Teaching Intersectionality in Instructional Librarianship: Asynchronous Information Literacy Instruction in the Health Sciences

Matthew Chase
Department Chair and Instruction
and Digital Services Librarian
Cuyamaca College
El Cajon, CA
matthew.chase@gcccd.edu

Abstract

This article explores the topic of intersectionality and its applications in teaching graduate students at a health sciences university. The case study examined the creation of an asynchronous information literacy module that centered intersectionality in the research process. Summative assessment data indicated that students were able to critically reflect on gaps in their knowledge to address health inequities, learn the narratives of multiply-marginalized patients, and make connections between research and intersectional justice. The study also revealed areas for improvement such as restructuring the assessment component of the module to better evaluate student success, strengthening the module as a socially engaging learning space for students, and integrating other metrics to measure the student experience. Findings from this study demonstrate how instructional librarians can create equitable and engaging learning spaces through an asynchronous instruction model as well as teaching intersectionality in STEMM-specific disciplines.

Recommended Citation:

Introduction

This article examines a project shaped from the onset by a culmination of global justice movements, an ongoing pandemic, shifting organizational realities at a health sciences university library, and one librarian's commitment to incorporating social justice in information literacy instruction. The project, an Intersectional Research Practices module, is an online asynchronous information literacy instruction experience for students at the University of St. Augustine for Health Sciences (USAHS). The module was designed to teach intersectional research skills and knowledge to students in order to advance equity and justice in the medical and health science disciplines. Intersectionality refers to a theoretical approach to analyzing how our interlocking identities (e.g., race, gender, sexuality, class) interact with systems of privilege and oppression (e.g., racism, cisnormativity, heteronormativity, patriarchy) to shape our lived experiences. The concept of intersectionality originally emerged in legal studies, but it has since expanded across multiple academic and professional disciplines, becoming an analytical framework for examining how different configurations of identity affect our experiences with oppression and privilege (Bussmann et al., 2021).

For background, USAHS is a private university that specializes in graduate degree programs in physical therapy, occupational therapy, health administration, speech-language pathology, nursing, and other health science disciplines. The university has five campuses located across California, Texas, and Florida. As of Fall 2021, there was a total enrollment of 5,224 students, with 85% of students enrolled in some distance education (National Center for Education Statistics, n.d.). In terms of gender and racial diversity, the USAHS student body consists of 70% self-identified as female, 30% as male, 39% self-identified as White, 21% as race/ethnicity unknown, 18% as Hispanic or Latino, 11% as Asian, 9% as Black or African American, 2% as multiracial, and 0% as American Indian or Alaskan Native, Native Hawaiian or Pacific Islander, or nonresident (University of St. Augustine for Health Sciences, n.d.-a).

Development of the Intersectional Research Practices module emerged from two instigating forces: the COVID-19 pandemic and the Black Lives Matter movement. While the university supports several distance-learning academic programs in addition to residential programs, the pandemic had shifted all educational efforts at USAHS to a virtual learning landscape in March 2020, including information literacy instruction and research support services. We identified an immediate need to build and expand teaching and learning opportunities to support students' research and information literacy skills in a fully remote learning environment. I collaborated as a member of a team of librarians and writing coaches at the university to develop the Scholarly Skills Community, a central online hub hosted in Blackboard, the university's Learning Management System, consisting of over 20 asynchronous information literacy modules (Gaylor et al., 2022). Members of the team volunteered to lead or support the development of one or more modules. I led the development of a module that centered intersectionality in the research process.

The initial concept behind the module originated from student feedback, in which they called for greater emphasis on racial equity and justice in their education at the university. In the wake of the police killing of George Floyd, the university organized a

series of town hall-style sessions with the student community in 2020. Over 400 students attended the sessions, with many of them addressing an urgency for ongoing, in-depth dialogues on racial and cultural issues in their education. Inspired by this call to action, I identified a gap in the university library's instructional services as there was no meaningful focus on diversity, equity, inclusion, and justice. In response to this gap, I developed a series of online live events that centered intersectionality in research. It was difficult increasing attendance at these events, which could be attributed to Zoom fatigue, class schedules, student availability, and various other factors. I explored alternative modes of instruction to expand my reach to students.

