

Andragogy and teaching techniques to enhance adult learners' experience

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ABSTRACT

Nurse educators need to be cognizant of their instructional methods to ensure they are using appropriate techniques to effectively teach students as adult learners. Andragogy is the practice of teaching adult learners; its role and application in concept-based nursing education in the online, classroom, and clinical teaching contexts are explored in this reflective literature review. Concept-based curriculum is a method of teaching that utilizes active learning strategies to aid in developing critical thinking skills and knowledge comprehension. Reflections on incorporating andragogy to teach in a concept-based curriculum in nursing by a novice educator is also presented along with selected teaching techniques that has been utilized to solidify nursing students learning. It has been shown that non-traditional teaching techniques such as simulation, case studies, debates, and creating a “flipped” classroom can be effective in applying andragogy in a concept-based curriculum model. Incorporating andragogy within the concept-based curriculum is vital for equipping nursing students with necessary critical thinking and reflection skills required for nursing practice.

Key Words: Andragogy, Digital learning environments, Concept-based curriculum, Nursing education, Personal reflection

1. INTRODUCTION

Nurse educators are responsible for teaching and preparing students for the workforce. They help ensure that nursing students acquire the necessary skills to provide safe, competent, and compassionate care to patients.^[1] Students need to learn various strategies to engage in critical thinking and develop the ability to anticipate and recognize potential issues they may encounter in practice.^[1,2] Traditional teaching methods such as lectures and PowerPoint presentations are passive, with little opportunity for students to engage in critical thinking, thus, limiting students' ability to provide safe and effective patient care.^[3] Instead, most students will use memorization techniques to retain the information rather than

understanding what is being taught.^[4] It is of utmost importance that nursing students are taught with various teaching methodologies, which will enhance critical thinking skills to provide outstanding patient care.

The purpose of this literature review and reflection is to explore the role of andragogy (adult learning theory) in nursing education and how it can be incorporated in teaching using a concept-based curriculum in the modern health care environment. This paper discusses active learning and constructivism as adult learning theories in helping nurse educators understand their role in teaching nursing students. Concept-based curriculum is later discussed along with selected innovative teaching techniques associated with active

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learning and constructivism. Finally, we conclude with a novice nurse educator's personal reflection on teaching using a concept-based curriculum and innovative teaching techniques to facilitate nursing students learning based on the principles of andragogy.

2. METHODS

An integrative literature review was undertaken according to Whittemore and Knafl.^[5] First, we identified the problem where novice nurse educators need to become familiar with the theories that underpin the curriculum of their nursing school and the best teaching techniques to use to support curriculum implementation. The problem was further assessed by making it specific to the nursing school of the authors where concept-based curriculum underpin by andragogy is being used. Next, we began our search of the literature through a reflective analytical approach^[6] to understand the role of andragogy and subsequently how it is incorporated in the concept-based curriculum model. A review of scholarly literature utilizing the Athabasca University Library, Memorial University Library, CINAHL, Google Scholar, and SAGE electronic databases was done. A general and Boolean search of the literature were completed using multiple key terms including – “adult learning theories”, “active learning”, “constructivism”, “teaching strategies”, with the inclusion criteria of “nursing education” and “concept-based curriculum”. We further refined the search to include “innovative teaching techniques in adult education”. Innovative teaching techniques are frequently used teaching methods that facilitate active student engagement.^[1] The literature data was then evaluated by reading abstracts to ensure relevance to the topic, and reference lists were scanned for subsequent articles. We also reviewed books on andragogy and the concept-based curriculum.

3. LITERATURE REVIEW RESULTS

The search through the electronic databases identified 62 articles of interest pertinent to the subject area. After evaluating abstracts and the articles in entirety, 51 peer-reviewed articles were deemed relevant and included a variety of methods such as literature reviews and mixed method studies (see Figure 1). This was acceptable as integrative literature review allows the flexibility to simultaneously include experimental and non-experimental research to fully understand the phenomenon being explored.^[5] A second full text read through was completed on the 51 articles to discover pertinent information related to andragogy, concept-based curriculum, and innovative teaching techniques. Finally, 41 peer-reviewed articles were used that were most relevant. Active learning

was a main theme that was identified across the resources as being integral to adult learning and the implementation of a concept-based curriculum in nursing, hence a major focus of the paper.^[7] The final stage of an integrative literature review is a presentation of the synthesis of the literature, which is presented throughout in the upcoming sections, in addition to the reflections of a novice nurse educator in implementing a concept-based curriculum rooted in andragogy.

