Chapter 1

EVIDENCE BASED TEACHING STRATEGIES IN NURSING EDUCATION

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Introduction

Evidence-based practice (EBP) is trying to be improved and implemented in patient care by nurses in order to offer a high quality and effective health care all over the world. At the international level, the necessity of the inclusion of undergraduate students' skills and information related to EBP in clinical decision-making and professional applications is stressed (Johnson et al., 2010; Melnyk, 2013). It's suggested that EBP as a lifelong learning approach, should be started at undergraduate education years and should be improved throughout the vocational career (Ramis, Chang, & Nissen, 2018; Young et al., 2014). In almost all countries today, question forms and scales are being developed by academicians to measure students' knowledge in this area, in order to carry EBP into effect (Phillips et al., 2016; Upton, Scurlock-Evans, & Upton, 2016; Zhang et al., 2018). There are measures being taken for eliminating the established problems and deficiencies in this field, various teaching strategies are determined in order for students to attain EBP skills.

It is important to consider some factors while determining teaching strategies. Factors to consider should be shaped according to institutional politics as much as a student and a teacher (Youssef et al., 2018). In addition to individual characteristics such as gender and age, students also have a number of qualities that can be changed by training (Wallin, Bostrom, & Gustavsson, 2012). Teaching strategies should be planned by taking the cultural values and perspectives of educators and nursing students into account. First, educators should believe that evidence based nursing practices improve the quality of care and patient outcome. In order to be a role model for the students, they should have sufficient knowledge and skills in this area, should be able to carry out these applications themselves, encourage the students to use the evidence in the clinic and make the trainings they planned consistently (Reid et al., 2017; Youssef et al., 2018). For this, a good training of EBP should be planned during the undergraduate period and students should be able to acquire these skills with appropriate teaching strategies. As the information about the EBP increases for the students, they use the EBP more in the clinical setting for patient care (Ashktorab et al., 2015). For this reason, starting from the license period, students should

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The online magazine club was designed and realized as a Twitter Journal Club via a Flipped Model. Academics stated that this approach was effective in developing the critical evaluation skills of nursing students, facilitating the interaction between students in an online environment, and increasing student participation and EBP satisfaction (Ferguson et al., 2017).

Participation in academic conferences and meetings

Academic conferences and meetings provide up-to-date information for participants in important health issues. This information is often derived from evidence-based practice and research results. Participation in these meetings is important since in such meetings students learn how the results of a research are to be evaluated and how the results of the blood-based practice can be integrated into patient care. Not knowing how to evaluate and present the results of a research cannot result in implementing the information acquired through the research on patient care and the clinic (Dhakal, 2018). Indeed there is evidence regarding that posters and oral presentations on EBP implemented in the curriculum improve EBP application skills of the students (Keib et al., 2017).

Conclusion

This article is concerned with teaching strategies that have been identified as efficient in nursing education. It is conferred that the common ground of examined methods is their efficacy on advancing knowledge, stand and motivation concerning evidence-based research and increasing skills of problem solving and critical evaluation. Particularly, it is determined that simulation/scenario based training studies were examined through randomized controlled studies and it is observed that obtained results are rich in evidence. However, it is revealed that other evidence-based teaching strategies mentioned above are more effective than traditional learning methods and have a positive impact on nursing students. Whereas the level of evidence associated with these methods is often low. Thus, employing methods for creating and maintaining an efficient learning environment along with research methods that can provide various evidence regarding EBP may be suggested.

References

Adib-Hajbaghery, M. (2009). Evidence-based practice: Iranian nurses' perceptions. *Worldviews on Evidence-Based Nursing*, 6(2), 93-101.

Aglen, B. (2016). Pedagogical strategies to teach bachelor students evidence-based practice: a systematic review. *Nurse Education Today*, 36, 255-263.

Ashktorab, T., Pashaeypoor, S., Rassouli, M., & Alavi-Majd, H. (2015). Nursing students' competencies in evidence-based practice and its related factors. *Nursing and Midwifery Studies*, 4(4), e230-247. doi:10.17795/nmsjournal23047

Bergmann, J., & Sams, A. (2012). *Flip your classroom reach every student in every class every day.* United States of America: International Society for Technology in Education.