The Scholarly Skills Community provided an opportunity to develop an asynchronous learning module for students to engage in intersectionality-centered research. The Intersectional Research Practices module does not serve to replace the need for one-shot information literacy sessions or other synchronous instruction models at the university that support social justice in student research, but rather technologically extend the space for students across campuses and geographical locations to develop the skills and engage in the work.

This initiative raises two major questions for instructional librarians when teaching intersectionality. First, how do students engage with learning intersectional research practices? Second, how can an asynchronous instruction model be effective to engage students in developing intersectional research skills? This article explores these questions by describing the design process for the module as well as analyzing the outcomes of the students' assessments.

While developing the Intersectional Research Practices module, I recognized that my instructional knowledge and experience is shaped by my multiply-privileged positionality as a White, straight, cisgender male, able-bodied librarian. A critically reflective teaching practice is imperative for instructional librarians to engage students beyond performative diversity work (Gohr & Nova, 2020). In designing the Intersectional Research Practices module, I reviewed the available scholarly evidence to inform the decision-making process.

Literature Review

Intersectionality in Health Sciences Education

Intersectionality challenges the traditional analysis of oppression and privilege (e.g., racism, sexism) as single-issue categories (Crenshaw, 1989). Kimberle Crenshaw (1991) coined intersectionality in analyses of Black women's experiences with employment and violence. Rather than reducing the discussion to an individual's multiple, intersecting identities, intersectionality focuses on the systems of oppression that engage our identities. Honma and Chu (2018) emphasized that "Crenshaw's theorization of intersectionality underscores the interconnectedness of systems of oppression that shape the structural, political, and representational dimensions of identity" (p. 454).

Intersectionality prompts a critical reexamination of oppressive frameworks in research (i.e., knowledge production) and education. Berdai Chaouni et al. (2021) discussed how health sciences research can reproduce oppression through narrow sampling of people of color compared to the white majority population, limited focus on intersectional positionalities (e.g., race and age), homogenization of populations of color, essentialist racism, and limited methodological approaches that value quantitative study designs over qualitative. Medical and health sciences education has been experiencing a recent shift in its approach to diversity, equity, inclusion, and justice. Bi et al. (2020) identified how medical education traditionally lacks an intersectional lens, overlooking the differing realities and experiences of patients navigating the healthcare system (e.g., clinician bias, institutionalized racism, and transphobia and homophobia). Teaching without intersectional pedagogy can potentially erase the narratives of multiply-marginalized communities in health and healthcare, while simultaneously reproducing systems of privilege and oppression baked into policy, practice, and research.

Intersectionality not only centers equity and justice in medical and health sciences education, but also presents an opportunity to develop engaging pedagogical tools. Bi et al. (2020) applied intersectionality to teach a healthcare disparities course that utilized patient narratives, guest speakers of various positionalities, and interactive student discussions. Potter et al. (2016) found that role play, didactic presentations, and flipped classroom techniques actively engaged medical students' introduction to and incorporation of intersectionality in their clinical skills.

Intersectional Library Instruction

Librarians are advocating and experiencing a professional paradigm shift that validates and incorporates intersectionality in their work, including instructional librarianship. While there is a movement for critical librarianship and pedagogy, which centers social justice in library work, there are valid criticisms and concerns that this shift may not be enough. Some scholars have noted that the Association of College and Research Libraries' Framework for Information Literacy in Higher Education lacks an explicit connection between information literacy and social justice (Association of College and Research Libraries, 2016; Saunders, 2017). Others have identified the lack of explicit and meaningful discussion of white supremacy in critical information literacy scholarship (Leung & Lopez-McKnight, 2020). Intersectionality offers a critical analytical lens for instructional librarianship that centers race and its interlocking configurations with gender, class, language, sexuality, and other positionalities. Instructional librarians have also explored applications and insights from other justice-centered pedagogical approaches, including feminist theory, critical race theory, and queer theory (Drabinski, 2013; Morales & Williams, 2021). Although they are each unique in how they address social justice in teaching and learning, they endorse the framework of intersectional analysis.

