Internship Final Report

Link: Science Worldviews Learning Module
(You may open the left-hand menu and navigate to any slide)

This internship was with the Purdue Center for Intercultural Learning, Mentorship, Assessment, and Research (CILMAR) and involved creating a new portable intercultural learning module (PIM) to complement those already offered. The modules are used to enhance undergraduate awareness of intercultural issues relevant to their life and studies at and beyond Purdue University. Existing modules included topics such as understanding accents, intercultural collaboration, communication, and productive conflict. These PIMs are incorporated, by faculty, into or alongside existing academic courses across campus to provide learners with an enhanced awareness of intercultural issues, and to help them develop their own intercultural skills. The PIMS are generally self-contained, and provide all the relevant background materials and learning activities. Those in current use rely on delivery of a mixture of text, web resources, and multimedia to students through the Brightspace LMS platform. The structure is primarily text-based, with embedded links to web or multimedia elements, and broken across several sub-modules within the LMS. Assessments are in the form of quizzes, knowledge checks, and reflections, drawing upon the VALUE rubrics.

My contribution to this ongoing project was to produce a standalone module, targeting multicultural issues related to work and education in science, meant to improve learners' intercultural perspectives (particularly learners enrolled in science and agriculture). I assumed the role of designer and subject matter expert (SME) in regard to the multicultural sciences, consulting with the CILMAR Senior Intercultural Learning Specialist to maintain alignment with their established program goals. After evaluation of the existing modules, I proposed a less text heavy, more visually/auditorily engaging approach for this project, drawing from Mayer's multimedia principles and the ARCS design model. I targeted content according to a subset of the VALUES rubric, including creative and critical thinking, ethical reasoning, global learning, intercultural knowledge and competence, and lifelong learning.

The sub-topics within the learning module reflect key areas identified during my investigation of multicultural issues in science. Since the module is based at a university steeped in the traditions of western science, I focused on comparing and contrasting modern western science with alternative ways of knowing about the world, and highlighting the importance of acknowledging and respecting the potential contributions of cultures other than your own. Sub-topics include differing cultural perceptions of science, the role and impact of language in the accessibility and acceptance of science, and ways in which knowledge may be traded or shared across cultures. Each topic is presented through explanatory narration, with simple text cues and visual underpinning of the presented ideas. A pseudo-scenario segment on Hawaiian lava flows brings the learner closer to the topic, and exemplifies the role of perspective in the application of science to solve perceived problems. The assessments are designed to help learners pull together the ideas presented within each topic, and opportunities for reflection encourage learners to center themselves within the issues, exploring what their personal views are and how they may have changed during the course of the module.

Lessons Learned

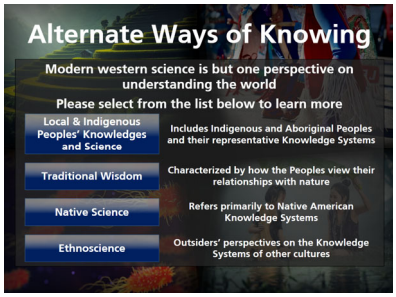
From my experience and my personal preferences, planning and organization is key when assembling coherent instruction on a somewhat vague and subjective topic such as science worldviews. This is particularly true when the designer becomes the SME in an area outside of their true expertise. I am

knowledgeable in western science, but only marginally so in other cultures, and attempting to represent others in an understandable yet non-patronizing manner is more difficult that it may appear. The research and analysis of the content probably took as long as the design of the module itself. Much of the design and development was concurrent, intertwining with the research to refine ideas, and my general unfamiliarity with appropriate and accessible multimedia resource pools greatly extended the process.

I generally create designs dynamically when done for myself, preferring flexibility over investing in extensive planning. When working for others however, I prefer a clear plan to ensure our expectations are in alignment. This is in contrast to some other designers, and is not likely practical in many settings as these plans are time consuming to create, but it helps to overcome certain quirks in my personality.

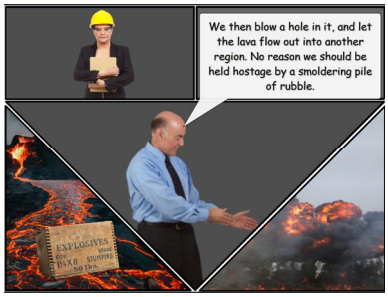
As this internship took significantly longer than the typical occurrence, and probably required far more hours than the recommended minimums, I am reminded of the value of communicating early and often. Settling on an approved design aesthetic earlier in the process and perhaps producing rough mock-ups for content approval would have shortened the entire experience and avoided unforeseen delays in communication due to conflicting time demands. I am not convinced that the final product would not have suffered somewhat however, even if the result was satisfactorily successful. I hold certain standards or expectations, realistic or not, that inhibit me from rapid production of ideas or output. It has always been and continues to be a problem in the classroom setting, and I anticipate it will be a problem in a number of working ID settings as well. I am not sure how it will be resolved, short of accumulating sufficient design expertise to offset my inhibitions.

Excerpts from design (see also the module link at the top of the page)

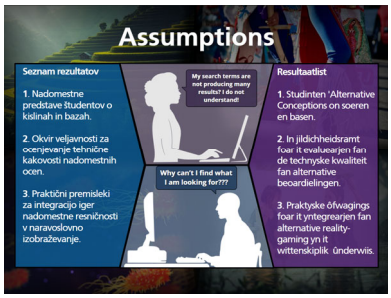


Introducing various alternative perspectives on science with key characteristics

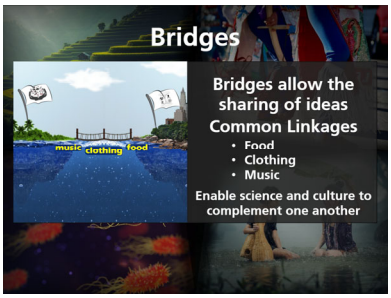
Compare and contrast with (assumed) familiar field of western science



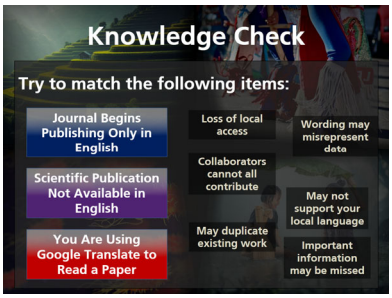
Community meeting, and individual perspectives, on an encroaching lava flow in Hawaii



Assumptions often made about accessing and utilizing scientific discoveries



Suggestions on how knowledge may be shared between different cultures and their accepted ways of knowing



Bringing together ideas covered in the module