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, 15-21. doi:10.1016/j.nedt.2015.12.010

Blodgett, T. J., Blodgett, N. P., & Bleza, S. (2016). Simultaneous multiple patient simulation in undergraduate nursing education: a focused literature review. *Clinical Simulation in Nursing*, 12(8), 346-355. doi:10.1016/j.ecns.2016.03.008

Bossaer, J. B., Panus, P., Stewart, D. W., Hagemeier, N. E., & George, J. (2016). Student performance in a pharmacotherapy oncology module before and after flipping the classroom. *American Journal of Pharmaceutical Education*, 80(2), 31.

Davidson, S. J., & Candy, L. (2016). Teaching EBP using game-based learning: improving the student experience. *Worldviews Evidence Based Nursing*, *13*(4), 285-293. doi:10.1111/wvn.12152

Dearnley, C., Rhodes, C., Roberts, P., Williams, P., & Prenton, S. (2018). Team based learning in nursing and midwifery higher education; a systematic review of the evidence for change. *Nurse Education Today*, 60, 75-83. doi:10.1016/j.nedt.2017.09.012

Dhakal, K. (2018). Librarians collaborating to teach evidence-based practice: exploring partnerships with professional organizations. *Journal of the Medical Library Association*, 106(3), 311-319. doi:10.5195/jmla.2018.341

Ferguson, C., DiGiacomo, M., Gholizadeh, L., Ferguson, L. E., & Hickman, L. D. (2017). The integration and evaluation of a social-media facilitated journal club to enhance the student learning experience of evidence-based practice: A case study. *Nurse Education Today*, 48, 123-128. doi:10.1016/j.nedt.2016.10.002

Gannod, G. C., Burge, J., & Helmick, M. (2008). Using the inverted classroom to teach software engineering. In M. B. D. W. Schäfer, & V. Gruhn (Ed.), *ICSE '08: Proceedings of the 30th International Conference on Software Engineering* (pp. 777-786). Leipsig, Germany.

Hessler, K. L. (2016). Nursing education: Flipping the classroom. *The Nurse Practitioner*, 41(2), 17-27. Hickman, L. D., Kelly, H., & Phillips, J. L. (2014). EVITEACH: a study exploring ways to optimise the uptake of evidence-based practice to undergraduate nurses. *Nurse Education in Practice*, 14(6), 598-604.

Horntvedt, M. T., Nordsteien, A., Fermann, T., & Severinsson, E. (2018). Strategies for teaching evidence-based practice in nursing education: a thematic literature review. *BMC Medical Education*, 18(1), 172. doi:10.1186/s12909-018-1278-z.

Hrynchak, P., & Batty, H. (2012). The educational theory basis of team-based learning. *Medical Teacher*, 34(10), 796-801. doi:10.3109/0142159X.2012.687120

llic, D., & Maloney, S. (2014). Methods of teaching medical trainees evidence-based medicine: a systematic review. *Medical Education*, 48(2), 124-135.

Jacobsen, H. E., & Andenaes, R. (2011). Third year nursing students' understanding of how to find and evaluate information from bibliographic databases and Internet sites. *Nurse Education Today*, 31(8), 898-903. doi:10.1016/j.nedt.2011.01.003

Johnson, N., List-Ivankovic, J., Eboh, W., Ireland, J., Adams, D., Mowatt, E., & Martindale, S. (2010). Research and evidence based practice: Using a blended approach to teaching and learning in undergraduate nurse education. *Nurse Education in Practice*, 10(1), 43-47.

Keib, C. N., Cailor, S. M., Kiersma, M. E., & Chen, A. M. H. (2017). Changes in nursing students' perceptions of research and evidence-based practice after completing a research course. *Nurse Education Today*, 54, 37-43. doi:10.1016/j.nedt.2017.04.007

Kim, J., Park, J. H., & Shin, S. (2016). Effectiveness of simulation-based nursing education depending on fidelity: a meta-analysis. *BMC Medical Education*, 16, 152. doi:10.1186/s12909-016-0672-7

Lage, M. J., Platt, G. J., & Treglia, M. (2000). Inverting the classroom: A gateway to creating an inclusive learning environment. *The Journal of Economic Education*, 31(1), 30-43.

Leach, M. J., Hofmeyer, A., & Bobridge, A. (2016). The impact of research education on student nurse attitude, skill and uptake of evidence-based practice: a descriptive longitudinal survey. *Journal of Clinical Nursing*, 25(1-2), 194-203.

