ | ES↑<br>RR↑ | ES↓** |
| **3** | ES ↑ | ES ↑ | ES↑<br>RR↑ | ES ↑ |
| **6** | ES ↑ | -- | ES ↑ | ES ↑ |
| **7** | -- | ES ↑ | ES ↑ | ES ↑ |
| **8** | ES ↑ | ES ↑ | ES ↑ | ES ↑ |
| **9** | ES ↑ | ES ↑ | ES ↑ | ES ↑ |

1= Betihavas 2016; 2= Hew et al.,2018; 3= Gillette et al., 2018; 4=Critz and Knight 2013;5 = Singla 2016; 6= Geist et al.2015; 7= Greenwood et al., 2017; 8= DeLozier, et al., 2016; 9= El-Banna et al., 2016; 10= Harrington et al., 2015; 11= Hermanns, et al., 2015; 12= Holman et al., 2016; 13=Missidine et al., 2013; ES= Exam Scores; RR= Retention Rates, NE= Not evaluated; FCF=Flipped Classroom Framework;

Table 6C. Flipped Classroom versus Traditional Classroom Teaching outcomes

| Effect | Study number | | |
|---|---|---|---|
| **Student Retention** | **4**<br>Retention and student's final exam scores are linked – as flipped classroom increased understanding of material increases over long term (beginning-end of semester). | **13**<br>88% retention to completion of VNG program and noted 2% increases in exam scores in adult health nursing courses | **10**<br>Exam Scores increased with FC method and therefore student progression in course; increasing semester retention. |
| **Student Achievement** | **6**<br>Positive impact on exam scores with fewer students reporting feeling overstrained with busy work. Allowed for engaging classroom environment. | **8**<br>Found that the FC method positively correlated with academic performance. | **4 & 8**<br>Faculty observed that students had a better grasp of modular content compared to the previous cohort taught in the traditional classroom/face-to-face model. |

Table 7C. *Lesson Plan and Preplanned activates*

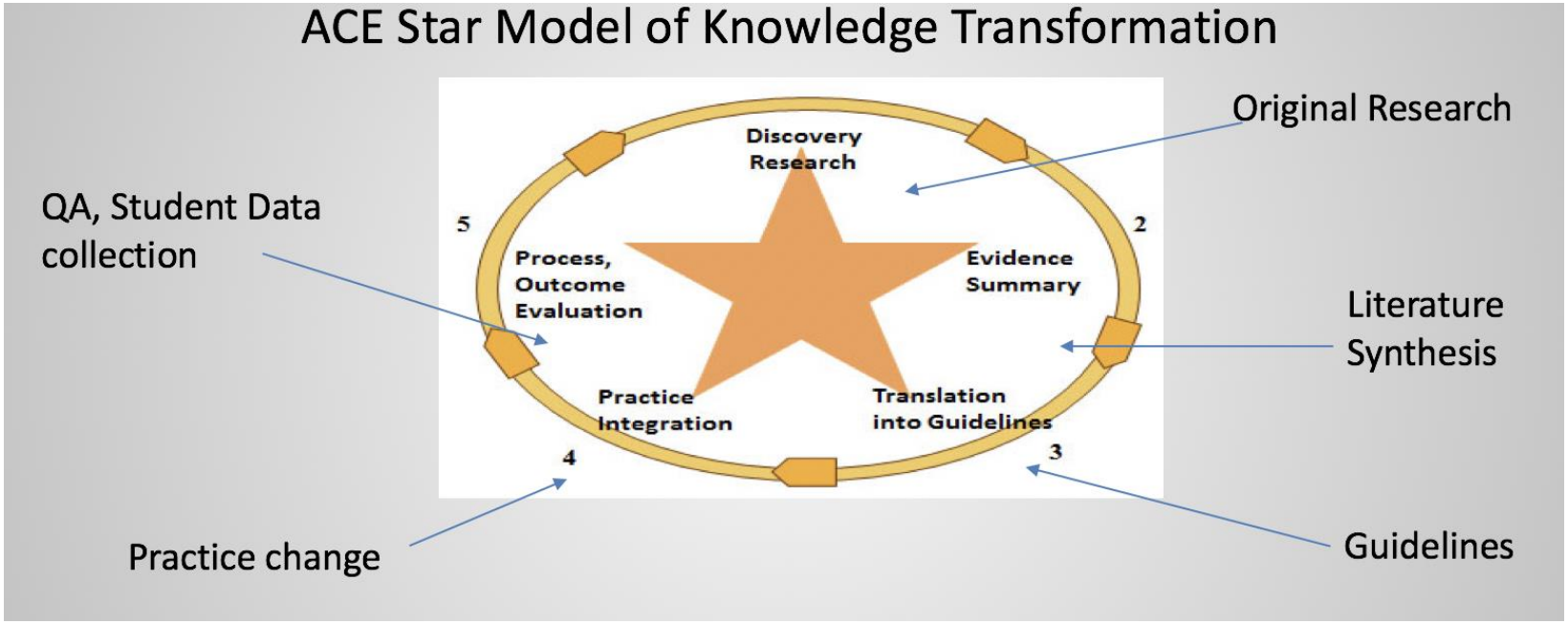
| Traditional Classroom | Flipped Classroom |
|---|---|
| Preclass activities: learners may or may not complete reading and other assignments to prepare for the class session. | Preclass activities: learners view videos of mini-lectures or skills demonstrations, complete practice assignments, and take mastery tests to ensure they are prepared to actively participate in class. Participants can log onto an e-learning or learning management system. |
| Answer questions, five minutes. | Answer questions and clarify concepts, 10 minutes. |
| Use lecture and discussion to help students learn and understand facts and concepts, 50 minutes. | Use case studies, simulations, debates, role play, and discussion to apply concepts to clinical practice and develop synthesis, evaluation, and clinical judgment skills, 40 minutes. |
| Answer questions, five minutes. | Assess learning, 10 minutes. |

