A Scoping View of Effective Teaching Strategies Vs Learning Dyanamics in Nursing Education

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Abstract: *Education as a process and displine, and plays an important role in imparting knowledge, methods of teaching, and providing/ maintaining a conducive learning environment. Nursing education has significantly developed in response to the changing needs, advances, priorities and expectations in health care. Nursing education can maintain its dynamic quality when it moves toward innovation and modern methods of teaching and learning. Nurse educators need to adapt their pedagogies to include the facilitation of thinking/learning at a higher level. Nurse educators' use of technology in teaching continues to expand at a dizzying pace. It is hard to imagine planning a course or class without thinking about technology that might be used to engage students in learning and meet other instructional goals. Teaching with technology, however, is not about the latest tools but involves the decisions of nurse educators about when and how to use those tools. There are effective teaching strategies to improve the effective learning in nursing education such as lecture, simualtion, concept mapping, role play, games, online learning, jigsaw learning, tele tecahing, etc. The focus of education has changed from teaching to learning. Working in an intellectually stimulating environment, having autonomy, contributing to the profession and having work flexibility are all important benefits for nurse educators. Effective educators are knowledgeable about generational and learning style differences, adopt dynamic technology, learn societal needs, use multi –effective teaching strategies and tailor learning activities accordingly to combat the dynamic learning of the learner.*
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I. Introduction

Education as a process and displine, and plays an important role in imparting knowledge, methods of teaching, and providing/ maintaining a conducive learning environment. Nursing education has significantly developed in response to the changing needs, advances, priorities and expectations in health care. A teaching method comprises the principles and methods used for instruction to be implemented by teachers to achieve the desired learning in students. These strategies are determined partly on subject matter to be taught and partly by the nature of the learner. Nursing is a multidimensional technique, a science and an art.[1]

Nurse educators' use of technology in teaching continues to expand at a dizzying pace. It is hard to imagine planning a course or class without thinking about technology that might be used to engage students in learning and meet other instructional goals. (Marilyn H. Oermann, 2015). Teaching with technology, however, is not about the latest tools but involves the decisions of nurse educators about when and how to use those tools. [2]

There are a variety of teaching strategies that instructors can use to improve student learning. It is of great importance to select appropriate teaching strategies in nurse education to make the training more appealing and more effective. Interactive methods including interactive lectures, small group work, journal clubs, reading quizzes, clinical nurse presentations, workshops and problem-based learning are needed in teaching Evidence Based Practice. [3]

Nurse educators are being inspired to rethink historically teacher-centered curriculum designs and to embrace new ideologies that have a stronger focus on student-centered learning. Creative strategies integrated throughout the learning environment are effective in increasing retention of information. To meet these expectations, education should provide active learning that promotes critical thinking and analysis and problem-solving skills. In order to expand the capacities and improve educational outputs, it is crucial to develop and adopt new models of clinical education for nurses. Owing to its practical nature, the empowering education facilitates the occupational tasks and improves the competency and professional skills among nurses. [4]

Nursing education can maintain its dynamic quality when it moves toward innovation and modern methods of teaching and learning. Nurse educators need to adapt their pedagogies to include the facilitation of

thinking/learning at a higher level. There are different styles of learning adopted by learner for effective learning, it may denote with pneumonic term of <u>VARK: •Visual • Aural • Read/Write • Kinesthetic</u>. Therefore, teachers are required to employ up to date methods in their teaching plans. The following are effective teaching strategies to improve the effective learning in nursing education:

1. Lecture method:

The lecture is a way to introduce new material, continue discussion on a topic, and sum up course content, as well as present large blocks of complex and confusing information.[5] (J.P. Johnson, A. Mighten A , 2005) . Of the many teaching strategies available in classroom teaching, the oldest and most widely used method today is the lecture. Lecturing is a straightforward way to impart knowledge to students quickly.(Jie-Hui Xu , 2016).[6] It is still the most basic teaching strategy for instructors, a time-efficient, cost-efficient, effective way to present large amounts of new information to groups of learners.