4. DISCUSSION

4.1 Andragogy

Malcolm Knowles developed andragogy or adult learning theory which purports adults are self-directed and independent learners who take control of their own learning.^[8] Adult learners learn best when they are able to determine their own goals for the course and take responsibility for learning.^[9] Thus, andragogy emphasises learning through hands on methods that allow students to become engrossed and engaged in activity. Educators who align with andragogy are cognizant that learning experiences are unique to the individual, and that all students learn differently. As such, educators need to collaborate with students to tailor teaching to learners' needs and identify appropriate learning strategies together.^[9]

Many learning theories have been developed based on the main principles of andragogy. Each theory incorporates different teaching methods and strategies to ensure that the diverse needs of adult learners are being met. For this paper, we will primarily focus on the adult learning theories of active learning and constructivism.

4.2 Active learning

Active learning is defined as the process by which students are effectively engaged in learning through various teaching techniques that facilitate a deeper understanding of course material.^[7] Research has shown that passive methodologies such as in class lectures are not effective in developing critical thinking skills for students compared to active learning methods.^[3,10] Active learning encourages faculty to engage students through direct involvement, questions, and experiences.^[11] When nurse educators utilize active learning strategies, students exhibit engagement in completing interactive activities, which increases the morale of the classroom, improves students' attitudes towards the course and educator, creates a positive classroom atmosphere, and increases students' self-confidence and clinical judgement skills.^[7,12,13] Active learning is crucial to the development of critical thinking skills, communication techniques, problem-solving abilities, and helps ensure students are well prepared for complex and challenging work environments.^[14]