Table 8C. Course Final Exam Grades by Teaching Approach

| Teaching Approach | n | Mean | SD | Minimum | Maximum |
|---|---|---|---|---|---|
| Traditional Lecture | 87 | 78.6 | 12.9 | 51.1 | 100 |
| Flipped Classroom | 87 | 80.8 | 14.9 | 50.0 | |

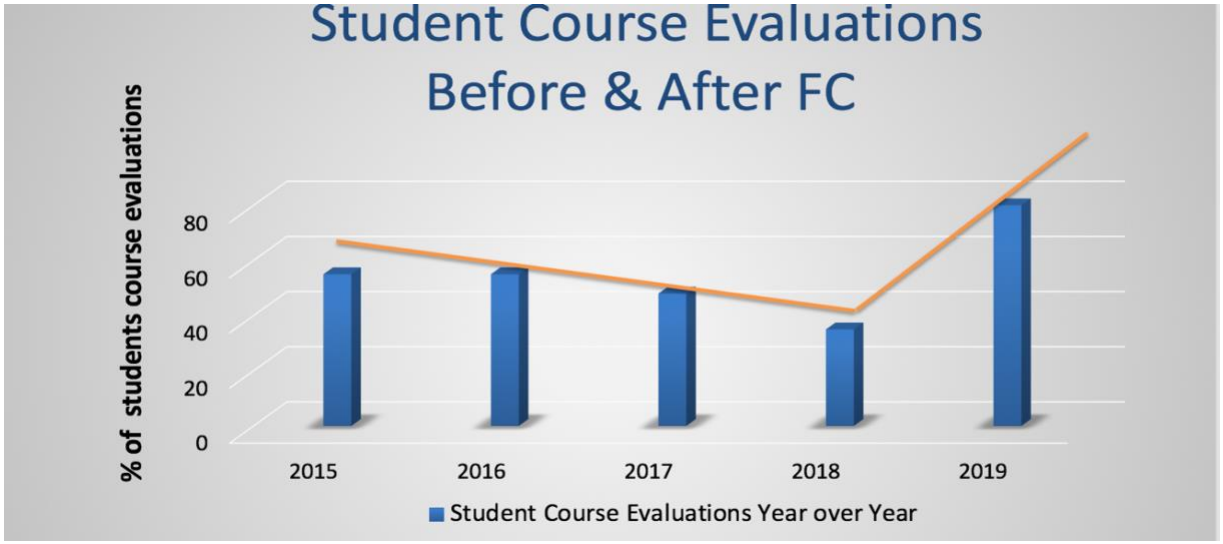
Appendix D

EPB Model: Ace Star Model of Change



Appendix E

Table 9E. Student Course Evaluation



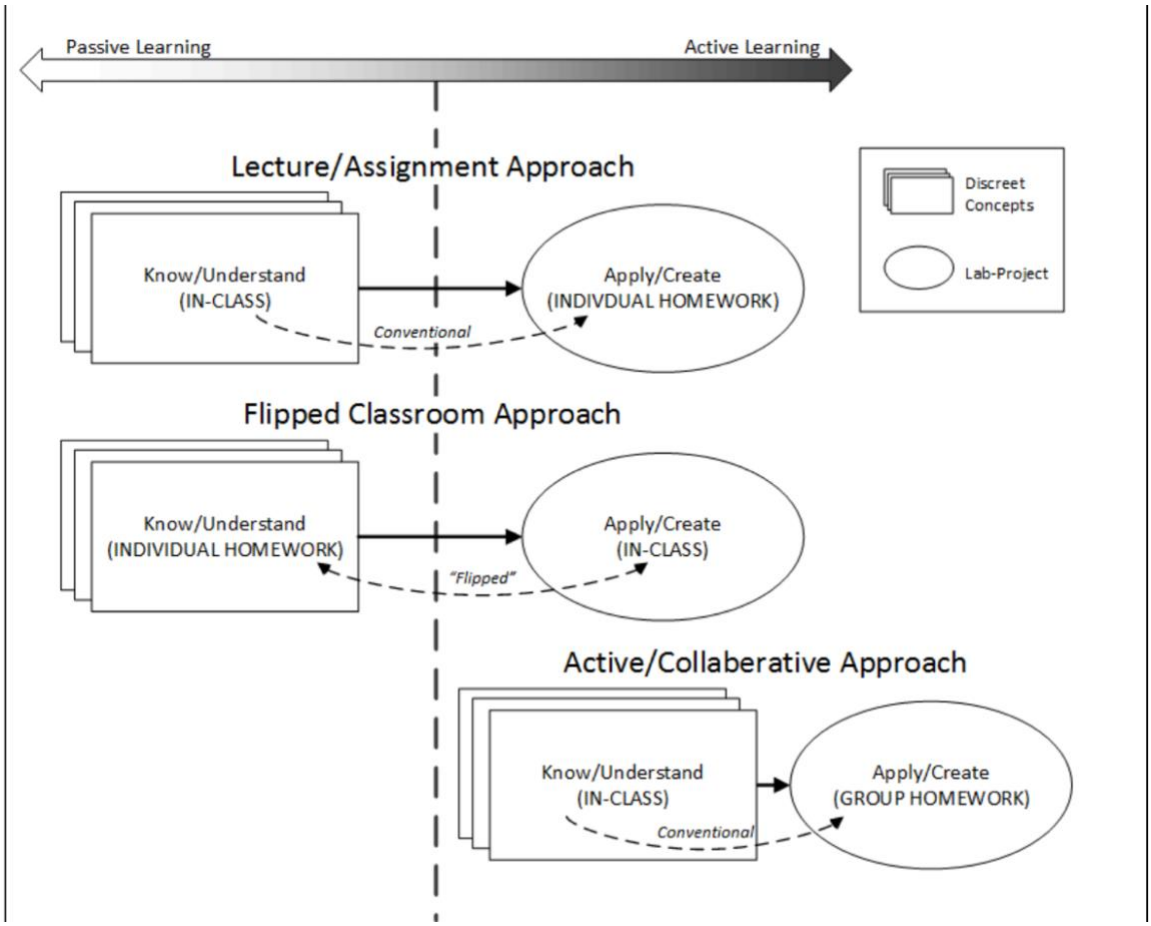
Appendix F

Table 10F. *NCLEX-PN Pass Rates*

**NCLEX-PN Pass Rates 2014-2017**

| Graduating Class | Pass Rate LVG as reported by TXBON | 3 year Time frame | 3-year mean | State Mean (3-year mean) | National Mean (3-year mean) |
|---|---|---|---|---|---|
| Fall 2014 & Spring 2015 | VNG: 100% | 2014-2015 | 97.61% | 85.67% | 82.89% |
| Fall 2015 Spring 2016 | VNG: 97.91% | 2015- 2016 | 94.98% | 85.74% | 83.67% |
| Fall 2016 & Spring 2017 | VNG: 92.13% | 2016– 2017 | 94.27% | 86.22% | 84.56% |

Appendix G
Teaching Methods Comparison



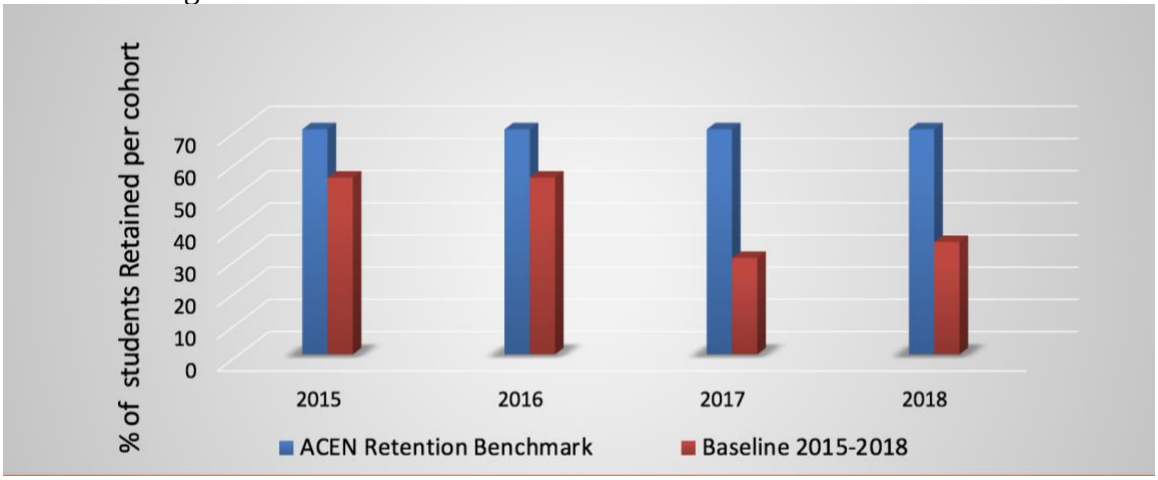
## Appendix H

Table 11H. Implementation Plan

| Date | Step | Implementation Plan | Studies | Stakeholder | Process Markers Expected outcomes |
|---|---|---|---|---|---|
| 1/2018-5/2018 | 0 | Present Final Implementation to Curriculum Committee. | 1,2,4,13 | Y.H, S.E, SMM, S.P | Faculty will have an Increase collaboration and |
| 1/10/19-5/2/19 | 1 | Develop (6) VidGrid lecture modules. | 3,4,5,7, | Y.H, S.E, SMM, S.P | Project will increase retention rates by 12-13 students/semester. |