Intersectional pedagogy in instructional librarianship requires a critical self-awareness about the profession's ongoing commitment to neutrality and objectivity. Neutrality is a privilege to detach professional responsibility in historical and contemporary realities of injustice, particularly for white and multiply-privileged librarians, while also a position of risk for multiply-marginalized librarians concerned about institutional support and

security (Ettarh, 2014). This commitment to neutrality conceals and reproduces librarians' role in maintaining white supremacist, hetero- and cisnormative, patriarchal, and capitalist structures. Information literacy instruction is inherently political. Instructional librarians teach students which information sources and voices are valid and represented, decide whether to present databases and library classification systems as unproblematic, and can engage in performative diversity work without critical self-awareness. Morales and Williams (2021) addressed information literacy instruction as one of many critical spaces for librarians and students to interrogate issues of information inequities and epistemic privilege.

This role is no less vital when it comes to the health sciences and other STEMM disciplines. Instructional librarians can play a vital role in supporting intersectionality's inclusion in the teaching and learning of every academic discipline (Fritch, 2018). Intersectional pedagogy can engage students to actively address oppressive social structures and legacies in the health sciences. Drabinski (2013) found in their instructional work that librarians can teach students beyond how to simply navigate knowledge systems (e.g., classification systems, databases), and facilitate students' analysis of power and bias embedded in these information structures. Barr-Walker and Sharifi (2019) addressed how teaching health sciences students about search strategies on justice-related topics such as "coercive contraception or sexism in residency programs to demonstrate database search features can raise awareness about these issues and help create an inclusive classroom space" (p. 259).

Intersectional instruction centers active learner engagement in the research process. Instructional librarians empower students to ask critical questions, critically evaluate information authority, and understand the inequities in who creates and legitimizes knowledge (Fritch, 2018). Instructional librarians have created intersectionality-centered pedagogical tools to engage students in research. Engaging learning tools and activities included reflective assessments, activities that examine authors' positionalities in course materials, group discussions, and collaborative evaluations of information sources (Ladenson, 2010; Stockdale et al., 2022).

Students' personal agency and learner autonomy, in addition to learner engagement, is a key aspect to teaching intersectionality (Barr-Walker & Sharifi, 2019). Intersectionality provides not only a pedagogical framework that centers equity and justice in library instruction, but also facilitates innovative and radical possibilities for engaging students. Ding (2022) investigated how some library instruction models (e.g., the one-shot) support equity for both the student and the instructional librarian with their inherent flexibility. This intersectional examination of the one-shot instruction model necessitates an embrace for autonomous flexibility in which instructional librarians determine the means and models of their instructional labor to support student equity (Ding, 2022). While the imbalanced student-instructor relationship cannot be entirely eliminated, instructional librarians can work to mitigate its impact on students' learning. For example, Arellano Douglas (2020) addressed how instructional librarians can shift their focus to assessing with students, by engaging them to reflect, discuss, and act on their own learning experiences.

Asynchronous Instruction Model

Asynchronous instruction is a relatively new model for instructional librarians, evidenced by the literature seldom differentiating it from online synchronous instruction, but the model has nonetheless been documented since at least the 2000s (Pickard & Sterling, 2022). Lierman and Santiago (2019) acknowledged that asynchronous library instruction remains in a nascent stage of development. Few librarians are currently trained in online learning design, and the various software for creating asynchronous learning objects remain limited in capability. The unique attributes of asynchronous teaching and learning are centered on the model's decentralized instructional librarian role and students' empowerment to independently engage with the learning content (Boczar & Jordan, 2022). While asynchronous library instruction remains in early development and application, the existing literature on best practices provide useful insights into the strengths and limitations of creating online student-paced learning environments.