Malik, G., McKenna, L., & Griffiths, D. (2017). Using pedagogical approaches to influence evidence-based practice integration - processes and recommendations: findings from a grounded theory study. *Journal of Advance Nursing*, 73(4), 883-893. doi:10.1111/jan.13175

Melender, H. L., & Maijala, V. (2018). Tactics for teaching evidence-based practice: video as a support for learning international database searching in nursing education. *Worldviews Evidence Based Nursing*. doi: 10.1111/wvn.12304

Melnyk, B. M. (2013). Educational programming in undergraduate and graduate academic curricula: friend or foe to accelerating evidence-based practice? *Worldviews on Evidence-Based Nursing*, 10(4), 185-186.

Melnyk, B. M., Gallagher-Ford, L., Long, L. E., & Fineout-Overholt, E. (2014). The establishment of evidence-based practice competencies for practicing registered nurses and advanced practice nurses in real-world clinical settings: proficiencies to improve healthcare quality, reliability, patient outcomes, and

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costs. Worldviews Evidence Based Nursing, 11(1), 5-15. doi:10.1111/wvn.12021

Milner, K. A., & Cosme, S. (2017). The PICO game: an innovative strategy for teaching step 1 in evidence-based practice. *Worldviews Evidence Based Nursing*, 14(6), 514-516. doi:10.1111/wvn.12255

Mohammadi, M. M., Poursaberi, R., & Salahshoor, M. R. (2018). Evaluating the adoption of evidence-based practice using Rogers's diffusion of innovation theory: a model testing study. *Health Promotion Perspectives*, 8(1), 25-32. doi:10.15171/hpp.2018.03

Moravec, M., Williams, A., Aguilar-Roca, N., & O'Dowd, D. K. (2010). Learn before lecture: a strategy that improves learning outcomes in a large introductory biology class. *CBE—Life Sciences Education*, 9(4), 473-481.

Morris, J. (2016a). Implementation of a team-based learning course: Work required and perceptions of the teaching team. *Nurse Education Today*, 46, 146-150. doi:10.1016/j.nedt.2016.09.002

Morris, J. (2016b). The use of team-based learning in a second year undergraduate pre-registration nursing course on evidence-informed decision making. *Nurse Education in Practice*, 21, 23-28. doi:10.1016/j.nepr.2016.09.005

Parmelee, D., Michaelsen, L. K., Cook, S., & Hudes, P. D. (2012). Team-based learning: a practical guide: AMEE guide no. 65. Med Teach, 34(5), e275-287. doi:10.3109/0142159X.2012.651179

Pashaeypoor, S., Ashktorab, T., Rassouli, M., & Alavi Majd, H. (2017). Experiences of nursing students of Evidence-Based Practice Education according to Rogers' Diffusion of Innovation Model: A Directed Content Analysis. *Journal of Advances in Medical Education& Professionalism*, 5(4), 203-209.

Phillips, A., Lewis, L., McEvoy, M., Galipeau, J., Glasziou, P., Moher, D., . . . Williams, M. T. (2016). Development and validation of the guideline for reporting evidence-based practice educational interventions and teaching (GREET). *BMC Medical Education*, 16(1), 237. doi:10.1186/s12909-016-0759-1

Phillips, L., & Neumeier, M. (2018). Building capacity for evidence-based practice: understanding how licensed practical nurses (lpns) source knowledge. *Worldviews Evidence Based Nursing.* doi:10.1111/ wvn.12284

Ramis, M. A., Chang, A., & Nissen, L. (2018). Undergraduate health students' intention to use evidence-based practice after graduation: A systematic review of predictive modeling studies. *Worldviews Evidence Based Nursing*, 15(2), 140-148. doi:10.1111/wvn.12268

Raurell-Torreda, M., & Romero-Collado, A. (2015). Simulation-based learning as a tactic for teaching evidence-based practice. *Worldviews Evidence Based Nursing*, 12(6), 392-394. doi:10.1111/wvn.12107

Reid, J., Briggs, J., Carlisle, S., Scott, D., & Lewis, C. (2017). Enhancing utility and understanding of evidence based practice through undergraduate nurse education. *BMC Nursing*, 16, 58. doi:10.1186/s12912-017-0251-1

