

PRAC Assessment Grant Final Report

Evaluation of Professional Empathy Skills in Healthcare Engineering Technology Management (HETM) Students

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Project Summary: The ability to demonstrate professional empathy is a crucial component of communication in the development of clinical professionalism. IUPUI *PUL 3 Integration and Application of Knowledge, b. meet professional standards and competencies* offers a framework for the cultivation of professional empathy in HETM students. Anecdotal evidence suggested that some IUPUI students in the healthcare engineering technology management major may lack well-developed empathy skills. This project utilized the Toronto Empathy Questionnaire to gather quantitative evidence related to empathy skill sets in learners. Data was analyzed to determine if a statistically significant difference could be observed between student groups: domestic female students, domestic male students, and international male students. The research question was

Can a statistical difference between the empathy scores of domestic learners and international students enrolled in the HETM major be demonstrated?

Data collected showed a difference in empathy scores between domestic and international male students.

Data Collection Methods and Analysis: In January, 2015, students who were enrolled in the healthcare engineering technology management program were asked to anonymously complete the Toronto Empathy Questionnaire. The total number of participants was 42. In addition, participants were asked to identify their gender and student status (domestic or international). No international students were women. Total empathy scores were calculated for each respondent utilizing the scoring guide associated with the tool and range from 0 (no empathy) to 64 (very empathetic), with 32 designated as neutral. Participant scores ranged from 35-59. A two-sample equal variance t-test was performed to identify statistical differences between groups.

23 domestic male students	Mean empathy score 46, SD 6.25
8 domestic female students	Mean empathy score 50, SD 5.89
10 international male students	Mean empathy score 40. SD 5.29

A statistical difference was found between the international and domestic male students ($p=.023$). Interestingly, no statistical difference was found between male and female domestic students given that the Toronto Empathy Questionnaire generally reflects differences between men and women. A very strong statistical difference was found between domestic female students and international male students

($p=.005$). This was completely expected as gender and cultural background are documented as contributors to Toronto Empathy Questionnaire scores.

Obstacles/Challenges and Steps to Mitigate: The only obstacle was the lack of meaningful responses by one participant. That survey was excluded from analysis.

Project Accomplishments: The results of the project were disseminated in a November, 2015 article in *24x7* magazine entitled *The Empathetic Biomed*. In addition, the author presented a session entitled: *The Secret Sauce is Professional Empathy: Measuring and Improving this Vital Workplace Characteristic* at the Association for the Advancement of Medical Instrumentation annual conference in Denver in June, 2015. The Denver workshop offered educators and employers evidence from the survey as well as information to promote professional empathy development. Research findings from empathy development studies were described including mirroring techniques, non-verbal cue awareness, Ted Talk training, role play, and literature-based development.

Project Impact: The project results offered the academic program quantitative evidence of a professionalism trait reported anecdotally as weak in some students. Student professionalism skills are critical in the sophomore course HETM 295, a clinical internship with a minimum of 180 hours of hospital-based learning. Utilizing this information, the program director created a more detailed screening program for clinical placement and an alternative non-clinical internship experience for students who cannot or will not successfully complete the pre-placement process. This has resulted in more satisfied students who are placed and more satisfied clinical site mentors.