Several factors should be considered when developing an asynchronous learning environment. For instance, social engagement is key to effective asynchronous instruction. Maheshwari et al. (2021) recommended that instructors build asynchronous community by cultivating social presence (i.e., learners participate in a safe learning environment with their emotionally and socially authentic selves), cognitive presence (i.e., learners engage in meaningful discourse as they learn new knowledge), and teaching presence (i.e., instructors facilitate learners' social and cognitive presences by creating meaningful learning opportunities, engaging learners in constructive discourse, and designing interactive curricular content). Varkey et al. (2022) identified the theoretical underpinnings of asynchronous learning: sequence learning (i.e., instructors design curricular content into segmented learning intervals), metacognition (i.e., learners self-evaluate and adjust their ongoing engagement with the learning materials), and multimedia design (i.e., improving the learner experience through the presentation of multimedia learning materials).

Despite the promising directions for asynchronous instruction, it is important to take into account the existing limitations and inequities with this model. Technological requirements and costs (e.g., internet connection, computer), online learning curve barriers, and accessibility issues are critical disadvantages for students (Tomaszewski, 2021). Given the absence of an instructor and other students typically found in synchronous learning environments, social engagement in asynchronous instruction is also a common issue for consideration (Maheshwari et al., 2021).

Methods

I partnered with another librarian from the team, who had been dedicated in supporting the module's development. They brought into the work a unique perspective and knowledge informed by an intersectional positionality different from my own, which helped to shape the module beyond my lived experience. I was also assigned the support of an instructional designer, who played a key role in discussing issues and ideas for asynchronous student engagement as well as providing guidance on content accessibility (e.g., alt text, video captioning). After its creation, the module

underwent anonymous peer review by members of the librarian team and the university faculty, providing important feedback on how to improve the module before launch.

As with all modules in the Scholarly Skills Community, the Intersectional Research Practices module was designed with a list of learning objectives as well as alignment with at least one ACRL frame for information literacy. I aligned the module with the following ACRL information literacy frames, "Authority is Constructed and Contextual" and "Information has Value." The module also aligned with the university's institutional learning outcome most appropriate to the module's purpose and content: "Apply knowledge, current research, skills, critical thinking, and evidence-informed decision making" (University of St. Augustine for Health Sciences, n.d.-b). The module aimed to accomplish the following learning objectives for students who completed it:

- Discuss the importance of intersectionality in research and evidence-based practice with marginalized patients, communities, and populations.
- Define concepts relevant to the discussion of intersectionality, marginalized populations, and health equity.
- Determine intersectional strategies to incorporate in research and evidence-based practice.
- Use health equity tools for research and evidence-based practice.

Given the asynchronous nature of the module, student engagement remained a crucial component to support a high-quality learning experience. The instructional designer provided us with a variety of interactive content creation tools for creative asynchronous opportunities to engage students in developing their intersectional research skills.

Lessons

We organized the module into four lessons, using Articulate Rise, a web content and online course builder, to facilitate an interactive presentation. In the first lesson, students are introduced to the concept of intersectionality, referring to select readings including Crenshaw's (1989) foundational writing on the topic. The module offers an extensive glossary of terminology relating to intersectionality and research, with definitions provided in text, relevant videos, informative graphics, and readings for additional context. Students can learn various terms such as health disparity, the Global South, decolonization, BIPOC, and LGBTQIA2+. The lesson also presents learning engagement opportunities such as an adaptation of the Genderbread Person, originally created by Sam Killermann (n.d.), to learn the multiple, intersecting dimensions of gender. The lesson is designed to be an introduction to core principles of intersectional research.