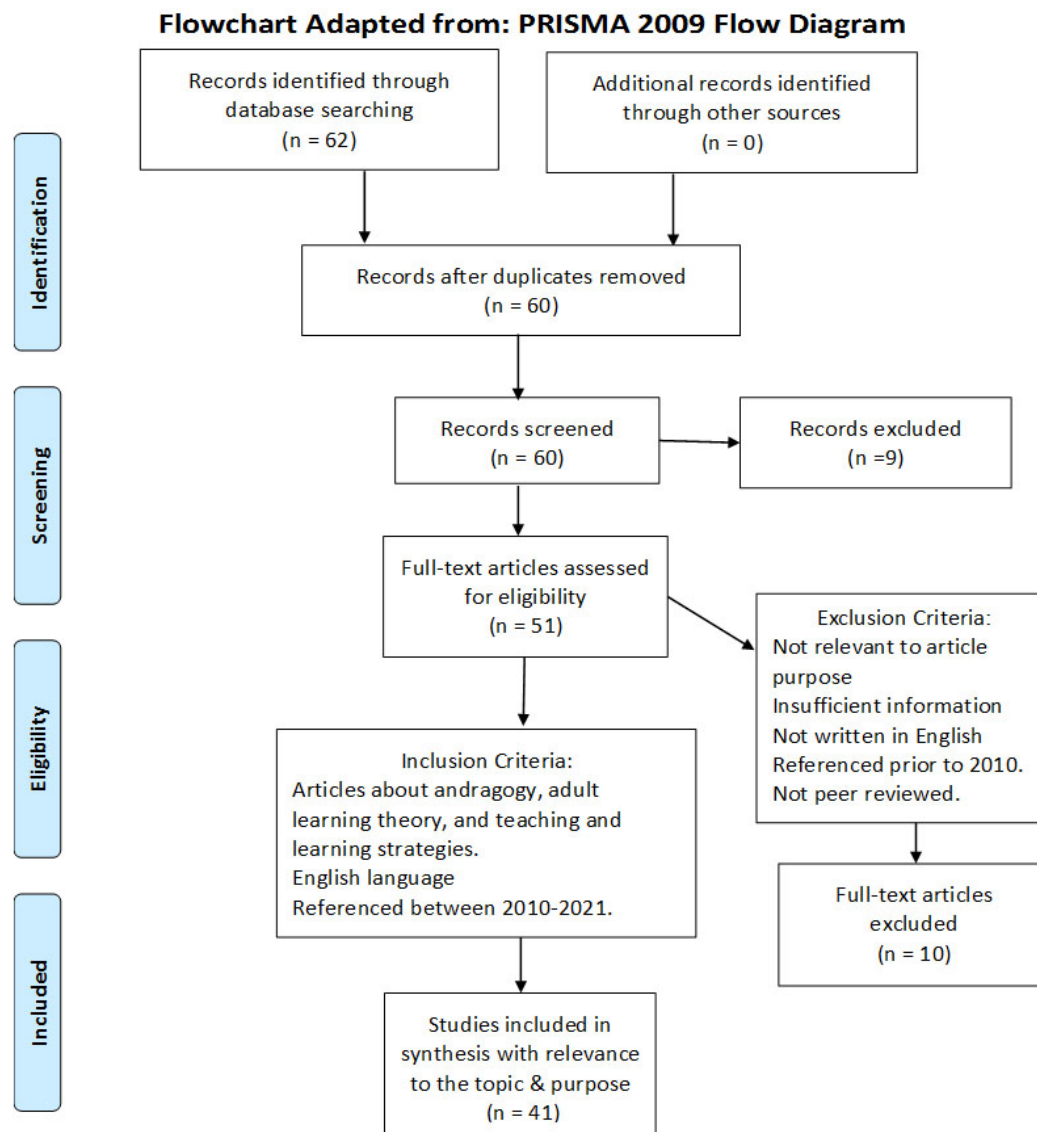


Figure 1. Depicting literature search and the inclusion & exclusion criteria for articles

Comparatively, concerns regarding active learning are students' fear of the unknown as this is a shift from previous known methods of learning.^[7] Students may initially exhibit negative reactions and anxiety at the prospect of deviating from familiar teaching methods.^[13] Learners may display feelings of uneasiness or bewilderment, which may lead to resistance towards students' receptiveness of active learning.^[7] However, several prominent educators have incorporated active learning in the classroom and have found students derived knowledge through making connections to previously known information, which is integral for adult learners.^[9]

4.3 Constructivism

Constructivism learning theory purports individuals connect new information and ideas to current and previously known knowledge through interactive and engaging practices.^[14, 15]

Educators who apply constructivism believe learning is developed through reflection and relating value to experiences.^[16] Learners are responsible and in control of developing their own knowledge.^[14] Constructivism facilitates critical thinking, allowing learners to build on existing learning and create additional comprehension regarding previous experiences.^[17] Utilizing this theory is essential to adult learners as it facilitates critical thinking, which is more effective than simply memorizing facts.

Constructivism has been criticized for minimizing the importance of the educator as the expert as control is shifted to the students to become actively involved in their learning.^[14] Educators need to be proficient in providing students with the necessary skills and tools needed to become self-directed learners, which may be difficult for some educators who are

more accustomed to traditional teaching methods.^[14] As such, nursing schools need to incorporate faculty workshops to enhance understanding of this theory, so faculty members feel supported and empowered by their organization to successfully facilitate constructivism learning in practice.^[18]

Despite the criticisms, the primary role of the nurse educator utilizing adult learning theories such as constructivism is to provide effective teaching techniques online, in the classroom, clinical, and skills laboratory, to enable the learner to apply prior learning.^[9,14] Effective communication between the educator and nursing students is necessary to facilitate learning, as well as active interaction with peers.^[14] Students' interaction with peers throughout different experiences provides the opportunity to construct new knowledge.^[9]

4.4 Andragogy and the digital learning environment

A digital learning environment is a multifaceted way of teaching that is done utilizing technology and is usually online.^[19] The digital learning environment is connected to andragogy and is a non-traditional method of educating individuals. Incorporating active learning methods into an online learning environment is necessary to foster student interaction and engagement.^[7] Due to the current nature of the world with the COVID-19 pandemic, many higher education institutions transitioned to online learning to avoid disruptions in the delivery of educational programs.^[20,21] Information dissemination is achieved using digital technology and virtual platforms. Online learning can be synchronous or asynchronous, speaking to its adaptability in meeting the needs of adult learners.^[19,21] Asynchronous learning can be completed at the convenience of the student and may incorporate pre-recordings, videos, reading material, or quizzes that are uploaded online. Synchronous learning involves the use of live, interactive lectures with the instructor and students.

