Evaluation of Professional Empathy Skills in
Healthcare Engineering Technology Management Students

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__x__   Statement of support from the department chair or school dean by e-mail to tbanta@iupui.edu -
as a separate file not included in the proposal.
__x__   Simple budget : A detailed budget is not necessary. Nevertheless, please include a brief
paragraph/details indicating how you intend to spend the grant money.
__x__   IRB (Institutional Review Board) approval is **not** required for the **proposal**, but must be
obtained prior to transfer of funds **if the proposal is selected.**

Evaluation of Professional Empathy Skills in
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Abstract:

The ability to demonstrate professional empathy is a crucial component of communication in the development of clinical professionalism (Shapiro, Morrison & Boker, 2004). Anecdotal evidence suggests that some IUPUI students in the healthcare engineering technology management major may lack well-developed empathy skills. The assessment of professional empathy prior to clinical placement can offer opportunities for specialized activities designed to improve this vital interpersonal skill. This grant will fund the utilization of the Toronto Empathy Questionnaire (Spreng et al., 2009) to gather quantitative evidence related to empathy skill sets in learners. Pre-placement evaluation and skill development can avoid clinical site performance challenges and can maintain positive preceptor relationships.

Purpose:

Professional empathy in healthcare settings may be described as a capacity to connect with a clinician in a relationship that demonstrates compassion and a willingness to help, evoking feelings of trust and mutual understanding (Cunico et al., 2012). Empathy can be viewed as a combination of behaviors and emotions derived from personal cognitive traits. While the healthcare engineering technology management (HETM) profession involves significant technical and analytic skills, empathy is as much of an art as it is a science (Misch, 2002).

Members of the healthcare team must demonstrate care and concern for others in an effort to support safe and effective patient care (Halpern, 2003; Reynolds & Scott, 2000). Fundamentally, HETM majors must seek to understand the technological needs of medical staff as patient care is delivered. In addition, expressing professional empathy demands effort to support helpful, competent

and reliable relationships with colleagues, especially those who may be identified as customers: the technology users.

Healthcare engineering technology management (HETM) students must complete their first clinical internship at the end of their sophomore year. Program instructors and clinical preceptors have perceived a lack of professionalism in some learners, often in international students. To drill down into these concerns, a professionalism rubric (located at the end of this proposal) was implemented in 2010 at multiple points throughout the program. Through both self-assessment and preceptor assessment, one component, empathy, surfaced as a concern.

This grant will foster the utilization of the Toronto Empathy Questionnaire (Spreng et al., 2009) as a quantitative tool to answer the **research question**: Can a statistical difference between the empathy scores of domestic learners and international students enrolled in the HETM major be demonstrated?

Can this interpersonal skill: empathy, be taught? Should educators assess the capacity for empathy and work to overcome any perceived deficits? Several studies offer a variety of approaches to improve interpersonal skills as well as the rites, rituals, and values of the HETM helping profession (Dow, Leong, Anderson, & Wenzel, 2007; Hatcher & Nadead, 1994; Shapiro, Morrison & Boker, 2004; Thomas, McDonagh, & Strickfaden, 2012). The assessment of professional empathy prior to clinical placement can lead to utilization of specialized instruction designed to improve these interpersonal skills. Pre-placement evaluation and skill development can avoid clinical site performance challenges.

Outcomes:

This project has three objectives:

1. The professional empathy skills of HETM students will be assessed using the Toronto Empathy Questionnaire. This tool will be utilized for all current HETM students in the spring, 2015 semester.

2. Questionnaire results will be statistically analyzed to assess overarching levels of empathy in the student group. In addition, the data will be analyzed to identify statically significant differences between student groups, with special focus on domestic students in comparison with international students. No individual data will be preserved or utilized.

3. The researchers will explore potential instructional experiences that could improve professional empathy skills of all of the HETM students. No individual student or group of students will be identified or targeted.

Assessment Method:

Students enrolled in the HETM major will be informed of the aims of the study and be offered the opportunity to participate as directed by the best practices associated with the protection of human subjects. Willing students will anonymously participate in the short Toronto Empathy Questionnaire. The survey tool consists of 16 questions rated on a five point scale.

Data Analysis:

Questionnaire results will be scored based on the techniques identified by Spreng et al. (2009). Results will be statistically analyzed using Chi square tests of independence to isolate any potentially significant relationships between student characteristics and empathy score.

Evaluation Plans:

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. The ability to offer targeted assessment and interventions to raise skill sets to clinically satisfactory levels is crucial to the ability of the program to meet the needs of constituents. Hospitals depend on our ability to place well-prepared individuals who will function effectively in the clinical setting.

