

A FULBRIGHT AWARD CREATED A DOORWAY TO UNDERSTANDING THE ROLE OF TECHNOLOGY IN NURSING TRAINING

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ABSTRACT

A Fulbright award to Bellevue College in the United States (US) allowed me to learn new ways of using technology to train nurses. As a result, I was able to assist in the development of a contemporary nursing curriculum at my home institution (University of Dodoma) in Tanzania. Through cooperative agreements between the two institutions we are now developing more effective graduate nursing programs that ultimately will improve nursing training in both countries.

Keywords: technology • nursing • training • Tanzania • Fulbright



INTRODUCTION

My Fulbright award to Bellevue College in Washington State gave me an opportunity to experience nursing training and practice in the US. Through the advice and guidance of Professor Courtney Hines (a Fulbright Scholar in Residence at the University of Dodoma), I was made aware of the Fulbright program. She encouraged me to apply and agreed to mentor and support me throughout the process. I completed the application successfully in April 2021 and by August of the same year I was pleased to learn that I had been shortlisted for the award.

It has always been my goal to study nursing overseas, particularly in the US. Thanks to the work of the great nursing theorist, Hildegard E. Peplau, the nursing profession is a well-developed profession in the US. Peplau contributed to the growth of the nursing profession globally and is the founder of the Interpersonal Relations Theory in nursing. Her theory states that, “nurse-patient relationships must pass through three phases in order to be successful: orientation, working, and termination.” During the orientation phase, nurses meet patients and gain essential information about them as people with unique needs and priorities. In the working phase, nurses become the health educators, resource persons, counselors, and care providers. And finally, in the termination phase, nurses teach patients about symptom management and recovery at home.

COPING WITH THE COVID-19 PANDEMIC

At the time of the award, the Covid-19 pandemic was at its peak globally, and Tanzania was among the countries with high mortality rates and the Delta variant posed a significant problem. I wondered if accepting the award and traveling to the US would pose a challenge. Luckily, my country was able to obtain Covid-19 vaccines that were donated by the US. The demand for the vaccine outnumbered the supply and high-risk groups were given first priority to receive vaccination. These include the elderly, people living with chronic health conditions and health care workers. Since I worked as a nurse educator with active participation in training in both clinical and classroom settings, I was among the first few Tanzanians who received the Covid-19 vaccine in the first round of the vaccination program.

The government of Tanzania, like other countries, initiated lockdowns to prevent the spread of the virus. The first initiative was to close schools, and then, social distancing was encouraged in religious gatherings such as churches and mosques. However, unlike other countries in East Africa, Tanzania did not practice total lockdown. In my opinion, this may be partly because the majority of the populace relies on daily blue-collar jobs or buying-and-selling to make a living. It was thus deemed almost impossible for the country to supply food to all families in the event of a total lockdown. It was a difficult decision, but a total lockdown was likely to increase the risk of malnutrition and its associated consequences. This highlighted the economic challenges faced by developing countries like Tanzania, making a lockdown an unfeasible solution for preventing the spread of the virus.

In the middle of the year, 2020, I exhibited the following symptoms of Covid-19: unexplained severe headaches, sore throat and loss of smell. However, this was not confirmed because access to testing was limited at the time. This period also coincided with the time I was frequently interviewed on the internationally acclaimed news network, CNN news, concerning my knowledge of the virus and its possible treatment strategies. I learned about herd immunity and how it might eventually curtail the transmission of the virus, but the biggest challenge was the rather alarming rate at which the virus was evolving thus increasing its severity of infection. This motivated me to keenly follow the news about various vaccines available and the resulting impact in the reduction of mortality rates.

As part of the preparations for my trip to the US, I had regular virtual meetings with the organizing team at Bellevue college, and one of the important issues that was raised was my Covid-19 vaccination status. Furthermore, a Covid-19 negative test and a certificate of vaccination were important requirements to enter the US. During my journey to the US, I wore face masks as required for all travelers, and during my Fulbright stay in the US, I received the second dose of the Covid-19 vaccine.

MASTER'S AND DOCTORATE DEGREES IN NURSING PRACTICE

My stay in the US revealed to me the fact there are vast differences in the nursing programs in both countries, with the US offering more options in the postgraduate programs. For instance, Master of Nursing (Nurse Practitioner) and Doctor of Nursing Practice (DNP) were not available at my home university at the time of my Fulbright award. In contrast, the University of Dodoma offered Master of Science degrees in Nursing (Midwifery, Pediatric, Nursing Education and Mental Health Nursing) as well as Doctor of Philosophy in Nursing beginning a decade ago. The Master of Nursing Practice (MNP) prepares registered nurses for advanced clinical roles, emphasizing practical skills and extensive clinical practice hours, with tracks like Family and Pediatric Nurse Practitioner. In contrast, the Master of Science in Nursing (MSN) offers a broader range of specializations, including leadership, education, administration, informatics, and research, alongside advanced clinical practice, with a curriculum blending clinical and non-clinical courses. Similarly, the Doctor of Nursing Practice (DNP) focuses on clinical practice, leadership, and applying research to improve patient outcomes, while the Doctor of Philosophy in Nursing (PhD) is research-focused, preparing nurses for academic and research careers with a curriculum centered on nursing theory, research methodologies, and a dissertation. Thus, I made the conscious decision to ensure that the nursing programs not available at my university were introduced.