Digital learning promotes the use of a student-centered, interactive learning environment.^[22] It has the potential to illicit a deeper level of learning and requires students to become more self-directed.^[20,22] Online learning provides flexibility for students and increases accessibility of information.^[20] It enhances student autonomy and responsibility with learning and is an approach that is conducive to adult learners and multiple learning styles.^[22] The literature highlights that students and faculty appreciate the easy use of online web platforms for the delivery of course content, the convenience of accessing course content at a time appropriate for the student, the emphasis on being self-directed with learning, and the ability to re-watch recorded resources as it can enhance students' understanding of material.^[20,22,23] However, synchronous online learning should be incorporated with asynchronous deliveries to negate feelings of isolation and

enhance learners' interactions with peers and faculty.^[22]

Fostering student engagement with online learning can be difficult.^[23] Some students find online learning to be distracting at times due to other individuals residing in their home and could cause additional financial burden due to technology needed for course participation.^[22] Other challenges noted in the literature were lack of communication and interaction with peers that caused a sense of social isolation, poor internet connectivity, confusion with use of multiple virtual platforms, and difficulty in sustaining student engagement.^[22,23] Faculty also encountered challenges with maintaining academic integrity.^[23] Due to the nature of online learning, it can be difficult for faculty to maintain control over evaluation methodologies such as quizzes, exams, and assignments.

Amidst the challenges of the digital learning environment the utilization of adult learning theories facilitates active learning to foster critical thinking skills that are crucial for adaption to changing nursing practices. Thus, cultivating individual growth and self-awareness among learners.^[24] It is important for educators to provide learning activities that allow students to reflect on what they know, identify personal strengths and weaknesses, and promote self-assessment of their own learning.^[25] Application of these learning theories are causing nurse educators to shift away from the traditional curriculum that has been used in the past, towards a more modern concept-based curriculum.

4.5 Concept-based curriculum

Teaching nursing students is a complex task due to changing practices and health care environments. Nurse educators need to implement clear teaching methodologies and models to effectively teach students.^[2] A concept-based curriculum is a method of teaching derived from constructivism, that facilitates learning by focusing on teaching students about relevant concepts that are important for nursing practice, including providing safe and competent nursing care to patients.^[26,27] According to Giddens, "concepts are considered the building blocks or the foundation for theory" (p.x).^[28] Educators choose relevant concepts pertaining to nursing practice and relate these concepts to facts and examples (also called exemplars) that coincide with the concept.^[5] Consequently, students will gain a broad understanding of different concepts, and are able to connect and relate their understanding to particular exemplars, as it is a continuous process of building on what the students already know.^[28]

4.5.1 Advantages

Concept-based teaching has the potential to increase classroom engagement, inspire students, and positively impact

clinical practice.^[27] It is a student-centered approach to learning that fosters critical thinking and critical reflection which aids in preparing students for the workforce.^[29] Students learn about specific concepts related to clinical practice and learn to transfer knowledge to treat and understand a variety of health care conditions associated with each concept.^[26] Teaching using concepts can promote lasting memorization and understanding that students can utilize in their nursing practice.^[29]

4.5.2 Disadvantages

Concept-based curriculum has its own challenges as it can be time consuming to help students build on concepts, they should have been taught from a previous course but may not remember. As such, many nurse educators are hesitant to implement concept-based learning in practice, stating the effects of this teaching methodology may negatively impact students' lifelong learning.^[5,29] Some educators have expressed feeling anxious about implementing curriculum change and deviating from a way of teaching that they are familiar with.^[30] Other barriers to implementing concept-based learning include lack of time to instil changes and feeling unsupported by healthcare institutions, thus, causing resistance and reluctance to modify curriculum to one that is concept-based.^[5,29]