The second lesson guides students through an interactive roadmap of intersectional health. Hotspots displayed as road intersections within the map direct to the lived experiences and realities of multiply-marginalized communities. The hotspots provide informative text, video narratives, and links to readings about the health disparities

faced by undocumented Latinx populations, Black women, two-spirit Native communities, and other communities of color. Students also have the option to engage in an intersectional self-reflection regarding their own positionality through Mentimeter, an interactive presentation software, adapted from the Safe Zone Project's ([n.d.](#)) Identity Signs activity. Students were asked to identify the part of their identity they were most aware of on a daily basis, the part of their identity they were least aware of on a daily basis, the part of their identity that provided them the most privilege, and the part of their identity that was most difficult for them to discuss with others who identify differently. The self-reflection is completely voluntary, allowing students to anonymously share their identities with each other. Students can reflect on the real-life contexts of intersectional health injustice beyond a purely academic lens, and it is encapsulated by a quote from Audre Lorde at the end of the lesson: "There is no such thing as a single-issue struggle because we do not live single-issue lives" ([Lorde, 1982](#)).

In the third lesson, students explored different strategies and approaches to begin incorporating intersectionality in research. Several steps of the research process are covered, from intentionally articulating their research question with intersectional health equity in focus, searching the Global South literature as a valid source of knowledge, to critically appraising the existing evidence for how it approached intersectional health. The lesson emphasizes critical engagement with the entire research process.

Students learn in the fourth lesson about various research resources and evidence-based tools available for them to use to advance intersectional health equity and justice in their research. The resources provided range from research databases, such as the Native Health Database and GASP (GLBTQ+ Alliance in Social and Personality) Measures Database, to online resources, such as EthnoMed and Racial Equity Tools. Students learn to navigate and use these resources, guided by informative text and video tutorials.

Assessment

To earn the certificate of completion, or to self-evaluate their learning, students can take a formal, graded assessment at the end of the module. Students have unlimited attempts, no time limitations, and the option to save and resume the assessment attempt at a later time. The certificate of completion requires scoring at least 80%. Questions are randomized and consist of multiple-choice questions, research scenarios, database searches, and a short reflection about what they learned from the module and how they would apply intersectional skills and resources in their research. Students choose the best definitions for various terms covered in the first lesson's glossary, evaluate databases and other health equity tools for different contexts and situations, and perform simple searches for information with the databases and tools introduced in the module. When possible, comments are provided during grading to acknowledge where the student succeeded and where they could improve, with the aim of guiding them if they plan to revise their next submission for a higher score.

I analyzed the reflection responses to inductively generate themes for what they learned from the module and how they would connect intersectionality to their research

practices. Currently, data from the summative assessment were collected in aggregate, and do not include quantitative data specifically relating to the distribution of scores among the different questions in the assessment.

Results

Between March 13, 2022 and February 17, 2023, students accessed the Intersectional Research Practices module a total of 2,915 times. As of February 2023, 37 students completed the module's assessment, with eight students in progress of completing the assessment. 22 of the 37 students (59%) scored at least 80% in the assessment and received a certificate of completion (four of the 37 assessment submissions still require grading).

Student Connections to Intersectional Research

The module's assessment asked students to provide a reflection response to the following prompt: "With these new strategies and tools, how will you use them in your research and evidence-based practice? How have they informed your approach to diverse patients and communities?"

Respondents seldom used the term "intersectionality" in their reflections, with one student providing an interpretation of the concept: "Intersectionality can happen in any way. People only need to identify with two categories in which there are disparities to qualify." Students often reflected on intersectionality by referring to different dimensions of identity (e.g., sexual orientation, gender, race, language, nationality, ethnicity). Some respondents used other related terminology to articulate intersectional research such as cultural competence, cultural sensitivity, inclusivity, and cultural etiquette.

