Health of Women and Infants in Malawi Improved Through Utilization of Visual Communication in Healthcare Messaging: Indigenous Knowledge Systems and Practices Students Partner with Thyolo District Hospital

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BACKGROUND

This case study documents a professional development project designed by TEAM Malawi and implemented with **Indigenous Knowledge Systems and Practices** (IKSP) students from MUST to benefit the **Thyolo District Hospital**. Integrating professional practice into this undergraduate arts program made a positive impact on the community because the IKSP students were able to use their creative skills to hand paint large images communicating important health topics in a public hospital. Over the course of two semesters, students improved their technical skills in painting, they developed a project proposal for approval by their community partner, they conducted a meeting with clients, and completed seventeen hand painted murals related to mother and baby care.

PROCESS

Throughout their course work at MUST, the IKSP students study color theory, material application on canvas, figurative depictions, storytelling, and realism in painting modules. Studies also include traditional cultures of Malawi, languages, music, and medicine.
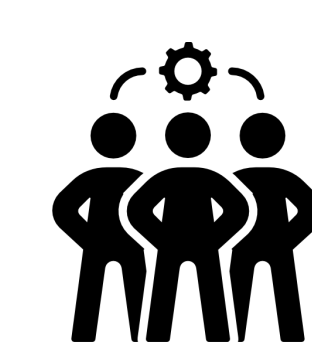
IKSP students worked with TEAM Malawi to compose a project proposal addressed to school administrators and hospital staff. The proposal included the "who, what, where, when, why, and how" of the project and was completed through digital collaboration.

IKSP students travelled to Thyolo District Hospital to present the proposal to the hospital research committee. The students noted over 20 around the hospital that had seriously deteriorated since first being painted in 2006.

On the first visit, ISKP students repaired a written passage titled, "Ten Tips for Successful Infant Breastfeeding," two figurative paintings in the hospital courtyards, and a figurative painting portraying infant care on an exterior wall, visible by the community.

On the second visit, the ISKP students had improved skills and techniques, repairing more paintings in the same amount of time as the first experience. The students were prepared for the large surfaces, they worked faster and worked better as a team. It also cultivated project management skills, particularly in planning large-scale artworks within tight schedules and ensuring the outcomes aligned with the hospital's goals.

"With the mural project, I came to realize that teamwork is very useful not only with fellow students, but even with people working at the hospital, for instance carpenters and those working at the maintenance department. They brought in their ideas based on their perspective and when one critically looked into that, the ideas were perfect. With teamwork everything becomes possible." -MUST Student
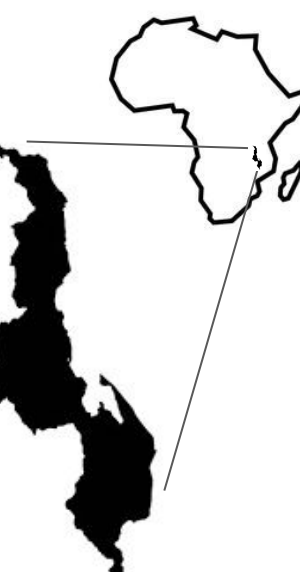
FINDINGS

The project sought to address communities in Thyolo regarding issues of Mother and Baby Care as the topic hinges on cultural, social, and economic aspects of life. Research shows art-based communications can reach large populations, drive enquiries into health-related problems and facilitate reflection and change in health-related issues.

The project sought to address the high illiteracy rate in rural Malawi, thought to be approximately 24% of adults over 15, with higher rates among women. There are also 17 different dialects in Malawi. People interpret messages in the form of art using images from common knowledge to simultaneously communicate environment, objects, people, actions, dialogue and emotions.

For the students, painting the murals also deepens their connection to the community. They are a link between science and the people who need it the most. Understanding the diverse populations that make up Malawi is a specialty for these students, so practicing communicating complex topics in an inclusive manner replicates conditions they will face in professional practice post graduation.

After the first visit, qualitative data was collected from the students, faculty, hospital staff, and visitors to the hospital. The challenges the students faced included painting on a large scale and on an uneven surface, as well as internalizing the style guidelines preferred by the hospital staff.

The vibrancy of the repaired murals is noticeable from quite a distance. The hospital's staff was pleased with the repairs and the speed at which the work was done. Having these public art pieces repaired better communicates the importance of breastfeeding to new mothers and family members who may not be familiar with healthcare for women and babies.