| 4/2/19-4/22/19 | 2 | Develop tools for success in the flipped classroom | 1,4,5,7,12 | Y.H, S.E, | Students will have increase understanding of expectations with new teaching model. |
| 4/23/19-4/25/19 | 3 | Create Flipped classroom outcomes and expectations section in student /faculty handbook and course syllabus. | 3,4,5,7, | Y.H, S.E, SMM, VNG faculty | Students and faculty will have a clear understanding of expectations. |
| 5/12/19-7/2/19 | 4 | Pilot Flipped Classroom Model implemented Develop in class, case studies & nursing intervention strategies, Weekly quizzes, Group problem solving, Simulation, Daily muddiest point activity. | 4,5,7,9,10 ,12,13 | Y.H, S.E, SMM, Dr. H | Evaluation of areas of deficiency Reinforce Knowledge obtained from online lectures. |
| 8/12/19-8/25/19 | 5 | Analyze student evaluation surveys Discuss sustainability areas for improvement Disseminate results. | 3,4,7,9,12 | Y.H, S.E, SMM, ACC students. | Evaluation of success and lessons learned, algorithm in place to support curriculum integrity and sustainability. |
| 8/12/19-12/12/19 | 6 | Flipped Classroom Model implemented | 4,5,7,9,11, 12 | Y.H, S.E, SMM, Dr. H | Evaluation of areas of deficiency Reinforce Knowledge obtained from online lectures. |
| 1/04/20-4/2/20 | 7 | Analyze student evaluation surveys Discuss sustainability areas for improvement with concurrent flipped classroom implementations. | 3,4,7,9,11, 12,13 | Y.H, S.E, SMM, ACC students. | Evaluation of success and lessons learned, Algorithm in place to support curriculum |