4.5.3 Use in practice

Traditional teaching methods contain copious amounts of information that often overwhelm nursing students, which can hinder development of critical thinking skills and cognition of the information being taught.^[3] Current healthcare environments are increasing in complexity. Therefore, the nursing curriculum requires continuous enhancement to ensure that students are being taught efficiently and with the necessary skills and knowledge required to succeed in this type of environment.^[26] Using a concept-based curriculum can promote opportunities for nursing students, as adult learners, to expand knowledge and make connections to previously known information.^[29,30] The use of concepts permits broader teaching, which allows educators to use it in a variety of settings, and students learn to relate concepts across the lifespan of an individual, building on previously known information.^[30] Educators are expected to aid in facilitation of learning through use of innovative activities suitable for adult learners to develop stronger, better prepared, and more knowledgeable nursing students.^[14]

4.6 Teaching techniques to enhance adult learners' experience

Teaching nursing using concepts allows educators to use innovative teaching strategies such as simulation, case studies, flipping the classroom, and debates to the benefit of nursing

students who are considered as adult learners. Innovation is defined as "the act of constructive thinking, grouping knowledge, skills, and attitude into new, original, and rational ideas".^[11] Nurse educators must utilize teaching methods that are innovative to enrich the learning experience of adult learners, thus empowering students to become engaged and self-directed in their learning.^[11] This section discusses examples of teaching techniques associated with adult learning that have been used to achieve concept-based teaching in nursing.

4.6.1 Simulation

Simulation is a method of teaching that can be used to provide opportunities to gain understanding of clinical competencies in a safe environment and enrich learning.^[31] Simulation allows students to build on previously known knowledge and attach value to experiences.^[16] Different levels of simulation may allow students to use various mannequins with different levels of technological functioning to simulate real-life clinical encounters.^[31]

Simulation has a positive influence on students' communication skills, confidence levels, and preparedness for clinical encounters.^[31] Simulation aids in students' ability to integrate, employ, and retain knowledge, and enhance performance in the clinical setting.^[32] Following the simulation scenario, students are provided with an opportunity for reflection, referred to as debriefing.^[16] It is during these debriefing sessions that students critically reflect on the situation, engage in discussion with peers and their nurse educator, and uncover what they feel went well in the situation, or what they would change if they were to encounter a similar situation. The process of engaging in reflection is vital to the students as adult learners to build on concepts and relate them to personal experiences and values.^[16]

Simulation also has several associated challenges. Cost, absence of support, lack of time and space, and shortage of proper equipment are the main barriers that have been reported by educators.^[12,33] Although simulation requires significant preparation of staff initially, it is an excellent learning tool. Having several faculty members trained as experts in simulation or designating a simulation coordinator can aid in the amount of time spent preparing simulation scenarios.^[33] Nursing institutions can look for grant funding to obtain simulation equipment as well as seeking out refurbished or donated materials such as beds, IV poles, and other necessary equipment.^[33]

When supported and implemented appropriately, simulation is an effective teaching tool for students. It provides opportunities for educators to utilize interactive learning with students.^[18] Simulation has the potential to improve skill and

knowledge development, reduction of errors, and increase students' confidence and self-awareness.^[9]

4.6.2 Case studies

According to Thomas and Schuessler case studies can reiterate knowledge and information taught to students through readings and lectures and provides opportunities for students to apply the knowledge to various scenarios.^[34] Case studies promote knowledge retention, critical thinking, and heighten clinical decision-making.^[35] Case studies contribute to learning through use of real-life scenarios that are easy and effective for educators to utilize in the classroom, and many are readily available in textbooks and online faculty resources.^[36]

Educators can promote group collaboration through having students work in small groups on a case study. The same case study can be used throughout different courses, relating the case study to different concepts that are being taught. Using the same case study in multiple courses provides students the opportunity to reflect, increase their knowledge, and build on previously known information, that is congruent with adult learning and the concept-based curriculum.^[36]