A deeper understanding of professional empathy is integral to the discipline of healthcare engineering technology. Dissemination of the process to implement the evaluation tool can offer other educators and employers insights vital to successful graduate production. Even greater in value is the exploration into activities and instructional experiences that may improve professional empathy competency. Both project areas will be disseminated in scholarly publications as well as conference attendance. The budget for this project will cover travel expenses for dissemination at the Association for the Advancement of Medical Instrumentation (AAMI) annual conference in June, 2015. The educators' roundtable, held every year, will be the powerful and impactful venue to share the findings gathered from this assessment project.

Program Improvement Based on Findings:

Once deeper understandings of professional empathy skills in HETM students are understood, program faculty will explore scholarly literature associated with the techniques for teaching this skill and examine opportunities for inclusion within the curriculum coursework. In addition, created activities will be disseminated for use by other academic programs and employers.

Budget:

$2,500 will be used to fund travel for two HETM program faculty members to attend the Association for the Advancement of Medical Instrumentation (AAMI) annual conference in June of 2015. This society represents the discipline and most educators attend. The registration fee is approximately $700. The conference will be held in Denver, Colorado in 2015. Airfare, hotel and registration expenses will be covered by the grant funds of $1,250 per faculty member. The conference program includes a well-regarded and highly attended educator's forum for dissemination of best practices. This travel funding supports the national sharing of professionalism education, fostering IUPUI as a leader in the discipline.

References:

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Hatcher, S., & Nadeau, M. (1994). The teaching of empathy for high school and college students: Testing Rogerian methods with the interpersonal reactivity index. *Adolescence, 29,* 961.

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Thomas, J., McDonagh, D., & Strickfaden, M. (2012). Empathetic education in design: Strategies for healthcare practitioners. *Australasian Medical Journal, 5,* 292-300.

Professional Attributes

Successful graduates have excellent professional attributes. Students must have satisfactory professional attributes in all categories in order to receive a clinical placement for BMET 290 or BMET 491.

	Excellent	Satisfactory, requires improvement	Unacceptable
Organization Attention to detail	Thorough attention to all details, can multi-task, can prioritize competing responsibilities	Needs to be reminded to complete assigned tasks, occasionally lacks follow through	Forgets important parts of projects, difficulties when asked to multi-task or prioritize
Ability to meet deadlines, timeliness/reliability	Deadlines are met consistently and predictably	Occasionally a deadline is not met or work is incomplete	Commonly deadlines are missed or work is incomplete
Verbal communication	Always tactful, effective, clear, articulate, communicates fluently in English	Sometimes conversations are unclear or inarticulate, occasional English fluency hurdles	Commonly makes inappropriate comments or jokes, uses slang which hinders communication, inarticulate, lack of English fluency
Ability to accept criticism	Consistently receptive to constructive criticism, consistently corrects errors based on feedback	Defensive or displays mild unprofessionalism when criticized, can change techniques/behaviors based on feedback	Occasionally (or more frequently) displays unprofessional behavior when criticized, does not follow suggestions for improvement
Empathy	Consistently demonstrates concern for the feelings of others, diplomatic	Sometimes behavior demeans or degrades the feelings of others	Limited sensitivity and diplomacy
Demeanor, overall professional behavior in the workplace	Self-starter, confident, reliable, embraces change	Attends to assigned duties, responsive to others, addresses concerns to the correct individual	Antagonistic with others, excessively shy or unresponsive, self-focused, complains often
Personal grooming	Clean, dress is professional and appropriate for the workplace	Meets major employer minimum standards for facial hair, piercings and body art	Unkempt, unprofessional, unacceptable piercings, body art or facial hair
Collaboration	Willingly shares ideas and materials with coworkers, offers assistance, offers criticism in a constructive manner	Shares ideas and materials, assists coworkers when asked, accepts the expertise of others	Prefers to work alone, reluctance to work with others, cannot consistently respect the views of others, does not consistently respect the expertise of others
Initiative	Displays enthusiasm, regularly seeks out additional opportunities, takes action without being asked	Displays positive attitude about assignments, completes them independently, seeks help when needed	Effort meets minimum requirements, no effort provided to work through difficulties
Self-improvement	Readily seeks out educational opportunities to improve technical skills, welcomes self-improvement opportunities	Participates in educational activities or self-improvement activities as directed	Has limited interest in self-improvement or educational opportunities which improve technical breath or depth
Adaptability	Highly flexible and adaptable when environment or responsibilities change	Adjusts to change when required to do so	Resists changes, difficultly in adjusting when environment or responsibilities change

Note: employers will require other vital skills including BMET technical knowledge and expertise, computer abilities and written communication skills. These are assessed elsewhere in the curriculum.