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Going from STEM to STEAM with Communication Workshops

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Jamil, Alexis, "Going from STEM to STEAM with Communication Workshops" (2024). *UWill Discover Student Research Conference*. 26.

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Oral and Visual Presentation

Going from STEM to STEAM with Communication Workshops

Overarching Question: *How can interdisciplinary studies and practices benefit STEM students' communication skills?*

The research in integrating arts into STEM is being tested in real time by implementing new curriculum in STEM studies in a few Universities and Colleges. Communication skills are inevitable and necessary in any job market. It is important for anybody to be able to explain their idea, whether that be in science, engineering, or business, to a broader public who may or may not be experts in the respective field. I want the perspective of the discipline of arts to shift from a hobby or elective, to an integral tool for education, particularly communication skills, in any setting. Team building, confidence, presentation skills, role play, debates, pitches: these are all life-long skills that everybody can and should develop because these are the skills that individuals will use everyday.

I would like to create a structured outline for communication workshops for students in the STEM field at the University of Windsor. Although the ideal goal would be to have an ongoing weekly hour-long workshop with a consistent group of students so that I can measure their participation over a longer duration, however, I am aware that a full-time student schedule does not make this ideal for the participants or even myself. I have not picked one specific field of study in STEM, so that I can keep my options open.

Before I pilot a workshop with the students, with the permission of the professor I will sit in one of the classes and observe how the class is structured. I will gather information on the following: where I think communication opportunities are missed; how inclined the students are to speaking out loud; where is the curriculum missing interactive learning; and how do I gear activities for this group? Once this preliminary research is complete, I will conduct a combination of quantitative and qualitative research assessment on site with the whole group. The pre-assessment is a real time quantitative scale survey, while leaving an opportunity for the participants to explain their reasoning.

Going from STEM to STEAM can allow the Drama in Education and Community program to translate the skills of lesson planning, scaffolding, adaptations, immersive/participatory theatre into traditionally non-dramatic programs. For the participants, strong communication skills can open the possibilities to be self-marketable and reliant. Presenting and sharing scientific findings and results can allow for others to build on their work and continue to make advances in the field. With globalization expanding across every field of work around the world, these are skills that have the possibility to transcend language barriers. The research and conclusions will be my own new material.

Due to not having completed the observation, these are the remaining questions:

With an increasing number of international students studying in the STEM field, will language be a barrier? If so, how do I adjust the outline and outcomes?

How do the demographics (age, gender, ethnicity etc.) and psychographs (personality traits, lifestyles, interests etc.) of the student impact their communication skills?

How does the outline structure stay the same/differ depending on the students' academic field of study?