A challenge associated with the use of case studies is lack of engagement from students. Students may have difficulty relating to the case study due to a lack of interest. It is important that nurse educators select stimulating and appealing case studies.^[12] Unfolding case studies is a method that nurse educators can use to enhance student engagement and participation.^[36] This method begins with a simple case study. Each week the teacher incorporates more information into the initial case study, thereby building on knowledge and different concepts as it coincides with what they are learning in class. This strategy helps keep students involved with the case study throughout the semester and aids in constructing new knowledge and building on previously known information.^[36]

4.6.3 "Flipping" the classroom

A "flipped" classroom methodology is a teaching strategy that has gained popularity in recent years. Using this technique, information that is typically taught in the classroom setting is assigned as pre-class work for students to complete.^[37] Active teaching techniques such as case studies, role-play, patient scenarios, concept maps, mini lectures, and group discussions are utilized in the classroom to enhance and construct knowledge related to the pre-work.^[37,38] Offering a pre-test or online quiz related to the pre-work can be an incentive for students to feel motivated to complete the pre-work and helps educators with understanding specific areas of teaching that may need additional work in the classroom.^[38] The goal of a flipped classroom is to make students

become more active and self-directed in their learning, build on and construct knowledge, and improve critical thinking skills.^[39] Nursing students need to have a higher level of cognition of the knowledge they are being taught to be successful in the current health care environment and flipping the classroom can help to achieve this.

Educators have reported that gradually introducing a "flipped" classroom is crucial to successful implementation of this teaching practice.^[37] Taking the time to introduce this methodology and the change it will require for students will help nurse educators handle any resistance met from students.^[38] Students may have initial feelings of anxiety or nervousness about a change in their learning environment due to a shift from traditional methods. Thus, it is important for nurse educators to provide reassurance, assistance, and demonstrate patience with students for this teaching strategy to be successful and effective.^[38]

4.6.4 Debates

Debating is a teaching strategy that generates dialogue amongst an individual and their peers. It fosters active engagement and learning among students.^[40] Debates are useful in educating students about situations that can occur in practice that may challenge students' ethics or morals.^[40] Debates can also help change how an individual thinks about certain ideas or topics. Students are required to research a topic and develop a strong, clear, and concise argument about their position.^[1] This can lead to a transformation of preconceived notions or beliefs, especially if arguing a position that the student felt different about prior to partaking in the debate scenario.^[40] Debating contributes to development of critical thinking skills, communication skills, and teamwork.^[40]

While debate is recognized as an effective teaching technique, debating can be a source of anxiety for students, especially if they are instructed to defend a position opposite to their beliefs.^[41] In order for students to be successful in this activity, they must be willing to keep an open mind and engage in the debate. In doing so, students can learn about varying cultural and ethical perspectives, uncover new knowledge about different ideas and situations they were unaware of, and collaborate with classmates.^[1,40]

4.7 Reflections of a novice educator on applying adult learning theories in a concept-based curriculum model of learning

The concept-based curriculum model of learning has been recently adopted at the nursing institution where one of the authors teach. All first and second year instructional courses of the undergraduate nursing program are taught using the concept-based curriculum model. Being relatively new to

teaching adults, the author has engaged in reflection on her experience in teaching using a concept-based curriculum approach. Based on the author's reflection as a novice educator, she has come to realize the need to have a strong understanding of the adult learning theories that inform a concept-based curriculum, and how to successfully implement teaching techniques to facilitate active learning in her teaching practice.

4.7.1 Use of simulation in practice

The author has used simulations during laboratory and clinical instruction. A variety of simulation situations occur throughout the semester. High-fidelity and mid-fidelity simulations that are 30-minutes in duration are done in the lab twice during the semester, as well as a full day high-fidelity simulation at mid-term. Online virtual simulations have also been used to help the students to apply theory to practice. The nurse educators develop different medical scenarios for each of these simulations and students are given details beforehand to prepare. Students participate in the simulation in small groups when on campus and individually when completing virtual simulations. Students are given the opportunity to utilize nursing skills that they have previously learned. During the simulation, students are monitored, and a debriefing session occurs after to discuss how the students felt while completing the simulation.

