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# Critical digital pedagogy and cultural sensitivity in the library classroom

## Infographics and digital storytelling

**A**cademic librarians have a demonstrated interest in digital tools for teaching and learning and often provide support for these tools to their wider campus communities. Additionally, many librarians incorporate these tools into their own teaching in the information literacy classroom. However, little has been written about how digital tools can support critical information literacy and critical pedagogy specifically in library instruction. Eamon Tewell defines critical information literacy as instruction that asks “students to engage with and act upon the power structures underpinning information’s production and dissemination.”<sup>1</sup> According to Paulo Freire, critical pedagogy acknowledges that education is a political action that can have an adverse effect on certain students.<sup>2</sup> We define critical as self-reflexive and intentionally engaged with power structures.

In introducing the concept of critical digital pedagogy, Jesse Stommel explains what differentiates an explicitly critical digital pedagogy from simply teaching with technology or online learning, “A Critical Digital Pedagogy demands that open and networked educational environments must not be merely repositories of content. They must be platforms for engaging students and

teachers as full agents of their own learning.”<sup>3</sup> Critical digital pedagogy takes into account the limitations of any given technology and centers inquiry over technology. While digital tools may render some power structures visible, they obscure others.

When used critically, the affordances of digital tools can enable teaching that is aligned with the goals of critical information literacy and can ultimately render information literacy instruction more effective, engaging, and meaningful. In particular, digital tools can make underlying power structures and economies of information production visible. Furthermore, critical teaching of digital tools can empower students as producers of information resources. Considering the Framework for Information Literacy for Higher Education,<sup>4</sup> critical digital pedagogy aligns with the following frames.

- *Authority is Constructed and Contextual.* This frame helps learners critically

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examine the characteristics and contexts of digital objects and to ask questions about their origins.

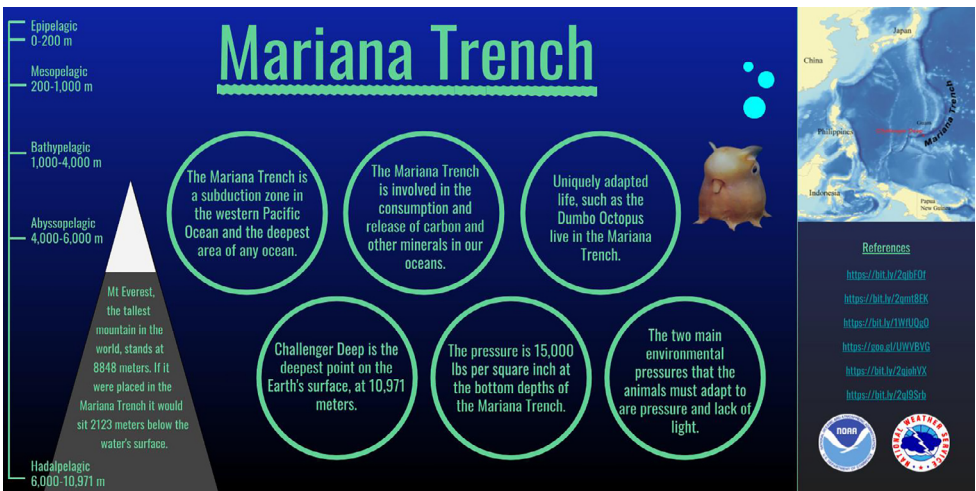
- *Information Creation is a Process.* Creating digital objects involves a unique process.
- *Information has Value.* Asks learners to consider the value digital information objects have in the information landscape.

The emergent framework of critical digital pedagogy and its relevance to library instruction is best illustrated using examples from the classroom. Here, the authors highlight two cases from the University of

critical digital pedagogy practices in the library classroom aim to teach technology and provide space for place-based learning that is rooted in the unique cultures and history of these geographical regions.

### Infographics in the science classroom

The visual nature of infographic design lends itself well to communicating complex scientific concepts and data sets. In the Global Environmental Science (GES) program at UHM, infographics are used as a replacement to the traditional literature-based research paper. In the library



Student infographic Mariana Trench by Sienna Santiago and Henrik Weiberg, Global Environmental Science undergraduate program at University of Hawaii at Mānoa.