However, some people believes that lecturing gives the students a passive, non-thinking, information-receiving role, retain only 20% of what they hear in a lecture (Ekwall,1976), and seems to be a somewhat boring teaching method .With the development of technology, the lecture can be combined with a variety of other techniques, (e.g. slide-shows, videos etc.) that students may find this approach to learning fun.

2. Simulation:

Simulation is defined as a technique used to "replace or amplify real experiences with guided experiences that evoke or replace substantial aspects of the real world in a fully interactive manner". [7](Gaba, 2007, p.126). Simulation is defined as a person, device, or set of conditions which attempts to present [education and] evaluation problems authentically. The student or trainee is required to respond to the problems as he or she would under natural circumstances.(McGaghie ,1999, p-198)

Very realistic clinical scenarios help nurses to develop competence, teamwork, confident and critical thinking with minimal risk of harm to clients. Simulation, the art and science of recreating a clinical scenario in an artificial setting, has been an important aspect of nursing program curricula for decades.[8] simulation is an innovative teaching strategy that has proven to be valuable in nursing education (Trail Ross,2017). In particular, high-fidelity simulation is useful for creating realistic scenarios that mimic the patient care environment and allow for more direct application of theoretical knowledge than is possible through traditional teaching methods. [9]

Virtual simulations provide a learning platform that allows live interaction between students and faculty, at a distance, and application of content to clinical situations. With simulation, learners have an opportunity to practice assessment and decision-making in emergency and high-risk situations. Simulations not only are valuable for student learning but also provide a nonthreatening environment for staff to practice, receive feedback on their skills, and improve their confidence.[10]

3. Concept-Mapping:

Concept mapping is a technique that allows students to understand the relationships between ideas by creating a visual map of the connections.[11] An innovative approach to planning and organizing nursing care and a diagram of patient problems and interventions. Concept maps allows the student to see the connections between ideas that they already have; connect new ideas to their existing knowledge; and organize ideas in a logical, but not rigid, structure that allows new information or viewpoints to be included in the future.[12]

Concept maps can help students acknowledge their current understandings and form new ideas. Concept maps help learners to organise or process their knowledge logically. It is suggested that this visual learning technique promotes critical thinking, analysis and evaluation Teaching with the aid of concept maps has been incorporated as an innovative and viable teaching method in nursing education.
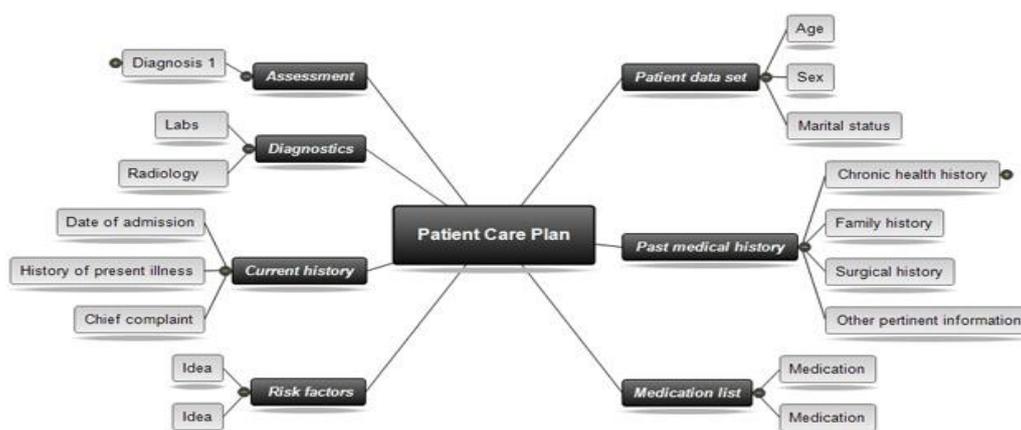
Fig1: Concept Map for patient care plan

- Mapping makes use of graphics and designs to understand complex relationships and the possible outcomes of these relationships.
- In a nursing environment, it can help students connect conditions with treatments and potential side effects.
- Concept and problem mapping can develop the ability to see problems in their mind's eye and improve creative thinking ability of students.
- Nursing practice often calls for innovative thinking from practitioners and concept mapping can train students to meet this requirement.
- Mapping can be applied with equal effectiveness to both individuals and groups.