"The repairing of murals went on very well. The murals are now looking good as you see on the pictures.The management was very happy with this activity and we are actually looking for more. We thank you very much for this activity. The students are welcome at any time at Thyolo hospital." -Research Coordinator, Esmie Kamaliza

IKSP Students in Class

Meeting Hospital Officials

First Workday

Ten Tips for Successful Breastfeeding

Courtyard Painting

Exterior Wall

Exterior Wall

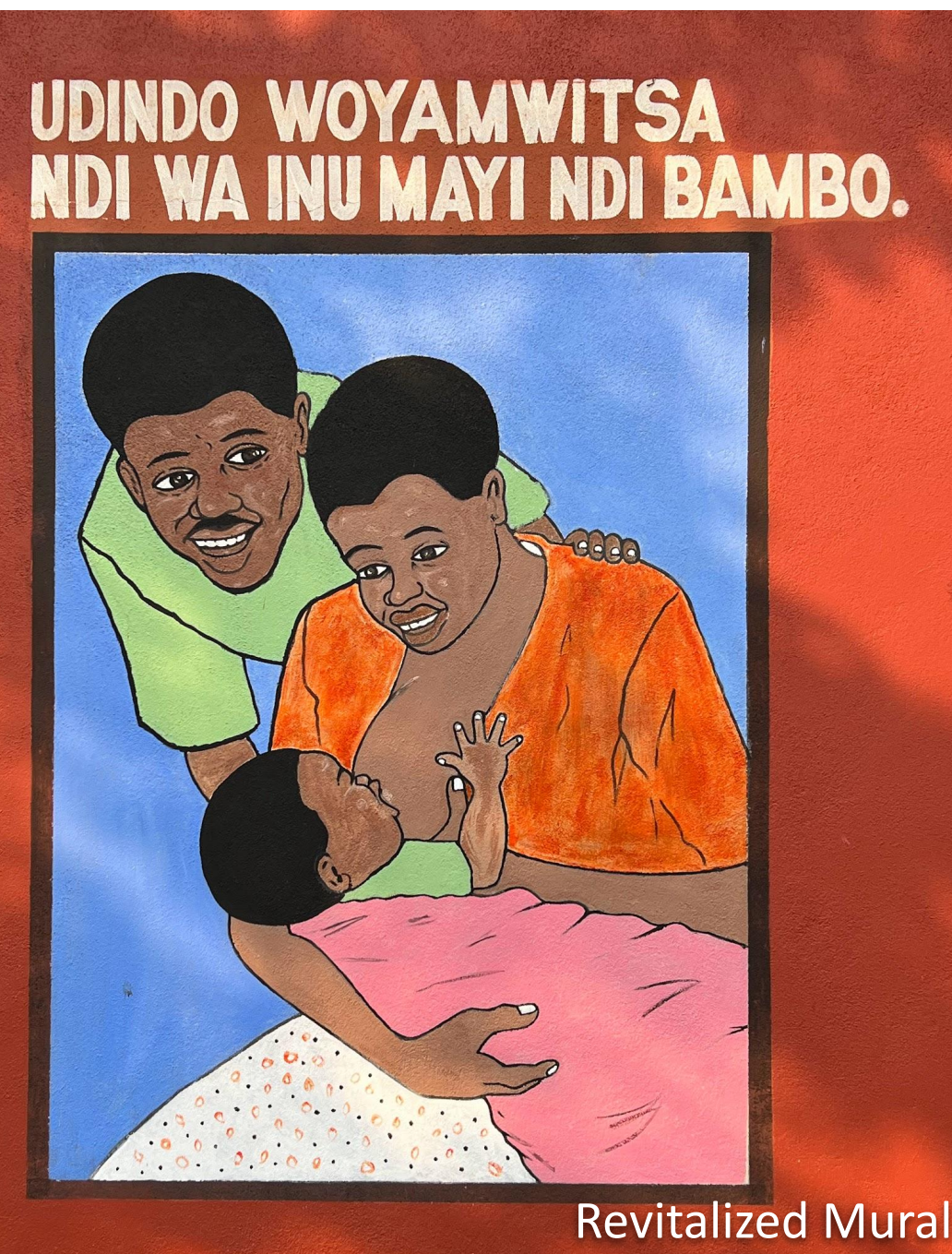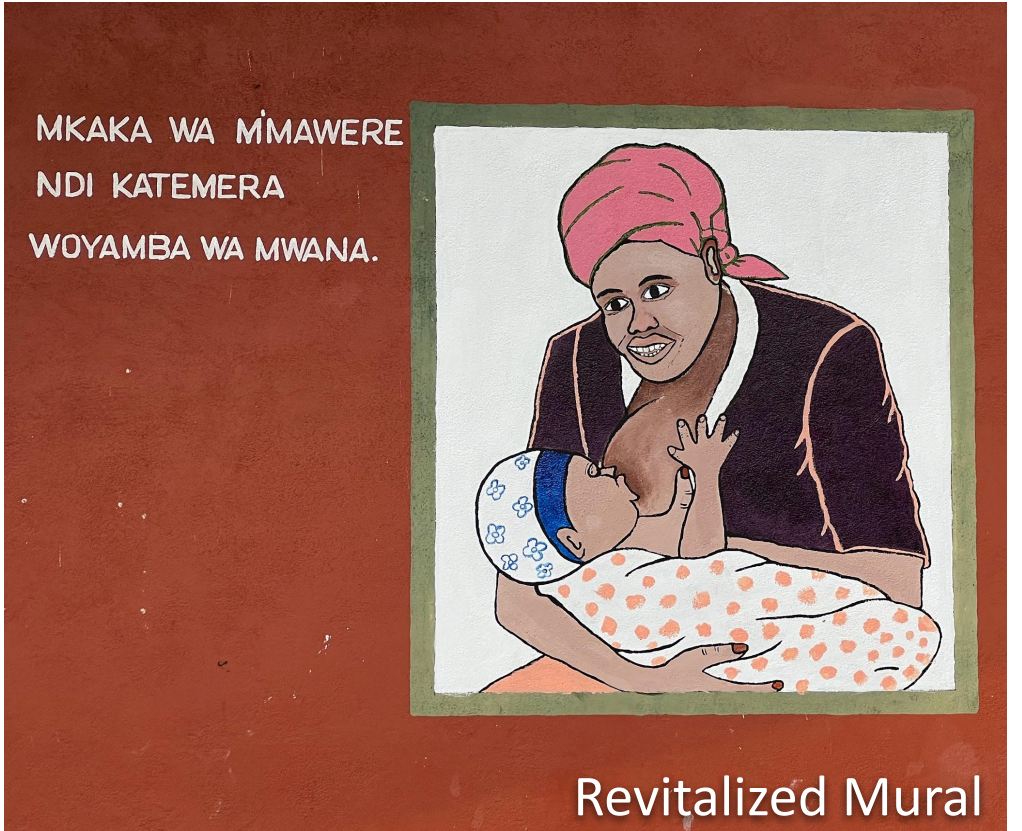Courtyard Painting