Hawai'i at Mānoa (UHM) Library where critical digital pedagogy was put into practice. One case discusses critical digital pedagogy applied in a science course and the other in a humanities classroom. In both cases, critical digital pedagogy is explored alongside practicing cultural sensitivity in the classroom. At UHM, 16.5% of the undergraduate student population is Native Hawaiian or other Pacific Islander and 36.2% are Asian, with 66% of the total student population being Hawaii residents.<sup>5</sup> General education for undergraduates at UHM focuses, in part, on the cultural perspectives, values, and world views experienced by people indigenous to Hawaii, the Pacific, and Asia. To that end,

classroom, first-year GES students learn how to use infographic design technology (Piktochart or Canva) to create their own infographic that discusses science research topics.<sup>6</sup> For these students, the first step to learning infographic design centers around examining how technology impacts culture and society. Students also consider how science topics are connected to their personal cultural experiences and identity. After these initial steps, learners explore the mechanics of the design tool and develop an infographic.

*Infographics have potential to reach multiple communities.* In preparation for creating infographics, GES students are

asked to examine a variety of infographics related to science topics. The librarian preselects infographics from academic and nonacademic sources, and students are asked to find additional examples on the free web. Drawing from the ACRL Visual Literacy Competency Standards for Higher Education, the class evaluates the infographic samples by assessing and discussing imagery and textual context, purpose, meaning, accuracy, and organization.<sup>7</sup> Additionally, discussion includes the infographic origin and its intended purpose or impact on society. This activity helps students understand that digital objects can be created by anyone with access to digital tools and that they have potential to reach many people groups.

*Using infographic design to connect science and storytelling.* The critical pedagogical approach to teaching infographics is intentionally designed to be self-reflexive and asks GES students to consider the power structures and cultural dynamics involved with the creation and communication of science information in a technology-driven society. For instance, class discussion topics include examining the differences between the control of scientific information within online proprietary journals, scientific information found on the free web, and scientific information shared among Hawaiian farmers through talk story and Hawaiian ways of knowing. A communication style integral to Hawaiian culture, talk story is the process of sharing stories, knowledge, and information through oral traditions. Hawaiian ways of knowing refers to what Leilani Holmes describes as connecting Hawaiian ancestral knowledge to modern knowledge and science.<sup>8</sup> For GES students at UHM, infographics provide space to incorporate talk story and Hawaiian ways of knowing into the learning process. All students, Hawaiian and non-Hawaiian, are encouraged to consider their personal story or experience in connection to their chosen science topic. Learners use the infographic as a canvas where imagery and

text is arranged to tell stories and science in visual terms. At the end of the course, each infographic is projected on a screen and becomes the visual component that aids the student's oral telling of their experience and understanding of scientific knowledge.

*Grasping content is primary, learning technology is secondary.* The critical digital pedagogy perspective shifts the emphasis from teaching how to use digital tools to focusing on content creation. In this manner, the learning process has greater potential to be inquiry-centered. For example, infographic design tool demonstrations for GES students are kept to a minimum where the librarian highlights basic mechanics. Students generally explore the technology on their own. This approach gives the librarian time to help individual students and to call attention to, via class discussion, the limitations (and affordances) students discover in their technology exploration. While the de-emphasis on teaching the how of digital tools can make some instructors and students uncomfortable, considerations can be made for extremely technology-inexperienced students. Students who frustrate easily with technology can be encouraged to focus foremost on content and be assured that learning the mechanics of digital tools will develop over time.

The same stance can be taken with students who fixate on creating a visually stunning product. Commanding the aesthetic characteristics associated with infographic design require a unique skill set that will develop with practice.