4. Online learning

Online learning is helpful to nurses due to its flexibility, accessibility and cost-effectiveness. There is also a wide array of new and fresh content that can be found online

Online education is widely viable and accepted as student-centered education. Online education provides increased flexibility, access, and novelty, wider the basis of learning in nursing education, because attending classes on campus is often difficult for nurses due to their work schedules and family and other responsibilities.

An online course does not have scheduled on-campus class meetings. It is an integrated learning program entirely accessible at any time and any place via a computer with an Internet connection. It is considered an effective strategy for continuing education for nurses in clinical settings. The instructor should prepare diverse learning materials, such as literature, videos, websites, and discussion forums. Upon completion, an online test is required to evaluate comprehension. In this case, nurses are able to control their study time, and they also have time to absorb the materials. [13]

Few example for free online courses in nursing are SPSS course, data analysis, research methodology, care relationship, diet therapy, anatomy of human, asthma management, vital signs(nursingjournal.org)

5. Games:

Games in nursing education promote a positive, fun, engaging environment that increases motivation and interest of learners.Games can make learning more enjoyable and easy retrived through mobile app also. Few examples for games in nursing are nursing terminology, prognosis, drug calculation, blood components, pain etc.(www.crazygames.com, www.learningnuse.org)

Games are not only fun, but also an effective teaching strategy.([14,15, 16])The use of games as a teaching strategy encourages involvement and increases both the motivation and the interest of the student. Nursing literature highlights many reasons for using games as a teaching strategy, including the promotion of active learning, encouragement of critical thinking, the value of fun and excitement in learning, and replication of real-life situations.[14] Using a game to teach content that may be considered dry or boring can bring about a fresh and enjoyable atmosphere.[15] Moreover, games combined with lectures are more effective than lectures alone in improving student knowledge.[16]

6. Role-Playing

Role-plays are not the same as simulations because they are not scripted and involve improvisation. Role-plays are important in nursing education as they facilitate the practice of communication and conflict management. It is important to debrief following role-playing to offer support and reflection, as well as further learning.

Role playing assists the students to enhance their understanding of their own and other people's feelings, develop new behaviors, and improve their problem solving skills. However, due to the amazing nature of role playing, it may sometimes be disregarded as a context for developing educational content. The benefits of role playing depend on the quality of its practice and more importantly on its analysis. To be precise, instead of being a goal, role playing is a means to help students show values, feelings, attitudes and solutions and finally listen to their teacher's evaluations [17]

7. Jigsaw Classroom

The jigsaw classroom is a research-based cooperative learning technique invented and developed in the early 1970s by Elliot Aronson and his students at the University of Texas and the University of California.(www.jigsaw.org).This technique involves making 'home groups' to complete tasks. A member is chosen to gather data and return the information to the home group. This strategy helps learners to increase their listening skills, engagement, and empathy. Again, it is imperative that there is an opportunity for thorough debriefing following the activity to ensure that support, reflection and increased learning can ensue. [18]

This cooperative learning technique reduces racial conflict among students, promotes better learning, improves student motivation, and increases enjoyment of the learning experience.[19] The jigsaw process encourages listening, engagement, and empathy by giving each member of the group an essential part to play in the academic activity.([19,20]). Concerning nursing education, the jigsaw classroom strategy can be used to teach the content of many topics in the classroom as well as in the workplace. The instructor needs to manage the process and provide a summary and debriefing session after study.

8. Case Study

Case studies are typically used to apply several problem-solving concepts and skills to a detailed situation with lots of supporting documentation and data. (www.unb.ca) Case studies are stories that are realistic and complex, that usually involve a conflict or issue that needs to be resolved by the learner. The aim is to close the gap between theory and practice, and improve action-planning and critical thinking. The educator needs to inform the learners of summarised suggestions to resolve the case study after the learners have had an opportunity to work on the case themselves.