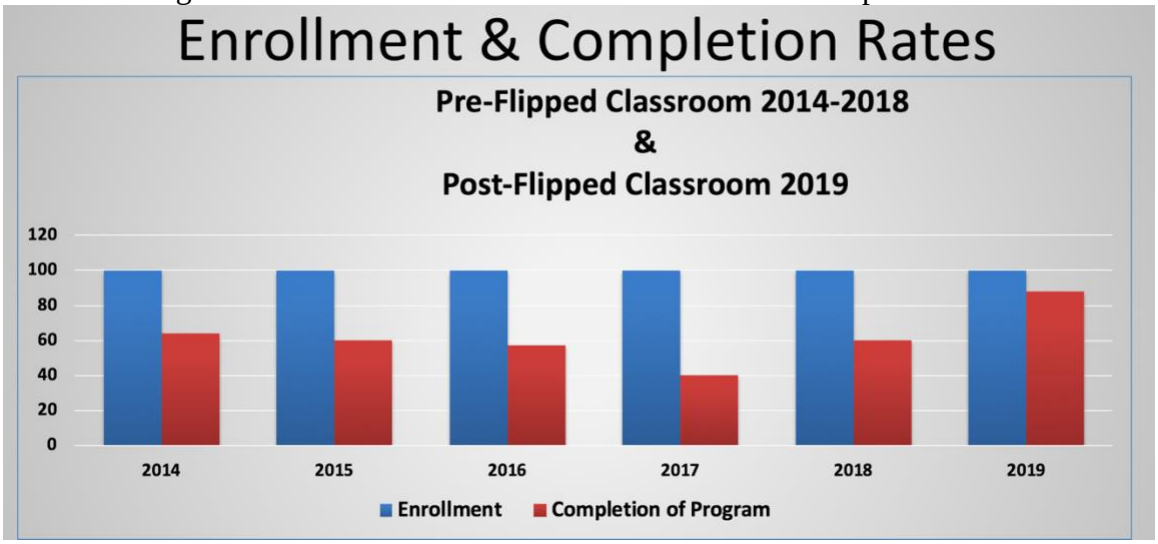
Appendix I

Table 12 I. Organizational and ACEN Benchmark Data 2018Table



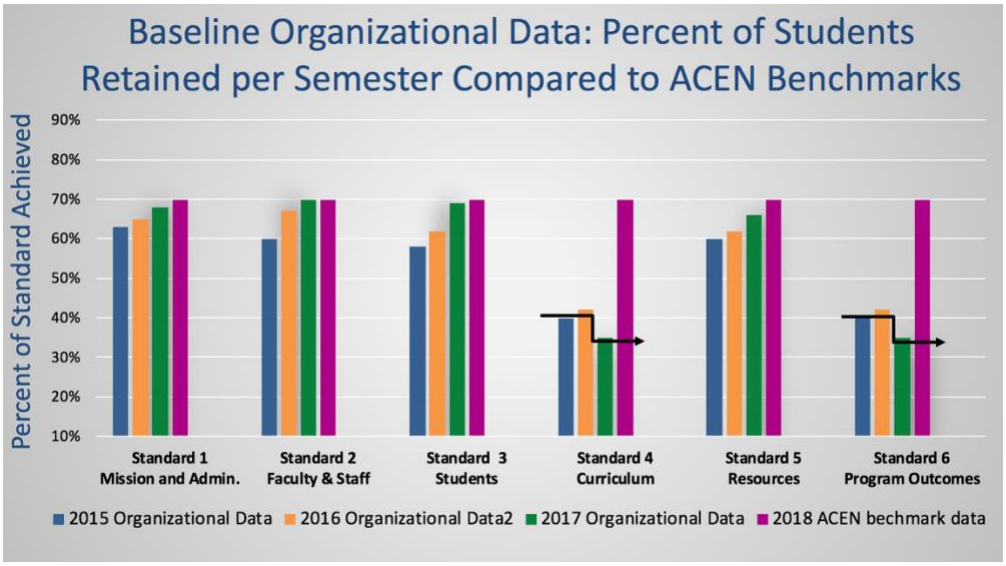
Appendix I continued

Table 13I. Organizational Retention Before and After EBP F.C. Implementation

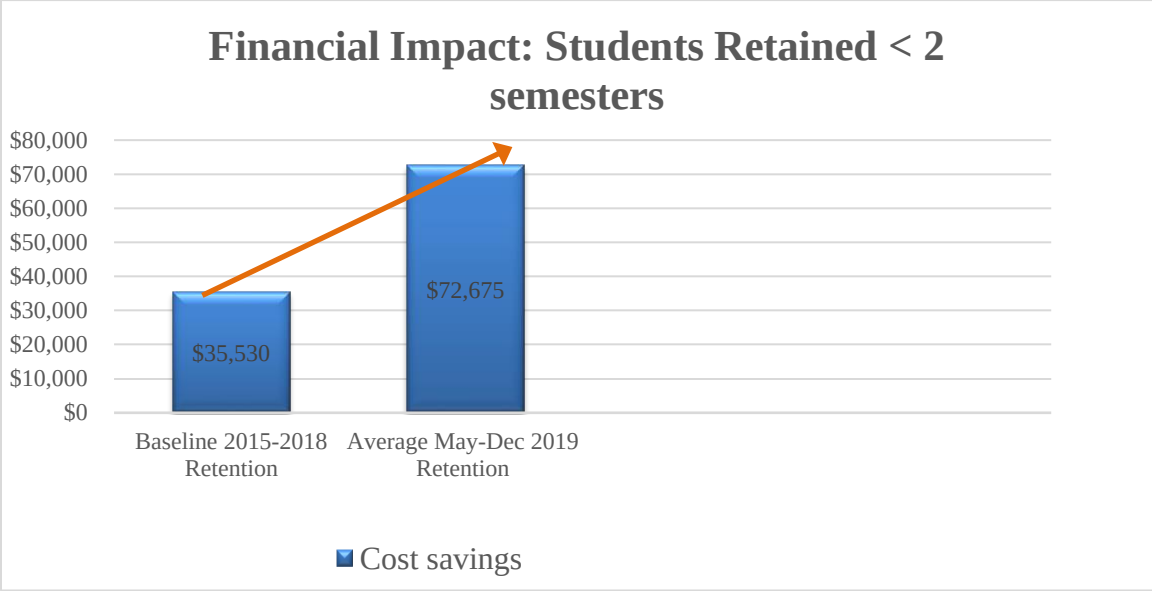


Appendix I continued

Table 14I. ACEN 6 Standards of Data



Appendix J
EBP Project Financial Impact



Appendix K

Letters of Support

UTT DNP Program Project Approval

Faculty Attestation of Compliance with the UTT DNP EPIP Ethics Form

I attest that I have reviewed the **UTTYLER DNP EPIP ETHICS FORM** that the DNP student has completed based on justification using the **UTTYLER DNP PROGRAM IRB DISCERNMENT FORM**. I agree that the need for ethics review determination is correct and this DNP EPIP requires:

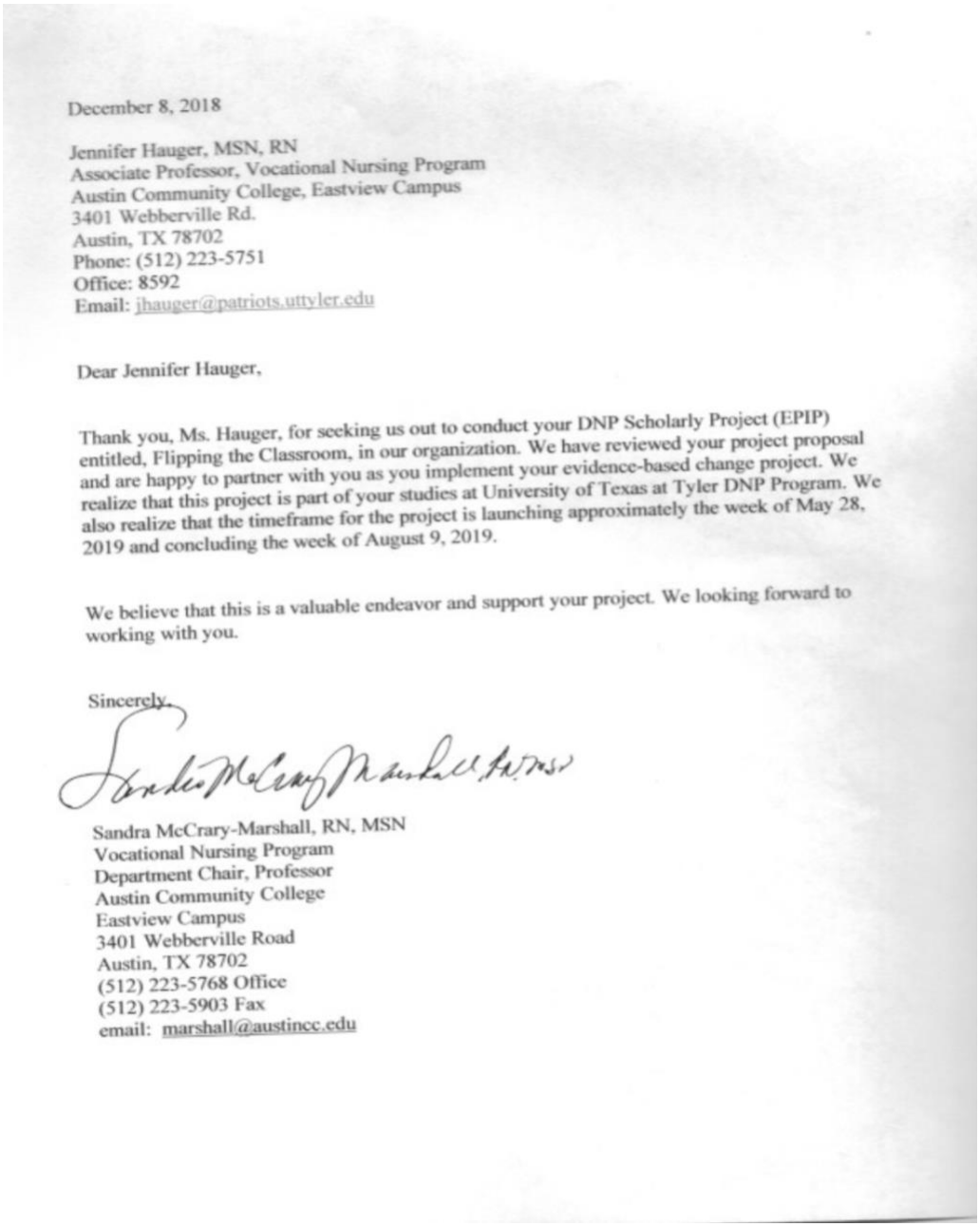
☒ HIPAA ethics review only
☒ (HIPAA review form completed
☐ IRB review (based on policies of the organization in which the EPIP will be implemented)

Sandra Spencer DNP — 2/24/2020

Faculty Mentor Signature — Date

Appendix K continued

Organizational Approval



December 8, 2018

Jennifer Hauger, MSN, RN
Associate Professor, Vocational Nursing Program
Austin Community College, Eastview Campus
3401 Webberville Rd.
Austin, TX 78702
Phone: (512) 223-5751
Office: 8592
Email: jhauger@patriots.uttyler.edu

Dear Jennifer Hauger,

Thank you, Ms. Hauger, for seeking us out to conduct your DNP Scholarly Project (EPIP) entitled, Flipping the Classroom, in our organization. We have reviewed your project proposal and are happy to partner with you as you implement your evidence-based change project. We realize that this project is part of your studies at University of Texas at Tyler DNP Program. We also realize that the timeframe for the project is launching approximately the week of May 28, 2019 and concluding the week of August 9, 2019.