As the author conducted debriefing sessions, she has recognized that students are able to converse as a group, reflect on the scenario that just occurred, construct new knowledge and ideas, and determine what they would do differently if they were to encounter this type of situation again. This experience has caused the author to admit that simulation, particularly the time to debrief, is a valuable teaching strategy. Debriefing helps the nursing students as adult learners to actively engage in reflection and further build on what they already knew. Students have expressed positive feedback with both simulation and the debriefing session. They stated that it helped build connections between clinical scenarios and knowledge that they had learned during class and skills laboratory. Students also stated that it was beneficial in discovering what actions they would do differently if they were to encounter the situation again during clinical practice.

4.7.2 Use of case studies in practice

The author used the teaching technique of case study to help students reflect and build on the concepts they know by applying and adding new knowledge in post-clinical conferences. Applying nursing experience to case studies is an indispensable tool to utilize in practice that can enhance an individual's self-awareness and supports life-long learning.^[42] Case studies that encourage reflection provides students the

opportunity to connect theory to practice.^[35] This can lead to modification and construction of knowledge, and development of critical thinking skills.

Post-clinical conference is held for one hour after clinical practicum. At the beginning of the session, the author provides time for students to report about their clinical experiences and then use case studies to build on their encounters on the clinical unit. Case studies are a learning activity that can be used in various ways by educators, including developing reflective practice.^[34,35] Students have expressed that they find this beneficial as it allows time to decompress after clinical encounters, organize their thoughts surrounding the clinical day, and provides opportunity for them to critically reflect.

Clinical groups are relatively small, so generation of dialogue and group discussion often occurs after clinical. Due to the COVID-19 pandemic the use of case studies during post conference became very beneficial as students were no longer allowed to meet in groups at the clinical setting to discuss their clinical day and post conference was shifted online. Additionally, at the start of the pandemic, students were not assigned to patients who tested positive for COVID-19 or were awaiting results. This limited the number of patients available for students to care for. Hence, the use of case studies to scaffold students' learning experience to build on their limited clinical experience that did not always involve the care of patients with complex nursing needs. The author engaged in conversation with students regarding any positive or challenging situation they may have encountered that day, which was very vital in completing clinical. She also utilized case studies to generate thought-provoking questions to keep the flow of conversation continuing amongst students as the case unfolded into discussing the care of more complex patients. This provided opportunities for students to develop critical thinking skills and discover what they may do differently if they were to encounter similar situations in the future. During post clinical conferences, the author also provided students with positive constructive feedback about their performance throughout the day to aid in building students' self-confidence. Students have stated that they find the case studies and constructive feedback extremely beneficial to their learning as it allows them to modify and build on their learning.

4.7.3 Use of "flipping" the classroom in practice

Recently, in the lab setting, the author and another educator implemented a "flipped" classroom methodology to disseminate information related to a content laden skills lab. Students were given multiple readings to complete prior to attending the lab. During the session, students were divided into three

groups of two students. Each group were given a different topic and had to develop a small presentation to present to their classmates. Students were unaware that this would be occurring prior to arriving at the skills laboratory, and it was their first experience with a flipped class. Majority of the students expressed positive feedback and felt that it was beneficial for their learning. Students stated that completing the presentation improved their engagement with the class. Students felt that if the educators were to disseminate all this content, they would have lost focus and would not have retained as much information. A small number of students expressed a strong dislike for this teaching strategy as it provoked feelings of anxiety and stress related to presenting the information in front of their classmates. These students felt that increased exposure to the flipped classroom methodology would help them to overcome their anxiety associated with this teaching strategy.

Due to the COVID-19 pandemic, the mode of teaching shifted from in-person to online. It became imperative to provide teaching that is engaging for students in an online setting,^[19] as such, the flipped classroom technique was used to facilitate engagement. The flipped classroom technique was used where students were presented with resources to review such as videos, readings, and/or Power Point presentations prior to attending an online synchronous class. During the synchronous online class, active learning was facilitated as students were assigned to lead group discussions with their instructor and peers based on the revision of resources they were given prior to the class. Use of this methodology is shown to enhance construction of new knowledge and promotes self-directed learning.^[21] Students expressed positivity with this method as it allowed for increased interaction and engagement with their peers.