It provide the necessary platform for students to communicate and collaborate about a situation that concerns a certain group. Writing case studies is also a useful learning tool; it forces students to reflect on the entire course of treatment for a patient, ranging from obtaining important information to diagnosis to treating the medical condition.

9. Debating

Debating is presenting the "pro" and "con" arguments of a specific assertion, proposition, or solution to a problem. [21] This teaching/learning strategy offers students an opportunity to learn new content in an exciting way. This approach facilitates critical thinking, alternative perspectives, and an opportunity to practice verbal communication, research skills and higher order of learning. Debriefing or discussion following the debate can help to provide learners with support, feedback, collaboration and critical thinking/evaluation.[22]

Debating triggers higher order learning, such as analysis, synthesis, and evaluation.[23] It can help students learn to both read and write critically. Debating can be used when teaching a controversial issue or discussing a trend in nursing education. All students are responsible for researching the issue being proposed. This type of debate with feedback engages all the students in learning, improves team collaboration, and develops critical thinking.

10. Problem Based Learning (PBL)

Problem Based Learning (PBL) is an instructional method for active learning for nursing students to understand the concept, improve the critical thinking and develop problem solving skills. PBL is an approach that develops students' ability to critically apply the cumulative knowledge to actual clinical problems which reinforces motivation to learn, develops clinical reasoning skills, and enhance self-directed and life-long learning. [24]The teaching method that uses patient situations or scenarios to stimulate students to acquire and apply information to solve problems is known as problem-based learning (PBL).[25] PBL encourages active learning through self-directed learning, self-appraisal, clinical problem-solving skills, teamwork, discipline, and integration of information.[26]

11. Flipped classroom:

A flipped classroom is one where students are introduced to content at home, and practice working through it at school. (www.teaching thought.com). A flipped classroom is an instructional strategy and a type of blended learning that reverses the traditional learning environment by delivering instructional content, often online, outside of the classroom. It moves activities, including those that may have traditionally been considered homework, into the classroom. (www. Wikipedia.org). It is blended learning approach; face-to-face interaction is mixed with independent study via technology. Students watch pre-recorded videos at home, and then come to school to do the homework armed with questions and at least some background knowledge.

To increase student engagement, some faculty use a "flipped classroom" (time allotted for lecture and homework is reversed).[27] In a flipped classroom, students learn content online before coming to school, and then they do homework in class, with teachers and students discussing and solving questions together.

3. Video Based Conferencing: By this method and technology students and educators can get connected and clear their quarries, show live demonstration across the distance. It also helps in connecting diverse student groups from different places.

4. E-learning: This method helps students in adaptation of different distance learning technologies for self directed, active learning and refocusing from educator to the subject through internet. E-learning is a self-learning activity which has been newly employed in many universities and education centers. It also helps achieving a main objective of formal education, i.e. preparing learners for active and independent learning.[28] Chang et al. reported that compared to traditional teaching methods, computer-based teaching saves 25-60% of the learners' time.[29] This is of particular importance and necessity in nursing profession as nurses need access to updated information on diseases, treatments, drugs, and thus, new skills.

5. Tele Teaching: Online model of education where learner directly interacts with tutor. This is learner oriented learning which promotes discovery learning at their office or home.

6. Inquiry Learning:

Inquiry learning is another modern teaching method. A popular teaching method that is being used by a vast majority of teachers is hands on activities. Hands-on activities are activities that require movement, talking, and listening, it activates multiple areas of the brain. "The more parts of your brain you use, the more likely you are to retain information," says Judy Dodge, author of 25 Quick Formative Assessments for a Differentiated Classroom (Scholastic, 2009).[30]

7. Computer assited learning:

Computer Assisted Learning can be defined as a computer program or file developed specifically for educational purposes.[31]. In broader sense, it may be considered as a part of E-Learning.