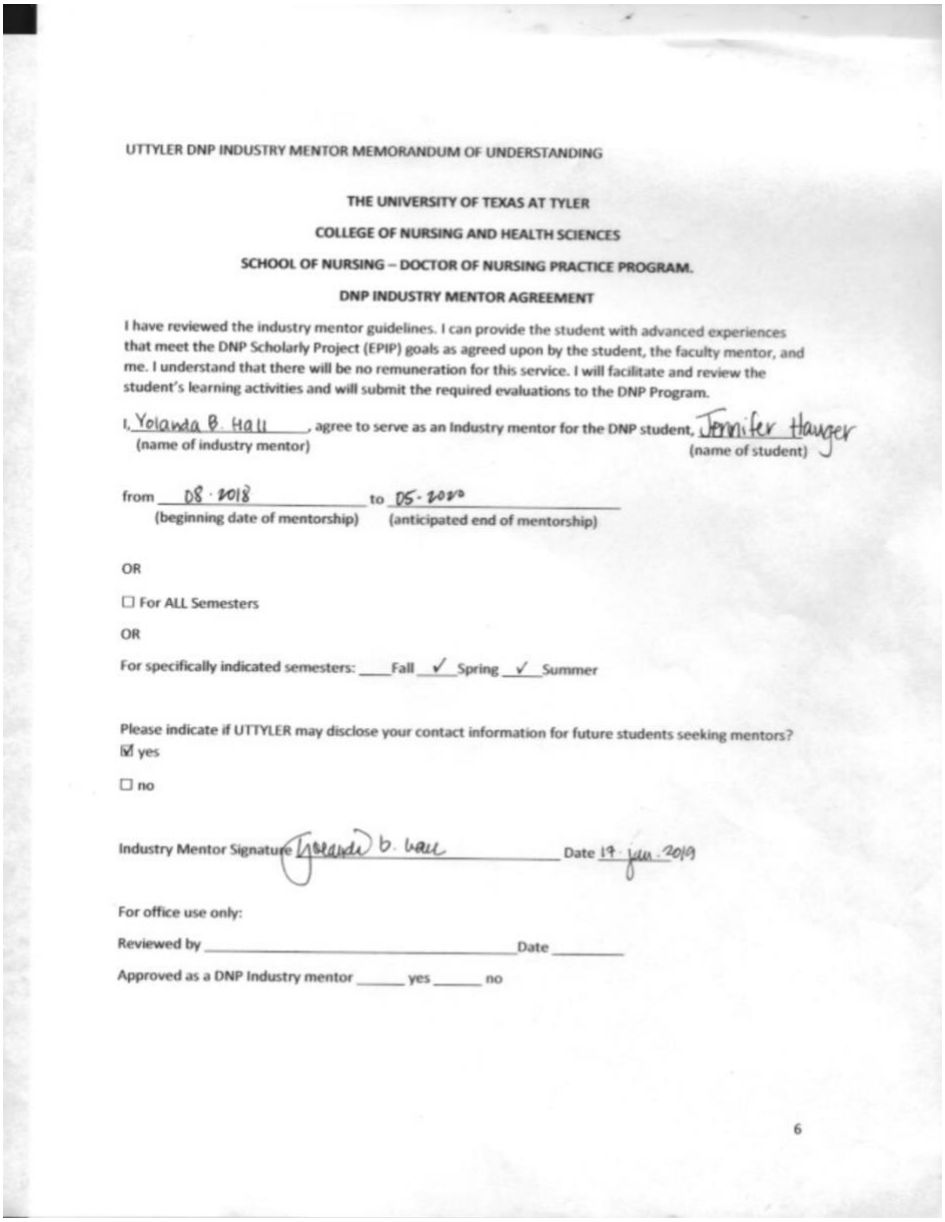
We believe that this is a valuable endeavor and support your project. We looking forward to working with you.

Sincerely,

Sandra McCrary-Marshall, RN, MSN
Vocational Nursing Program
Department Chair, Professor
Austin Community College
Eastview Campus
3401 Webberville Road
Austin, TX 78702
(512) 223-5768 Office
(512) 223-5903 Fax
email: marshall@austincc.edu

Appendix K continued

Industry Mentor Contract



UTTYLER DNP INDUSTRY MENTOR MEMORANDUM OF UNDERSTANDING

**THE UNIVERSITY OF TEXAS AT TYLER**

**COLLEGE OF NURSING AND HEALTH SCIENCES**

**SCHOOL OF NURSING – DOCTOR OF NURSING PRACTICE PROGRAM.**

**DNP INDUSTRY MENTOR AGREEMENT**

I have reviewed the industry mentor guidelines. I can provide the student with advanced experiences that meet the DNP Scholarly Project (EPIP) goals as agreed upon by the student, the faculty mentor, and me. I understand that there will be no remuneration for this service. I will facilitate and review the student's learning activities and will submit the required evaluations to the DNP Program.

