

**Title:**

SPECIAL SESSION: Predicting Students' Academic and Licensure Success: A Review of Methods for High-Stakes Faculty Decision Making

**Keywords:**

nursing education, testing and testing validity

**Description/Overview:**

Do you ever wish you had a clear-cut method for evaluating the predictive validity and classification accuracy of standardized exams when establishing admission, progression, and high-stakes testing policy for your nursing students? If you or your faculty colleagues have struggled to establish evidence-based admissions criteria or to evaluate what standardized test score threshold is most predictive of NCLEX-RN outcomes within your program, this session is for you. The purpose of this session is to explore powerful but accessible methods for evaluating the accuracy of binary (e.g., yes/no, pass/fail) decisions including diagnostic/classification accuracy and ROC (receiver operating characteristics) curves. In addition to a detailed discussion and demonstration of various software tools, attendees will be provided access to a detailed spreadsheet application for use in their own programs.

**References:**

- Bowers, A. J., & Zhou, X. (2019). Receiver operating characteristic (ROC) area under the curve (AUC): A diagnostic measure for evaluating the accuracy of predictors of education outcomes. *Journal of Education for Students Placed at Risk (JESPAR)*, 24(1), 20–46. <https://doi.org/10.1080/10824669.2018.1523734>
- Brodersen, L. D., & Mills, A. C. (2014). A comparison of two nursing program exit exams that predict first-time NCLEX-RN outcome. *Computers, Informatics, Nursing: CIN*, 32(8), 404–412. <https://doi.org/10.1097/CIN.0000000000000081>
- Odom-Maryon, T., Bailey, L. A., & Amiri, S. (2018). The influences of nursing school characteristics on NCLEX-RN® pass rates: A national study. *Journal of Nursing Regulation*, 9(3), 59–69. [https://doi.org/10.1016/S2155-8256\(18\)30154-6](https://doi.org/10.1016/S2155-8256(18)30154-6)
- Smolkowski, K., & Cummings, K. D. (2015). Evaluation of diagnostic systems: The selection of students at risk of academic difficulties. *Assessment for Effective Intervention*, 41(1), 41–54. <https://doi.org/10.1177/1534508415590386>
- Swets, J. A. (1988). Measuring the accuracy of diagnostic systems. *Science*, 240(4857), 1285–1293. <https://doi.org/10.1126/science.3287615>
- Swets, John A., Dawes, R. M., & Monahan, J. (2000). Psychological science can improve diagnostic decisions. *Psychological Science in the Public Interest*, 1(1), 1–26. <https://doi.org/10.1111/1529-1006.001>

**Organizer**

Brandon Kyle Johnson, PhD, RN, CHSE  
Texas Tech University Health Sciences Center  
School of Nursing  
Assistant Professor/Clinical & Simulation Director

Lubbock TX  
USA

**Author Summary:** Brandon Kyle Johnson is an Assistant Professor and the Clinical/Simulation Director at Texas Tech University Health Sciences Center School of Nursing. He earned a BSN from Texas Tech, an MSN from Lubbock Christian University, and a PhD from Indiana University. His program of research is focused on roles in simulation, observational learning theory, and knowledge acquisition/knowledge application instrument development.