8. Mobile: There are lots of new approaches and technologies that have come into existence to reduce students' as well as teachers' burden. Today's students can learn their subjects or any lecture online on devices like iPad, mobile or laptops. They can save their important notes online, submit their assignments. The majority of students claimed that they benefited from the mobile application for the education industry. Textbook learning nowadays has become history, and students like to learn from the media and audio-video platforms. It lets students understand the concept at a faster speed.

9. Journal club is an example of small group **method of teaching**-learning **technique.** Journal clubs are used in both clinical and academic settings in order for clinicians and students to utilize current best-practices, become competent in evidence based practice and develop critical appraisal skills. Journal clubs encourage students to practice searching for relevant research, critically appraising articles, and contributing to open discussions with peers. Establishing the practice of reading and critiquing literature in the classroom can enable the creation of a habit of using current evidence when students enter practice. It is an excellent opportunity to engage students in learning the process of evidence based practice.[32]The value of **journal club** is that it can promote better understanding of research process and improved ability to critically appraise research

10. Self-paced learning (self-directed learning)

Self-paced learning is a radical departure from conventional instruction methods because it allows students to proceed through a body of material at their own pace, instead of a pace that is pre-determined by the teacher. Much of the content for self-paced learning comes through prepared materials that students study for

each unit. Each unit should also include assessment instruments to ensure that students have mastered the unit topics before they move on to the next unit.[6,31]

There are four key stages to independent learning, known as self-directed learning: being ready to learn, setting learning goals, engaging in the learning process, and evaluating learning. In the self-paced learning environment, the role of the teacher changes significantly. Instead of being primarily a transmitter of new information, the teacher becomes a facilitator for the student's progress through the material. Each student will be moving at a different pace, so teachers will need to be flexible enough to respond to a variety of different student needs as they become apparent.

II.   Conclusion

The focus of education has changed from teaching to learning. Learning is unique to the individuals's needs, varied and is therefore not 'one size fits all' that it's increasingly difficult for nursing education to keep ahead of rapid changes driven by research and technology. Working in an intellectually stimulating environment, having autonomy, contributing to the profession and having work flexibility are all important benefits for nurse educators. Effective educators are knowledgeable about generational and learning style differences, adopt dynamic technology, learn societal needs, use multi –effective teaching strategies and tailor learning activities accordingly to combat the dynamic learning of the learner. They make links between theory and practice, teach simple concepts before complex ones, give constructive feedback and build trusting relationships with students.