I, Yolanda B. Hall, agree to serve as an Industry mentor for the DNP student, Jennifer Hauger
(name of industry mentor) (name of student)

from 08·2018 to 05·2020
(beginning date of mentorship) (anticipated end of mentorship)

OR

☐ For ALL Semesters

OR

For specifically indicated semesters: ___Fall ✓ Spring ✓ Summer

Please indicate if UTTYLER may disclose your contact information for future students seeking mentors?
☑ yes

☐ no

Industry Mentor Signature Yolanda B. Hall Date 19 Jun 2019

For office use only:

Reviewed by _____ Date _____

Approved as a DNP Industry mentor _____ yes _____ no

6

Appendix L
Vocational Nursing Program Cost

**Estimated Program Expenses for Vocational Nursing Certificate**

| | In-District | Out-of-District | Out-of-State & International |
|---|---|---|---|
| **Prior to the Offer of Program Enrollment** | | | |
| TEAS V Exam | $103 | $103 | $103 |
| Castle Branch Profile Account and Immunization Record | $30 | $30 | $30 |
| **After Offer of Program Enrollment & Before the Start of Classes** | | | |
| Criminal Background Check | $55 | $55 | $55 |
| Drug Screen | $27 | $27 | $27 |
| CPR Certification | $65 | $65 | $65 |
| Physical (not including immunizations) | $225 | $225 | $225 |
| Flu Vaccine | $45 | $45 | $45 |
| Tb Test (2 Step) | $178 | $178 | $178 |
| Lab Pack | $92 | $92 | $92 |
| Stethoscope & Equipment | $92 | $92 | $92 |
| Uniforms (includes 2 sets, 1 lab coat, 3 patches) | $100 | $100 | $100 |
| White Shoes (no crocs) | $50 | $50 | $50 |
| Textbooks (Approx.) | $1,512 | $1,512 | $1,512 |
| **Semester 1** | | | |
| Course TUITION | $1,615 | $6,859 | $8,246 |
| Course FEES1 | $167 | $168 | $168 |
| Health Insurance | Varies | Varies | Varies |
| **Semester 2** | | | |
| Course TUITION | $1,105 | $4,693 | $5,642 |
| Course FEES1 | $114 | $114 | $114 |
| First Day Access Fee (HPRS 2300) | $54 | $54 | $54 |
| Health Insurance | Varies | Varies | Varies |
| **Semester 3** | | | |
| Course TUITION | $1,105 | $4,693 | $5,642 |
| Course FEES1 | $115 | $115 | $115 |
| Tb Test (Follow-up) | $100 | $100 | $100 |
| Health Insurance | Varies | Varies | Varies |
| HESI Exam | $56 | $56 | $56 |
| **TOTAL PROGRAM TUITION AND FEES** | $7,005 | $19,426 | $22,711 |
| | | | |
| **Graduation Related, Licensing/Credentialing Costs** | | | |
| Nursing Pin | $26 | $26 | $26 |
| NCLEX Test - Licensing Exam | $200 | $200 | $200 |
| BON - Texas Licensure | $100 | $100 | $100 |
| **TOTAL MISC, GRADUATION, LICENSING COSTS** | $326 | $326 | $326 |
| | | | |
| **GRAND PROGRAM COST TOTAL** | $7,331 | $19,752 | $23,037 |

1These are typical fees assigned per course or credit hour & vary per course. These fees include: Lab Fee, Accident Insurance Fee, & Malpractice Insurance Fee. See course descriptions for a breakdown of these fees.

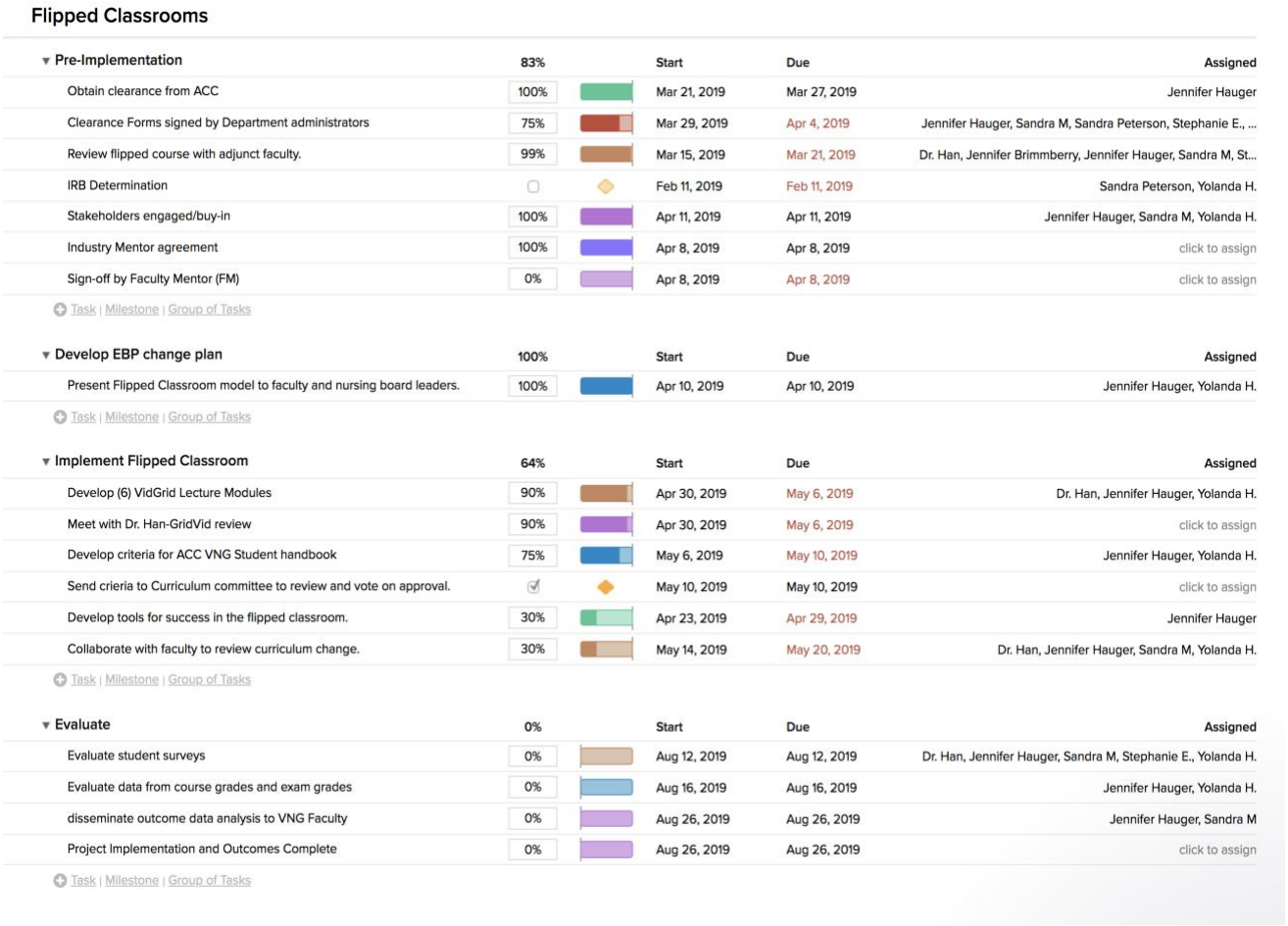
Based on the published ACC fee schedule at http://www.austincc.edu/tuition-and-financial-aid/tuition-and-fees-chart

