**An Annotate Bibliography of Technology in Nursing**

Compiled by L. Heinzig, September 2018

Alvarez, A,G, Dal Sasso. G,T., & Iyengar S. (2016). Persuasive technology in nursing education about pain. *Studies In Health Technology And Informatics, 225,* 272-6.

The objectives of the study were to measure the quality of a virtual mobile learning object, to measure the mental workload of the educational intervention, and to evaluate the learning results. Three simulated scenarios allowed students to interact and learn about pain utilizing mobile devices. There was higher satisfaction and less perceived “mental demand” from students with the mobile devices, when compared to less interactive methodologies. I would be interested to try out a module such as the one described in this article.

Chiou, Sl, Su, H. , liu, K., Hwang, H. (2015). Flipped classroom: A new teaching strategy for integrating Information technology Into nursing education. *Journal of Nursing, 2015 Supplement, 62,*  5-10.

Having read the abstract for this article, my interest was piqued, however when I hit the link, I discovered that the full article was written in Chinese. Most disappointing, however I kept it in the bibliography as a reminder to follow up on the concept of the “flipped classroom” for future study.

Day-Black, C. & Merrill, E. B. (2015). Using mobile devices in nursing education. *The AFBN Journal. Fall, 2015,* 78-84.

This study looked at 4th year nursing students who used ipod Touch 4th generation to augment their clinical practice in the psychiatric-mental health setting. Overall, the students were able to enhance their practice by being able to access psychopharmacologic resources electronically and also to communicate easily with faculty. Although a somewhat useful article, given the present proliferation of smart phones, I was surprised that this article did not address their use (and potential abuse) in the workplace.

Glauser, W. (2017). Artificial Intelligence, Automation and the Future of Nursing. *Canadian Nurse, 113 (3),*  24-26.

This article examines the relationships between artificial intelligence, automation, and the future of nursing. Topics covered include the use of a robot with artificial intelligence (AI) in a retirement home in Toronto, Ontario that interacts with resident and monitor signs of dementia, the need to give technology nurses' roles in a way that meets the needs of patients, and the impact of technology on nursing education.

Ireland, A. V. (2017). Simulated human patients and patient-centredness: The uncanny hybridity of nursing education, technology, and learning to care. *Nursing Philosophy*, *18*(1), n/a-N.PAG. <https://doi.org/10.1111/nup.12157>

This article examines how technology (through simulated patients) connects students to learning how to care for patients. It examines post-colonial thought in relation to these seemingly disconnected concepts. This article is an interesting but takes a very philosophical approach to the topics which although providing insights, is not as practically focussed as some of the other articles.

Lee, H., Min, H., Oh, S., Y Shim, K. (2018). Mobile technology in undergraduate nursing education: A systematic review. *Healthcare Information Research. 24 (2).*  97-108*.*

This review focussed on several studies which had examined various aspects of mobile technology use in nursing education. The focus of most studies is in application of knowledge in clinical practice. This systematic review found no support for consistent positive effects of mobile device use on undergraduate nursing students' knowledge and clinical skills outcomes, however there may be some support for that access to various databases may help bridge the theory-practice gap. I would like to explore further as other studies do identify mobile technology as useful.

Pu, Y., Wu, T., Chiu, P. Y Huaung, Y. (2016). The design and implementation of authentic learning with mobile technology in vocational nursing practice course, 47 (3), 494–509.

This study proposed an authentic learning model for vocational nursing education, validated by

home-visiting activities with the assistance of the mobile technology for a nursing

practice course of 60 nursing students at a vocational nursing school in Taiwan. Tablet PCs were used. Through random observation of student visits, the students were found to be more interactive with likely as they were less burdened by papers and could access needed information on the tablet. Instructors felt they were better able to monitor student progress. This study was interesting as it highlighted improved communication as an outcome of technology implementation.

Roney, L. N., Westrick, S. J., Acri, M. C. Aronson, B. S &. Rebeschi, L. M. (2017). Techonology use and technological self-efficacy among undergraduate nursing faculty. *Nursing Education Perspectives. 38(3),* 113-118.

This study identified that although nursing faculty may see the value in integrating technology into their teaching, barriers such as time, training, support and employer pressure all impacted their motivation and ability to implement into their teaching. This article validated many of my own personal experiences and experiences with other faculty, however did not add much to the topic.

Sheikhaboumasoudi, R.., Bagheri, M., Hosseini, S. Ashouri, E., Elahi, N.. (2018). Improving nursing students' learning outcomes in fundamentals of nursing course through combination of traditional and e-Learning methods. *Iranian Journal of Nursing & Midwifery Research. 23(3).* 217-221.

Although this article appears in a foreign journal and deals with a specific clinical area, it further reinforces the value of blended learning in nursing education. As with several of the other articles, it highlights interactive on-line educational experiences for students, as an effective way to actively engage students in the learning process. I found this article relevant to inform my future educational practice.

Skiba, D.J. (2017). Horizon report: Knowledge obsolescence, artificial intelligence, and rethinking the educator role. *Nursing Education Perspectives, 38(3),* 165-167.

This is a summary of an annual report which looks at emerging technologies. It summaries trends, challenges and then technologies that are “on the horizon”. The author was particularly excited about the possibilities with artificial intelligence to assist/tutor students with problematic areas. She challenges nursing faculty to be open to emerging technology. I would consider accessing the full report for further investigation.

Wouters Kluwer (2018). How nursing education programs are currently using educational technology. The future of technology in nursing education. Retrieved from: http://nursingeducation.lww.com/lp/nursing-education-technology-gif.html

This infographic depicts sixteen different types of technology and how they are used in various nursing education programs. 84% surveyed use video (either online or local) and 75% use online or distance learning. They found that programs with larger numbers of students tend to adopt new technologies at a faster pace. This infographic provided me with terminology for further searching such as “adaptive quizzing” to evaluate further.