Most respondents acknowledged existing gaps in their awareness and understanding of patients and communities with intersectional positionalities. One student wrote: "I tend to forget that we all have different lifestyles, and that we were raised differently." Respondents noted an overall positive impact on their approach to different patients and communities, with some students expressing a commitment to, or otherwise emphasizing the importance of, intersectional research practices, as illustrated by the following reflection responses:

- "These resources have changed my approach when working with diverse communities/patients because it has given access to specific information about different cultures, ethnicities and sexual orientations that I was not aware ever existed."
- "I was unaware of all the resources available for BIPOC and LGBTQIA+, so this session has opened those doors for me."

Respondents listed the following as other major tangible takeaways from their completion of the module:

- "I will make sure to take diversity and the communities where people live into account whenever I am doing any research work."
- "I am looking forward to utilizing EthnoMed when working with patients. Learning about the Global South and referencing research there."
- "As a practicing occupational therapist, I can use these new strategies and tools to become more aware and informed of the health disparities that my patients may have encountered."
- "The databases specific to different areas such as gender and ethnicity can be very helpful in better understanding the cultures, the vocabulary within each culture and the possible subcultures within the cultures."

While most respondents described how they would incorporate intersectionality in their research practices in broad and general terms, one student explicitly connected what they learned from the module to their current research with an indigenous community: "I will be working [as] a missionary GNP [Gerontological Nurse Practitioner] on an Indian Reservation. Having resources pertaining to health issues and heath initiatives gives me an idea of their needs and how I can help. I am very interested in the women's health and human trafficking that occurs on reservations." Another student reflected on how the module would assist them with the communities in the area where they reside. They reported: "I will definitely use this [module] in the future. I live in Central Florida and there are innumerable cultures scattered here."

Self-Reflection of Students' Intersectional Positionalities

While not part of the formal summative assessment, responses were collected from students who participated in the anonymous intersectional self-reflection in the second lesson of the module (Table 1).

Most respondents reported that they were the most aware of their gender identity on a daily basis. Race and health were also provided in response to the question. One respondent answered with motherhood, which could be relating to the gendered aspects of their identity as a mother.

Sexuality was the most frequent answer to what part of respondents' identities they were least aware of on a daily basis. It should be noted that this answer was closely followed with responses regarding respondents' age, gender, race, and citizenship status.

When asked what part of their identity provided them the most privilege, respondents often referred to race. Some respondents also indicated that they found privilege conferred from their educational or socioeconomic status.

Race and political views were the most common responses to the question of what part of their identity they felt to be difficult to discuss with others who identify differently. Three responses to the fourth question concerned students' politics or political views. It is unclear if students who provided this response are referring to political party affiliation or values, or if they are connecting any of these contexts as a site of discrimination, privilege, or oppression in their lived experience.

Table 1. Student responses by question in intersectional self-reflection activity

Reflection Question	Responses
The part of my identity that I am most aware of on a daily basis is?	• Gender (7) • Race (2) • Health (1) • Motherhood (1)
The part of my identity that I am the least aware of on a daily basis is?	• Sexuality (3) • Age (2) • Gender (1) • Race (1) • Citizenship status (1)
The part of my identity that provides me the most privilege is?	• Race (6) • Education (2) • Socioeconomic status (1)
The part of my identity that I feel is difficult to discuss with others who identify differently is?	• Politics / Political views (3) • Race (3) • Disability (1)

Discussion

This module gave students an opportunity to explore intersectionality in their research practices in a completely self-paced online learning environment. While the module is innovative in teaching students at the university about intersectional research skills, critical self-reflection is essential to intersectional instructional librarianship. It is a recursive process that embraces change and improvement to enrich the student experience (Boczar & Jordan, 2022). The results of this case study provide an insightful exploration into the two questions raised by the project: (1) how do students engage with learning intersectional research practices; and (2) how can an asynchronous instruction model be effective to engage students in developing intersectional research skills?