Appendix M
Socio-demographic Variables

Table 1.
Participants' Demographic: M (SD)/Frequency (%)

| Socio-demographic Variables | Flipped Classroom Fall 2019 ($n_{2=}$23) | Flipped Classroom Summer 2019 ($n_{2=}$38) |
|---|---|---|
| **Gender** | | |
| Female | 21 (91.30) | 36 (94.74) |
| Male | 02 (8.70) | 02 (5.26) |
| | | |
| **Age (in years)** | | |
| <20 | 01 (4.34) | 03 (8.0) |
| 21-35 | 10 (43.48) | 22 (42.9) |
| 36-45 | 10 (43.48) | 13 (37.2) |
| <46 | 2 (8.70) | 01 (2.6) |
| | | |
| **Race** | | |
| Hispanic | 11 (47.83) | 18 (47.2) |
| African American | 09 (39.13) | 10 (26.4) |
| White | 03 (13.04) | 10 (26.4) |
| | | |
| **Highest Level of Education** | | |
| Highschool diploma | 20 (86.96) | 34 (89.5) |
| Associate | 01 (4.35) | 00 (0) |
| Bachelor | 02 (8.69) | 01 (2.6) |

# Appendix N
# Gannt Chart



**Flipped Classrooms**

| | | | | | |
|---|---|---|---|---|---|
| ▾ **Pre-Implementation** | **83%** | | **Start** | **Due** | **Assigned** |
| Obtain clearance from ACC | 100% | | Mar 21, 2019 | Mar 27, 2019 | Jennifer Hauger |
| Clearance Forms signed by Department administrators | 75% | | Mar 29, 2019 | Apr 4, 2019 | Jennifer Hauger, Sandra M, Sandra Peterson, Stephanie E., ... |
| Review flipped course with adjunct faculty. | 99% | | Mar 15, 2019 | Mar 21, 2019 | Dr. Han, Jennifer Brimmberry, Jennifer Hauger, Sandra M, St... |
| IRB Determination | ☐ | | Feb 11, 2019 | Feb 11, 2019 | Sandra Peterson, Yolanda H. |
| Stakeholders engaged/buy-in | 100% | | Apr 11, 2019 | Apr 11, 2019 | Jennifer Hauger, Sandra M, Yolanda H. |
| Industry Mentor agreement | 100% | | Apr 8, 2019 | Apr 8, 2019 | click to assign |
| Sign-off by Faculty Mentor (FM) | 0% | | Apr 8, 2019 | Apr 8, 2019 | click to assign |
| ⊕ Task \| Milestone \| Group of Tasks | | | | | |
| ▾ **Develop EBP change plan** | **100%** | | **Start** | **Due** | **Assigned** |
| Present Flipped Classroom model to faculty and nursing board leaders. | 100% | | Apr 10, 2019 | Apr 10, 2019 | Jennifer Hauger, Yolanda H. |
| ⊕ Task \| Milestone \| Group of Tasks | | | | | |
| ▾ **Implement Flipped Classroom** | **64%** | | **Start** | **Due** | **Assigned** |
| Develop (6) VidGrid Lecture Modules | 90% | | Apr 30, 2019 | May 6, 2019 | Dr. Han, Jennifer Hauger, Yolanda H. |
| Meet with Dr. Han-GridVid review | 90% | | Apr 30, 2019 | May 6, 2019 | click to assign |
| Develop criteria for ACC VNG Student handbook | 75% | | May 6, 2019 | May 10, 2019 | Jennifer Hauger, Yolanda H. |
| Send crieria to Curriculum committee to review and vote on approval. | ☑ | | May 10, 2019 | May 10, 2019 | click to assign |
| Develop tools for success in the flipped classroom. | 30% | | Apr 23, 2019 | Apr 29, 2019 | Jennifer Hauger |
| Collaborate with faculty to review curriculum change. | 30% | | May 14, 2019 | May 20, 2019 | Dr. Han, Jennifer Hauger, Sandra M, Yolanda H. |
| ⊕ Task \| Milestone \| Group of Tasks | | | | | |
| ▾ **Evaluate** | **0%** | | **Start** | **Due** | **Assigned** |
| Evaluate student surveys | 0% | | Aug 12, 2019 | Aug 12, 2019 | Dr. Han, Jennifer Hauger, Sandra M, Stephanie E., Yolanda H. |
| Evaluate data from course grades and exam grades | 0% | | Aug 16, 2019 | Aug 16, 2019 | Jennifer Hauger, Yolanda H. |
| disseminate outcome data analysis to VNG Faculty | 0% | | Aug 26, 2019 | Aug 26, 2019 | Jennifer Hauger, Sandra M |
| Project Implementation and Outcomes Complete | 0% | | Aug 26, 2019 | Aug 26, 2019 | click to assign |
| ⊕ Task \| Milestone \| Group of Tasks | | | | | |