### **Digital storytelling in a humanities classroom**

Digital storytelling centers on the fundamental beliefs of critical digital pedagogy. It empowers learners by encouraging them to use prior knowledge and orality as a form of literacy.<sup>9</sup> Additionally, digital storytelling produces a rich learning experience by engaging students through reading, writing, speaking, listening and viewing.<sup>10</sup> Through digital narrative sto-

ries, communities at the margins of society provide counter histories as they share their experiential knowledge.<sup>11</sup> These are some of the guiding principles that inform the practice of Ub-Ufok Ad Fiallig: Tales of Enchantment Teaching Module Project (UTEMP).<sup>12</sup> UTEMP's example illustrates how critical digital pedagogy can be used to address power structures and reimagine the process of communication in an international and collaborative setting.

*UTEMP honors diversity by crossing cultures and political borders.* UTEMP drew upon traditional storytelling techniques by including international and local voices into the process. The project was a collaborative effort of the UHM Filipino Language and Literature Program (FLLP), Hamilton Library, and the Ifiallig people of Barlig, Philippines. Pia Arboleda, professor and coordinator of FLLP, conducted a retrieval and translation project of Ifiallig tales in 2001 in an effort to preserve Barlig's oral tradition. Twelve stories were narrated by Ifiallig elders and retold using powerful illustrations by indigenous artists from the Philippines.

Using Adobe Photoshop, Adobe After Effects, and Adobe Premier Pro, these illustrations were turned into narrated digital comic books or digital stories, which became the basis of the teaching modules developed by the UHM Philippines Studies librarian. Lesson plans focusing on universal themes such as home, cultural identity, family, and ancestral knowledge were linked to Hamilton Library Research Guides creating a pathway to the library's resources.<sup>13</sup> Implementation began in 2016 at the UHM and Kapiolani Community College's Philippine Literature and Language Programs.

*UTEMP critiques oppressive power structures.* Considering Freire's teachings on the challenges education politics can have on students, Joe L. Kincheloe asserts that "this occurs when it acts as an authoritarian and reinforces a particular power structure over a certain group."<sup>14</sup> Hence, UTEMP was cre-

ated to address the lack of representation of Filipino history, culture, and content in Hawaii's school curriculum, which has caused a disconnect between student's home and school culture.

In Hawaii, Filipinos are considered an invisible majority despite being the second largest ethnic group in the state (14%) and its public school system (21%).<sup>15</sup> No current professional development programs exist in Hawaii that specifically assist teachers in knowing the cultural backgrounds of their Filipino students.<sup>16</sup> UTEMP aims to bridge this gap in two ways. First, by developing culturally relevant strategies to support their instruction. Second, by providing online resources and teaching modules celebrating the oral traditions of indigenous Filipinos.

*Critical digital pedagogy is a method of empowerment.* Students reported that learning about their culture through digital storytelling increased their understanding of themselves and their integral relationship with their community. They felt empowered because it taught them to think critically of their personal histories in relation to the existing power structures. Through guided reflections, they realized their potential as catalysts for social change. Librarians at conferences where the project was presented applauded its mission of using technology in highlighting native voices. Further, they appreciated its creativity in bridging curriculum to library resources.

*Focus on community.* UTEMP continues to create multiple opportunities for K-12 teachers to tie in Filipino culture in their culture-based school courses. The development of these open access resources and teaching modules, combined with outreach to faculty and students of the Hawaii Department of Education, will hopefully bring Filipinos in Hawaii back to their roots and will become a source of pride.

## Conclusion

These examples of critical digital pedagogy applied with cultural sensitivity in

the library classroom are just two out of the numerous instances occurring in academic libraries. Yet conversations on the intersections of culture, society, and the critical use of technology is a topic that is not nearly discussed enough. The satisfaction of our students and of the faculty we collaborate with on these library instruction projects suggests there is a need for greater emphasis on practicing critical pedagogy for information and technology literacy as it applies to culture, local communities, and greater society.

We encourage readers to consider how critical digital pedagogy can be applied in their own practice. As librarians who practice critical pedagogy for information and technology literacy, these reflective questions challenge us and propel us forward in our quest to affect positive change and growth.

- How do different technologies allow us to make different kinds of critical interventions in our classrooms or professional practice?
- How does the use of technology enable (or hinder) these interventions?
- How does the effective use of technology for instruction vary in different organizational, cultural, and social contexts?

## Notes

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