We have proposed the development of a Master's Degree in Nursing Practitioner (Master of Nursing in Family and Primary Care Nurse Practitioner) at my university. Nursing practitioner programs are unique programs in Tanzania, their development has not yet received enough attention to resolve current existing and emerging problems facing the Tanzanian health care system. The introduction of these programs will bring about a revolution in nursing training in Tanzania. It should work well if integrated into a primary health care/family health care framework for both curative and preventive functions of nursing. Tanzania, like many other developing countries, is struggling with the increased burden of communicable disease prevention and treatment. In the case of non-communicable diseases, their occurrence is significantly increased by change in peoples' lifestyle. This is an excellent indicator that these changes have to be addressed by healthcare professionals including nurses. Healthcare teams need to promote the health of individuals, families, and communities at the grassroots level. People with chronic diseases form the majority of adult in-patients in Tanzania. Graduates from the Master

of Nursing in Family and Primary Care Nurse Practitioner program can facilitate the reduction of cases of communicable and non-communicable diseases through concerted efforts at health promotion and care of these patients and their families.

The development of this curriculum benefitted greatly from the valuable input of Professor Courtney Hines, a Fulbright Scholar who was specifically trained as a pediatric nurse practitioner and educator. I had the good fortune to train with her during her Fulbright work in Tanzania. This experience benefitted me greatly and inspired me to learn more on how to achieve a successful execution of a Master's degree in a nurse practitioner program. One of my missions during my Fulbright scholarship was to learn more about the design and execution of a Masters of Nursing Practice and Doctorate of Nursing Practice. Bellevue College in its Health Sciences, Education, and Wellness Institute offer nursing training at the level of Associate Degree in Nursing (ADN) and Bachelor of Science in Nursing (BSN). The Masters degrees in nursing practitioners and the Doctor of Nursing Practice programs were not offered at the time of my Fulbright fellowship. The nursing professors at Bellevue College were trained nurse practitioners. I learned that building these programs and ultimately sustaining them both in the US and Tanzania is a major challenge. Introducing a collaboration between these two institutions can support the introduction and execution of this new master's degree program.

APPLICATION OF TECHNOLOGY IN NURSING TRAINING

The proper guidance and mix of self-directed, classroom, and clinical learning plays a crucial role in developing conceptual understanding and inquiry skills in students across the nursing profession and around the globe. Simulation has also become one of the innovative pedagogical strategies in nursing education. In this model, nurse educators promote self-directed learning, inquiry learning, self-confidence, and critical thinking in their nursing students. The adoption and implementation of simulation-assisted learning as a pedagogical tool in nursing education plays an important role in guiding nurse educators in clinical settings.

I discovered that Bellevue College had a well-established simulation laboratory with set simulation practices that students had to accomplish during the course of their training. To become skilled in this new training modality, I participated in an online orientation training offered by the University of Washington. The training covered the following modules: Introduction to Clinical Simulation, Pedagogical Approaches in Simulation for Developing Critical Thinking, Designing and Writing a Simulation Scenario, Briefing and Debriefing -the Key to Learning in Simulation, How to Evaluate Learning Using Simulation, Matching Human Patient Simulators to Clinical Educational Outcomes, Briefing Realism to Simulation and Designing and

Learning sessions. The course was freely available online but without award a certificate. The training gave me the opportunity to participate in nursing training in a simulation laboratory and improved my background in nursing education.

I also had the opportunity to visit the Nursing Skills Laboratory at the University of Washington after conclusion of the online training. I was assisted during the visit by Teassa Chism and Marilu Bumgardner who were professors at Bellevue College. Professor Jocelyn Ludlow of the University of Washington oriented us on the simulation laboratory and the modalities of professional skills training. The simulation laboratory was a well-equipped for all students in the medical profession. In addition, she provided very useful reference materials.

Apart from the use of sophisticated equipment, I also learned how to use the simulated patient. I realized that some nursing skills can be learned using low-fidelity mannequins coupled with a “standardized patient”. Standardized patients are trained actors used to engage students or healthcare providers in various types of possible clinical encounters for learning purposes. Patient actors do not require any prior acting skills. They are trained to assist with the instruction, practice, and assessment of medical examination skills of students. I realized that the available low-fidelity mannequins and standardized patients in my home institution can be used in carry-on simulation sessions. Training of nurse educators on designing and executing simulation sessions has the potential to increase the use of simulation laboratories in nursing training in Tanzania.