Learner Engagement with Intersectional Research Practices

Students are actively exploring the resources and information provided in the module, with some students potentially returning to the module over time. There are several potential factors that may be at play as to why only 59% of students who completed the assessment scored high enough to earn the certificate of completion. Intersectional research is an emerging concept seldom addressed in health sciences education (Bi et al., 2020). The module is one of the few opportunities in the university's curriculum where students are introduced to intersectionality. Although students were able to attempt the assessment more than once, only a few students submitted two or more attempts. Some students may have been discouraged to revise and resubmit their assessment due to an initial low score, or they did not resubmit the assessment since it is not currently required by any course at the university. The optional status of the module can also help explain the small number of assessment attempts overall.

The student success rate prompted me to investigate the assessment further. Although the module underwent peer review by other librarians and faculty at the university before launching to students, I later found errors in some of the assessment's questions. I was able to correct the errors and adjust students' scores accordingly, which raised the success rate to its current 59%. At the time of this writing, I have not collected quantitative data that specifically addresses the distribution of scores among the different questions in the assessment, which may also provide insight into the students' aggregated success rate.

The assessment component of the module overall could be improved with future iterations. While the assessment includes questions that engage students in the intersectional research process through real-life scenarios and self-reflection, it still relies largely on a multiple-choice format. While multiple-choice testing does not necessarily run counter to teaching intersectionality, it reinforces a teaching practice that determines if students meet grading criteria arbitrarily established by the module's designers. Relying on solely the student success rate from the assessment can lead to assumptions about whether students' learning is satisfactory or deficient (Arellano Douglas, 2020). This either/or, positivist grading framework can be limiting in examining the student's full individual experience with the module. For example, the definition-based questions are multiple choice, asking students to select the "best" definition for a given term from the first lesson's glossary. This part of the assessment could be made stronger by asking students instead to articulate what these terms mean to them in connection with their roles as researchers and evidence-based practitioners. Future iterations of the assessment might benefit from including these types of activities that further emphasize reflection and learner input.

It is worth noting that the reflective responses among students completing the assessment were positive overall regarding the module. This positive reception also includes students who did not score high enough for a certificate of completion. The themes generated from the results demonstrate that respondents connected meaningfully to intersectionality as it relates to their research practices. Students often connected intersectional research to other concepts that were not covered in the module such as cultural competence, cultural sensitivity, and inclusivity. It is not necessarily surprising to see students using them since cultural competency education is included in the USAHS curriculum. Some students may be bridging intersectionality with their understanding of cultural competence in the health sciences, which is promising as the responses show similar connections to their current and future work in health sciences research and evidence-based practice.

Students also engaged in critical reflection regarding their own knowledge and education as researchers and practitioners. Many of the respondents noted gaps in their knowledge about issues of health and healthcare inequities, and followed with a commitment to learn more about these topics. This finding resonates with existing literature on how intersectional information literacy instruction teaches students to learn to be more intentional in identifying and utilizing different resources and skills to support communities with intersectional positionalities (Drabinski, 2013). Respondents expressed appreciation for learning about the various databases, online resources, and other research tools covered in the module. Some respondents also discussed strategies

they would incorporate as an intersectional researcher, such as finding and referencing scholarly work published in the Global South.

An initial concern at the beginning of developing this module was that students would assume completing the module meant that they learned everything they needed to know about intersectional research. Responses to the assessment's reflection question challenge the validity of this concern, as several students explicitly discussed how they would continue to return to the module as well as seek other learning opportunities regarding intersectional research practices. This finding suggests two things. First, students recognized that learning about intersectional research is an ongoing practice rather than an arbitrary endpoint. Second, at least some students view the module as a learning space to return and engage in intersectional work. It lends evidence to the need to regularly update and revise the module, not only to reflect the rapidly changing landscape of intersectional research but also to maintain the value of the module as a permanent learning space for students. Based on the responses in the reflection activities in the module's second lesson and the summative assessment, the module was successful in engaging students in the intersectional research process.