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References

[1]. Yasser El Miedany. The Art of Teaching, Rheumatology Teaching. 2018: pp 131-154.
[2]. Marilyn H. Oermann. Technology and Teaching innovation in Nursing. Nursing educator. 2015: Vol.40(2); 55-56
[3]. Khan KS, Coomarasamy A. A hierarchy of effective teaching and learning to acquire competence in evidenced-based medicine. BMC Med Educ. 2006;6:59.
[4]. Tanner C. Transforming prelicensure nursing education: preparing the new nurse to meet emerging health care needs. Nursing Education Perspectives. 2010;31(6):347–53.
[5]. J.P. Johnson, A. Mighten. A comparison of teaching strategies: lecture notes combined with structured group discussion versus lecture only. J Nurs Educ, 44 (2005), pp. 319-322
[6]. Jie-Hui Xu., Toolbox of teaching strategies in nurse education. Chineese nursing research. 2016: vo.l3(2); 54-57.
[7]. Gaba, D,. The future vision of simulation in healthcare. The Journal of the Society for Simulation in Healthcare.2007: 2 (2); 126-135.
[8]. G.E. Gomez, E.A. GomezLearning of psychomotor skills: laboratory versus patient care setting J Nurs Educ. 1987;26 : pp. 20-24.
[9]. B.M. Nagle, J.M. McHale, G.A. Alexander, B.M. FrenchIncorporing scenario-based simulation into a hospital nursing education program J Contin Educ Nurs. 2009;40 :pp. 18-25.
[10]. Margaret c, Sharron r et al. use of a virtual learning platform for distance-based simulation in an acute care nurse practitioner curriculum. dimensions of critical care nursing. 2017. 36(5):284-289
[11]. Carnegie Mellon University Innovative Teaching Strategies. (2006).2015.10.9.http://www.cmu.edu/teaching/assessment /howto/assesslearning/conceptmaps.html.Google Scholar
[12]. A.C. All, L.I. Huycke, M.J. FisherInstructional tools for nursing education: concept maps Nurs Educ Perspect.2003; 24: pp. 311-317
[13]. S. Karaman, S. Kucuk, M. AydemirEvaluation of an online continuing education program from the perspective of new graduate nurses.Nurse Educ Today.2014; 34 :pp. 836-841
[14]. K. MastersDevelopment and use of an educator-developed community assessment board game Nurse Educ.2005; 30 :pp. 189-190.
[15]. K. Glendon, D. UlrichUsing games as a teaching strategy J Nurs Educ, 44 (2005), pp. 338-339. View Record in ScopusGoogle Scholar
[16]. M.A. Royse, S.E. NewtonHow gaming is used as an innovative strategy for nursing education Nurs Educ Perspect, 2007;28: pp. 263-267.
[17]. Bruce R.J, Marsha W, Calhoun E. Models of teaching. Translated by Behrangi M.R. 7th ed. Tehran: Kamal Tarbiat. 2004. 301-304.
[18]. Jigsaw Classroom. The Jigsaw Classroom Overview. 2015.10.19. https://www.jigsaw.org. Google Scholar
[19]. C. Lai, C. WuUsing handhelds in a Jigsaw cooperative learning environment. J Comput Assist Learn.2006; 22 : 284-297.
[20]. Jigsaw strategyPennsylvania State University. (2007). 2015.10.19. https://www.schreyerinstitute.psu.edu/pdf/alex/jigsaw.pdf.
[21]. M. Garrett, L. Schoener, L. HoodDebate: a teaching strategy to improve verbal communication and critical-thinking skills Nurse Educ.1996; 21: pp. 37-40
[22]. C. Park, C. Kier, K. JugdevDebate as a teaching strategy in online education: a case study Can J Learn Technol.2011; 37: 17-20
[23]. M.J. Bradshaw, A.J. LowensteinInnovative Teaching Strategies in Nursing and Related Health Professions. Jones and Bartlett Publishers, Sudbury, MA (2011).
[24]. Rajes KS. Emerging Innovative Teaching Strategies in Nursing.JOJ nursing and Health care.2017;vol1(2); 1-3.
[25]. Problem-based   Learning, Stanford   University (2001).2015.10.19   .http://web.stanford.edu/dept/CTL/cgibin/docs/newsletter/ problem_based_learning.pdf
[26]. University of New Mexico. Teaching and Learning Strategies. 2015.10.9. http://nursing.unm.edu/resources/teaching-and-learning-strategies.html.
[27]. Missildine K. Fountain R, Summers L, Gosselin K. Flipping the classroom to improve student performance and satisfaction. J Nurs Educ. 2013;52(10):597-599. doi: 10.3928/01484834-20130919-03.

[28].   Allen M, Pierce ST .Informatics and Nursing Opportunities and Challenges. Second ed. Philadelphia: Lippincott William & Wilkins; 2003.

[29].   Chang WY, Hsiao sheen ST, Chang PC. Developing an e-learning education program for staff nurses: Processes and Outcomes. Nurse Education Today. 2008;28:822–828.

[30].   Cleaver, Samantha. "Hands-On Is Minds-On". *Scholastic.com*. Retrieved 4 March 2015.

[31].   Rishu Sharma .Computer Assisted Learning – A Study. International Journal of Advanced Research in Education & Technology (IJARET). 2017;Vol. 4(2) :1-3

[32].   kimberly a szucs, jeryl d. benson. using a guided journal club as a teaching strategy to enhance learning skills for evidence-based practice. occupational therapy in health care.2017; 31(2):1-7.