DEVELOPMENT OF A SIMULATION PROJECT

Through the experience of working in the Bellevue Simulation Laboratory, I came up with the idea of developing a project on simulation training. I shared this idea with Professor Teassa Chism and she encouraged me to work on it. As a result, we formed a project team with nurse educators from Bellevue College and the University of Dodoma. The team consisted of Dr Fabiola Moshi (PI)-The University of Dodoma, Professor Teassa Chism (Co-PI)-Bellevue College, Prof. Marilu Bumgardner-(Member)-Bellevue College, Prof. April Ambalina-(Member) and Dr Walter Milanzi-(Member)-The University of Dodoma.

The title of the project is *“Enhancing Pedagogical Competencies for Nursing Skills and Clinical Judgement in Nursing Education: The Role of Simulation Teaching Techniques and Virtual Simulation between Nursing Students from Tanzania and Washington State Nursing Schools”*. The project expected outcomes consist of the following: 1) To improve the competence of nurse educators in the use of simulation as a technique in teaching nursing skills and clinical decision

making in Tanzania, 2) To minimize clinical errors among nursing students, 3) To enhance globalization in nursing training, 4) To improve nursing students' competence in performing nursing skills, and 5) To improve nursing students' competence in making clinical judgment.

The project was expected to commence in December 2022 and end December 2024. We are currently awaiting financial support. The project has been reviewed by the University of Dodoma Ethical Review Board and has IRB Number Ref.No.MA.84/261/02.

DISASTER SIMULATION

During my Fulbright stay at Bellevue College, I also participated in the preparation and execution of an earthquake simulation. This is a training to equip student nurses with emergency preparedness skills. It was a new experience for me, and I benefitted from it greatly. A simulation was arranged to mimic a post-earthquake environment with some people injured, some dead and others uninjured. As trainees, we were required to discern which of the victims needed first aid treatment and which should be referred for further care. At the end of the training, I realized that disaster simulation would make an excellent addition to our nursing curriculum at my home university.

COMMUNITY SERVICES

One of the most rewarding experiences I had during my Fulbright stay in the US is the opportunity to share the Tanzanian culture with girl scouts and their parents at the Girl Scouts of Western Washington Renton Service Unit. I explained the customs of the major tribes found in Tanzania with emphasis on their traditional food and dance. I also participated in making bead necklaces, which is a common cultural practice in Tanzania.

At Hazelwood Elementary School, I facilitated a session on leadership skills and becoming a Fulbright Scholar. The session was coordinated by a teacher, Andrea Ahlfors. Due to the young age of the students (8 to 12 years) and my accent, I presumed that they were not grasping the intended message. Hence, after going through the first few slides, I decided to check if this was the case. And to my pleasant surprise, they not only comprehended all that I had said earlier, they were able to provide a full recap. This encouraged me to proceed with further discussions on how to build the necessary skills in defining career paths and arriving at scientific findings.

OPPORTUNITY FOR COLLABORATION

During my Fulbright stay, I assisted with the development of a Memorandum of Understanding between my home university (University of Dodoma) and Bellevue College. The first meeting between the Bellevue College administration and the University of Dodoma was held in April 2022.

The joint proposed collaborative plan necessitated a visit to the University of Dodoma by the administrators from Bellevue College in order to get informed about the status of nursing training at the University of Dodoma School of Nursing and Public Health. The visiting team was able to view the teaching and learning infrastructure at my university, and also used the opportunity to meet with administrative arm of the University of Dodoma and discuss the programs offered in both universities. The meeting was aimed at increasing the areas of collaboration between the two institutions.

CONCLUSION

I am grateful to Fulbright for the experience. The opportunities provided by the award sharpened my skills as a nurse educator and reinforced my passion to apply technology in teaching nursing. Tanzania like many other developing countries is lagging in embracing technology in nursing training. It is evident that the use of simulation laboratory in nursing training has a potential to enhance nursing competences and clinical judgements among nursing students. It ultimately minimizes the likelihood of medical errors that may occur during training and subsequently, after graduation and during practice.

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There is a technological gap between the developed and developing world, and it can be minimized so that the nursing profession can have similar global standards. A collaboration between the University of Dodoma and Bellevue College has potential benefits for both countries including faculty and students' exchange program and conducting joint projects. I look forward to playing an important role in this collaboration.

NOTES

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Administrative Staff of Bellevue College meeting with
Management Staff at the University of Dodoma

BIOGRAPHY

Dr Moshi received her education from the University of Dar-es-Salaam in Tanzania where she earned a Bachelor of Science in Nursing. She graduated with an honors degree, and was given an opportunity to attend an exchange program at Uppsala University, Sweden, which was a three-month training on the impact of culture on health. Her area of specialization is Public Health and she majored in health policy and management. Her doctorate degree was focused on women's health. She is a full-time faculty at the University of Dodoma, Head of Academic department and actively involved in research on women's health. She can be reached at: fabiola.moshi@gmail.com