Richardson, J., Grose, J., Bradbury, M., & Kelsey, J. (2017). Developing awareness of sustainability in nursing and midwifery using a scenario-based approach: Evidence from a pre and post educational intervention study. *Nurse Education Today*, 54, 51-55. doi:10.1016/j.nedt.2017.04.022

Rojjanasrirat, W., & Rice, J. (2017). Evidence-based practice knowledge, attitudes, and practice of online graduate nursing students. *Nurse Education Today*, 53, 48-53. doi:10.1016/j.nedt.2017.04.005

Ruzafa-Martinez, M., Lopez-Iborra, L., Armero Barranco, D., & Ramos-Morcillo, A. J. (2016). Effectiveness of an evidence-based practice (EBP) course on the EBP competence of undergraduate nursing students: A quasi-experimental study. *Nurse Education Today*, 38, 82-87. doi:10.1016/j.nedt.2015.12.012

Schmidt, N. A., & Brown, J. M. (2007). Use of the innovation-decision process teaching strategy to promote evidence-based practice. *Journal of Professional Nursing*, 23(3), 150-156.

Shin, S., Park, J. H., & Kim, J. H. (2015). Effectiveness of patient simulation in nursing education: meta-analysis. *NurseEducation Today*, 35(1), 176-182. doi:10.1016/j.nedt.2014.09.009

Sibley, J., & Parmelee, D. X. (2008). Knowledge is no longer enough: Enhancing professional education with team-based learning. *New Directions for Teaching and Learning*, 2008(116), 41-53. doi:10.1002/tl.332

Sin, M. K., & Bliquez, R. (2017). Teaching evidence based practice to undergraduate nursing students. *Journal of Professional Nursing*, 33(6), 447-451. doi:10.1016/j.profnurs.2017.06.003

Talbert, R. (2012). Inverted Classroom. Colleagues, 9(1), 1-2.

Tolks, D., Schäfer, C., Raupach, T., Kruse, L., Sarikas, A., Gerhardt-Szép, S., . . . Eichner, B. (2016). An introduction to the inverted/flipped classroom model in education and advanced training in medicine and in the healthcare professions. *GMS Journal for Medical Education*, 33(3), 1-23.

Upton, P., Scurlock-Evans, L., & Upton, D. (2016). Development of the student evidence-based practice questionnaire (s-ebpq). *Nurse Education Today*, 37, 38-44. doi:10.1016/j.nedt.2015.11.010

Vetter, M. J., & Latimer, B. (2017). Tactics for teaching evidence-based practice: enhancing active

learning strategies with a large class of graduate ebp research in Nursing Students. *Worldviews Evidence Based Nursing*, 14(5), 419-421. doi:10.1111/wvn.12227

Wallin, L., Bostrom, A. M., & Gustavsson, J. P. (2012). Capability beliefs regarding evidence-based practice are associated with application of EBP and research use: validation of a new measure. *Worldviews Evidence Based Nursing*, 9(3), 139-148. doi:10.1111/j.1741-6787.2012.00248.x

Wonder, A. H., & Otte, J. L. (2015). Active learning strategies to teach undergraduate nursing statistics: connecting class and clinical to prepare students for evidence-based practice. *Worldviews Evidence Based Nursing*, 12(2), 126-127. doi:10.1111/wvn.12075

Young, T., Rohwer, A., Volmink, J., & Clarke, M. (2014). What are the effects of teaching evidence-based health care (EBHC)? Overview of systematic reviews. *PLoS One*, 9(1), e86706.

Youssef, N. F. A., Alshraifeen, A., Alnuaimi, K., & Upton, P. (2018). Egyptian and Jordanian nurse educators' perception of barriers preventing the implementation of evidence-based practice: A cross-sectional study. *Nurse Education Today*, 64, 33-41. doi:10.1016/j.nedt.2018.01.035

Zelenikova, R., Beach, M., Ren, D., Wolff, E., & Sherwood, P. R. (2015). Graduate nursing students' evaluation of EBP courses: A cross-sectional study. *Nurse Education Today*, 35(1), 265-270.

Zhang, Y. P., Liu, W. H., Yan, Y. T., Zhang, Y., Wei, H. H., & Porr, C. (2018). Developing student evidence-based practice questionnaire (S-EBPQ) for undergraduate nursing students: Reliability and validity of a Chinese adaptation. *Journal of Evaluation in Clinical Practice*. doi:10.1111/jep.12897