Visiting Thyolo District Hospital for a Class Review

Revitalized Mural

Revitalized Mural

Revitalized Mural

Faculty, Students, Hospital Staff

RESOURCES

A robust partnership between **TEAM Malawi at Virginia Tech** and the **Malawi University of Science and Technology** (MUST) has brought multiple disciplines together to address women's health in Malawi. In reflecting on the project as a whole, the biggest challenge in a bridge experience for students is **identifying and coordinating the resources** necessary for a successful educational project with multiple stakeholders. For the faculty from both universities, it was a great lesson in **collaboration, classroom practices, community project development, and documentation**. Resources needed:
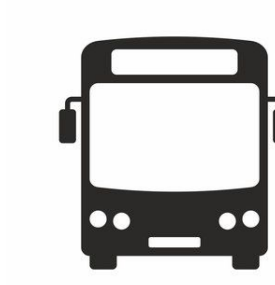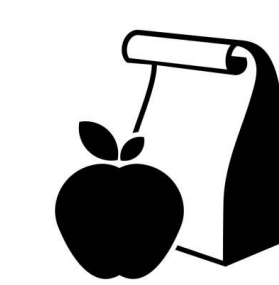
- Grant Funding
- Teacher Training
- Painting Supplies
- Transportation to Hospital
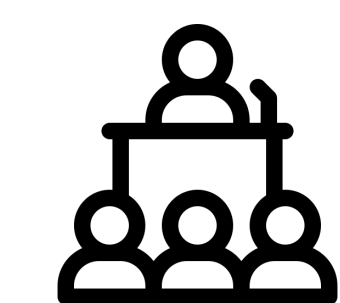- Lunch for Workdays

INTERPRETATION

At the completion of the course, the students summarized the importance of art in health communication for several reasons:

1. **Enhancing Understanding**: Visual art can simplify complex health information, making it more accessible. Infographics, illustrations, and animations help convey messages effectively, allowing people to grasp concepts quickly.[3]
2. **Encourage behaviour change**: Art can bring people together, fostering discussions about health topics and creating a sense of community. Collaborative art projects can engage communities in health initiatives, empowering them to share their stories and experiences.[4]
3. **Memory retention**: People are more likely to remember information presented artistically. Engaging visuals can leave a lasting impression, reinforcing important health messages.[5]
4. **Emotional Engagement**: Artistic expressions can evoke emotions, making health messages more relatable. Art can help to humanize health issues, fostering empathy and encouraging individuals to engage with content on a deeper level.[4]
5. **Cultural relevance**: Art can reflect the cultural context of the audience. Using culturally appropriate visuals and themes can resonate with diverse communities, making health communication more effective and inclusive.[6]
6. **Building community**: Art can bring people together, fostering discussions about health topics and creating a sense of community. Collaborative art projects can engage communities in health initiatives, empowering them to share their stories and experience.[7]
7. **Reducing stigma**: Art can challenge stereotypes and stigma surrounding health issues, such mental health or chronic illness, by portraying them in a nuanced and compassionate way.[4]
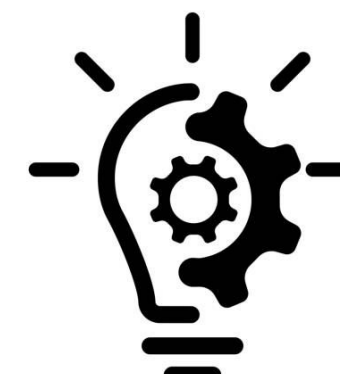
"I definitely learned new things during the experience. One valuable lesson was in understanding the psychological impact of art on patients. It became clear that the colors, themes, and even the replacement of murals could influence the mood and recovery of patients, highlighting the importance of considering the audience deeply while creating art." - MUST student

ASSESSMENT

Students reported an **increased knowledge of materials and processes** related to art, this experience boosted their confidence as visual communicators. **Professional practices** such as problem solving, proposal development, and communications help students build entrepreneurial skills. The **impact of art on a community** deepened their commitment to using their skills to advocate for social and cultural awareness beyond traditional artistic spaces. The process of adapting artistic styles to suit a public health setting taught them how to balance creativity with practicality, ensuring that the **murals were both visually appealing and easy to understand for diverse audiences**.

After the second round of paintings, students submitted multiple proposals for conferences and papers to present their findings. This elevates the professional development training in their coursework to include public speaking and technical writing.

Students reported an increase in skills related to communication, teamwork, leadership, and creativity (average 4.92 on a 5 point scale, 1 is strongly disagree, 5 is strongly agree). The students ranked professional practice lower (average 4.84), with global perspective slightly lower (average 4.69).

Digital literacy was the lowest ranking skill (average 4.23) with some students very concerned about this area. Current efforts include a digital mentorship for conferences and presentations, workshops in AI, and 3D printing. Student participated in the co-creation of five business proposals determined as areas for future business endeavors.

References
1. Smith, J. (2016). Linguistic diversity in Malawi. International Journal of Multilingualism, 13 (4), 420-434.
2. Promoting Understanding and Tolerance in Malawi (2019). Language barriers in Malawi. Retrieved from https://www.malawilanguage.org /barriers
3. Tyler CW, Likova LT. The role of the visual arts in the enhancing learning process. Front Hum Neurosci. 2012 Feb 8;6:8. doi: 10.3389/fnhum.2012.00008. PMID: 22347854; PMCID: PMC3274761.
4. Ibagere, Elo. (2020). Introduction to African Traditional communication System.
5. Bobek E, Tversky B. Creating visual explanations improves learning. Cogn Res Princ Implic. 2016;1(1):27. doi: 10.1186/s41235-016-0031-6. Epub 2016 Dec 7. PMID: 28180178; PMCID: PMC5256450.
6. Onwuategwu, Ignatius. (2024). The Enigmatic Connection between Symbols and Thought in African Philosophy: A Journey into the Realm of Meaning and Representation. Universal Library of Languages and Literatures. 1. 33 - 39. 10.70315/uloap.ullli.2024.0101005.
7. Bunn C, Kalinga C, Mtema O, Abdulla S, Dillip A, Lwanda J, Mtenga SM, Sharp J, Strachan Z, Gray CM; Culture and Bodies' Team. Arts-based approaches to promoting health in sub-Saharan Africa: a scoping review. BMJ Glob Health. 2020 May;5(5):e001987. doi: 10.1136/bmjgh-2019-001987. PMID: 32444361; PMCID: PMC7247409.