## Measuring the Cross-cultural Adaptability of a Graduate Student Team from a Global Immersion Experience

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**Background:** This study measured the cultural competency skills for two groups of unmatched graduate students to determine if a global immersion experience improved student cross-cultural adaptability as a component of cultural competency skill development. Experiential learning through global immersion may promote these skills, needed to meet the healthcare, psychosocial, legal, and related needs of the 21st century client.

**Methods:** With a non-randomized cohort design, there were two groups of unmatched volunteer graduate students with international travel background from a US University. One group reviewed an online educational module, and participated in campus activities and an experience in Malawi; the other group reviewed the module only. The students were assessed in the pre- and post-immersion time frames using the Cross-Cultural Adaptability Inventory (CCAI ™). The tool, a "culture-general instrument" assessed emotional resilience, flexibility openness, perceptual acuity, and personal autonomy.

**Findings:** Comparing total scores on the Index pre-immersion (baseline), there was no significant difference between the groups. Comparing both groups' total scores post-immersion, there was a significant difference. There was a significant difference for the experimental group between the pre/post immersion total scores but not for the control group. Comparing both groups' post immersion, there was a significant difference between the groups. Comparing both groups' component scores, there was a significant difference in emotional resilience and perceptual acuity for the experimental group only. Comparing both groups' component scores, there was no significant difference in the personal autonomy and flexibility openness variable.

**Interpretation:** This study showed that participation in a 6-week global immersion experience compared to education only made a greater change in the development of cross-cultural adaptability for a graduate student team. It verified the existing literature for a heterogeneous team of graduate professional students. This is important information for future health and human services students who have a passion for international travel. Educators may consider this information when evaluating the potential global immersion experiences for curricular planning, for administrators who will focus on the cost-benefit of the experience, for clinical and community partners and the informed public who may have an interest in the cultural sensitivity of current and future healthcare and human services professionals.

**Abstract #:** *1.053_HHR*

## Strengthening Indigenous Training Capacity in Biomedical Engineering and Technology in Sub-Saharan Africa: A Replicable Model

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**Program/Project Purpose:** In many low-income countries (LICs), over 95% of medical equipment in hospitals is imported. Much is out of service, yet could be easily repaired at minimal cost by trained professionals. A survey of 52 African hospitals conducted by Carleton University in Canada revealed that medical device maintenance services at 85% of these facilities had trouble finding qualified engineers and technicians locally. Biomedical engineers and technicians in LICs face similar challenges as other health cadres: inadequate qualified personnel to meet existing needs, limited educational opportunities and in-service training, absence of regulatory bodies, brain drain, and competition with the private sector for the limited pool of skilled professionals.

**Structure/Method/Design:** In 2013, the American International Health Alliance (AIHA) launched the first biomedical partnership project in sub-Saharan Africa ever supported by the President's Emergency Plan for AIDS Relief (PEPFAR) to help Ethiopia meet the demands of its technology-driven healthcare system, particularly in the context of providing high quality HIV/AIDS-related diagnostic, treatment, and care services. Using AIHA's comprehensive and holistic twinning model, Ethiopian partners at Jimma Institute of Technology and Tegbar-Id Polytechnic were linked to US counterpart institutions to rapidly train and deploy skilled biomedical technicians and provide ongoing in-service training for practicing professionals. In 2015, Addis Ababa Institute of Technology joined the partnership.

**Outcome & Evaluation:** Jimma has graduated 257 biomedical engineers, with 91% employed at Ethiopian health facilities. Tegbare-Id has graduated 261 biomedical technicians, with 95% similarly employed. Partners conduct annual surveys to determine graduate skill gaps and have thus far provided training to fill said gaps for 181 graduates and 35 faculty. Partners adapted the curricula from a more theoretical approach to problem-based learning, which better prepares graduates to perform required tasks. Faculty in-service training and providing skills laboratories have helped partners better integrate graduates into the healthcare system. Based on the success of this project, AIHA launched similar partnerships in Kenya and Uganda in 2015. Responding to local needs and context, these new national-level projects focus on strengthening in-service training capacity.

**Going Forward:** Institutional twinning partnerships are an effective, adaptable method of developing biomedical technology training capacity in LICs and should be explored to support health systems and improve quality of care.

**Abstract #:** *1.054_HHR*

## Assessment of Acute Obstetrical Needs and Evaluation for the Role of Point-Of-Care Ultrasound in the North East Department of Haiti

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**Program/Project Purpose:** Point-of-care ultrasound (POCUS) implemented through task shifting to nontraditional users has