4.7.4 Use of debate in practice

Online debating was utilized in one of the author's theory courses as part of the evaluation methodology. A total of nine debates took place over the course of the semester. Students were paired into groups of seven students; one individual being assigned the role of the moderator, and three individuals being assigned to a pro side, and to the con side of the debate. The debates took place synchronously during designated class time and were approximately 20 minutes in length. The use of debates in an online learning environment aid in enhancing student interactions with their peers and course instructor.^[43] Collaboration amongst students when completing work in an online environment is beneficial for helping students develop enhanced knowledge of the class content.^[44] Students expressed feelings of anxiousness initially with this assignment, as they were nervous about appearing on camera and speaking to their classmates in an

online setting. Many students stated that they enjoyed preparing for the debate with their peers as it allowed them to learn information about their classmates and understand course content better through discussing research information associated with preparing for the debate. Students also expressed positive feedback with watching classmates participate in a debate during class. Many expressed that they felt it was beneficial to their learning as it correlated with topics discussed throughout the semester.

Upon reflection, the author has concluded that novice educators need to develop a deep understanding of the theories that inform their teaching practice. Coming to understand the underpinnings of andragogy, active learning, and constructivism, has enhanced the author's teaching practice and inform her approach to teaching nursing students as adult learners. Hence, the author has been purposeful to utilize teaching strategies that will foster active learning for adult learners as she implements a concept-based curriculum in nursing. Utilising teaching strategies that promote engagement and active participation, allows for simultaneous use with online, lab, classroom, and clinical practicum learning activities. For example, being able to start with a simulation scenario, then using a case study based on the simulated scenario and finishing with a debriefing session can facilitate group discussion, reflection, and continuity of learning. According to West, learning is improved when students are engaged in an assortment of learning activities.^[45] Likewise, students have expressed to the author that their learning is enhanced by using a variety of active learning strategies that provides opportunity to build on prior knowledge and construct new knowledge.

4.8 Future research plans

Further research in the area is warranted and could explore the usefulness of incorporating innovative teaching strategies that align with adult learning theories and concept-based curriculum model in various teaching and learning settings. For example, qualitative research or mixed methods study could be done to monitor the effectiveness of innovative teaching strategies with clinical groups. This will aid in building a foundation of knowledge surrounding students' thoughts and feelings regarding these teaching techniques and how they contribute to students' success and transition. Stakeholders and nursing education leaders may also find it beneficial to develop an information session pertaining to andragogy, active learning, concept-based curriculum, and the associated teaching techniques, and incorporate it into orientation for newly hired nursing educators. Use of this curriculum can be overwhelming and having an information session may help to decrease feelings of anxiousness and provide sup-

port for newly hired nurse educators. The usefulness of the information session during orientation could be evaluated by collecting quantitative and qualitative data from novice educators who attend the orientation sessions.

5. CONCLUSION

A reflective approach guided this literature review that has shown how concept-based curriculum model is an effective means of applying adult learning theories to facilitate active learning and help nursing students learn and develop critical thinking skills. In healthcare today, nurses are expected to provide safe, competent, and ethical care to their patients. Use of active teaching methods by nurse educators is a beneficial instructional process that aids in effectively preparing students for the workforce. It is imperative that nursing educators move towards utilizing teaching techniques in alignment with adult learning theories to promote self-directed

learning, foster critical thinking skills, and develop a higher level of cognition in nursing students.

Nursing students who develop the fundamental skills that are needed for today's complex health care environment will be more successful in providing exceptional care to their patients, and this is best facilitated by educators who value adults as learners by using active learning teaching techniques. This reflective literature review adds to the literature by showcasing the importance and application of andragogy to guide a concept-based curriculum. The reflective accounts of a novice educator have been presented to possibly benefit early-career nursing educators' practice to arm nursing students with necessary critical thinking and reflection skills required for safe, competent, and ethical nursing care.

CONFLICTS OF INTEREST DISCLOSURE

The authors declare that there is no conflict of interest.

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