Effectiveness of Asynchronous Instruction Model

In designing the module, my colleague and I utilized several key characteristics and best practices relating to asynchronous instruction. Several elements characteristic to effective asynchronous learning share similarities with teaching intersectionality. For instance, we developed the module with student autonomy in mind. Students are in complete control in how they approach the module, such as choosing the order of lessons to access, deciding whether to complete the assessment to evaluate their knowledge, or applying the module as a guide for their research.

Yet this student agency is still subject to unequal power relations between instructor and student, particularly with the assessment, as the librarian team still grades student submissions and confers certificates of completion if they score high enough. Although the module remains an optional learning opportunity for students, faculty are able and encouraged to embed the module as required learning material, which could further complicate the power dynamics.

While the Intersectional Research Practices module is designed to be self-paced and largely removed of an instructor's presence, active student engagement remains crucial for effective asynchronous instruction. Social engagement would likely be even more necessary for a module in which students learn about intersectional positionalities as they relate to systemic disparities and justice-centered research practices. Results from this study support that social engagement, as described in Maheshwari et al.'s (2021) review of cognitive, social, and teaching presence, manifests simultaneously as a strength of the module and as a major area for improvement.

Reflective responses from the assessment data suggest that the module reinforces cognitive presence as learners acknowledge and evaluate their own misconceptions or gaps of knowledge in intersectional research. The module's design reflects several best practices for cultivating cognitive presence by spacing out module content into learner-

paced lessons, pre-training learners with essential terminology relating to intersectional research before they advance and consolidate information about specific research practices and knowledge, and presenting module content in interactive multimedia formats (Maheshwari et al., 2021). Yet the low student success rate may suggest that many students are encountering difficult learning experiences due to the module's cognitive presence design.

Future iterations of the module can benefit from best practices such as reevaluating and removing extraneous learning materials to reduce cognitive load, and incorporating additional online learning activities (e.g., audiovisual flashcards, informal quizzes, interactive instructional videos) across the lessons for students to practice their skills and improve information retrieval (Maheshwari et al., 2021). All the Scholarly Skills Community modules required a formal summative assessment, but the Intersectional Research Practices module could benefit from integrating informal formative assessments throughout the lessons.

Themes generated from the reflective responses indicate that students, even those who did not score high enough to earn a certificate of completion, were socially engaged in the module. Students reflected on their own journeys as intersectional researchers by referring to the geographical areas they lived in, the communities they were working with, and how they would utilize intersectional research practices in their scholarly and professional efforts. The assessment itself, while predominately in a multiple-choice format, utilized scenarios, role-play elements, and simple search exercises to engage students in thinking critically about their research practices and determining the best possible pathways to support intersectionality-centered scholarship and evidence-based practice. The student success rate could suggest that the predominately multiple-choice format of the assessment limited social engagement. While students were able to voluntarily express their emotionally and socially authentic selves when participating in the intersectional identity self-reflection activity in the module's second lesson, the self-reflection questions as written did not necessarily facilitate open-ended responses beyond one or two words. Students were also not able to engage in discourse or collaboration with each other throughout the module, including the self-reflection activity or the summative assessment. These gaps in social presence could be improved by applying best practices from the literature such as online discussion boards, social software that allow students to reaffirm and share knowledge with each other, and choose-your-own-adventure style activities (Maheshwari et al., 2021; Varkey, 2022).

The asynchronous instruction model supports a flexible learning experience. This flexibility not only extended to the students, but the instructors as well. My colleague and I had full autonomy to design the module as we envisioned with an opportunity to create engaging content and a formal assessment while still being highly scalable and transferable. This type of autonomous flexibility is supported by literature regarding other flexible instruction models, such as the one-shot (Ding, 2022). Unlike the one-shot and other synchronous models, the module maintains a permanent existence in which students can return and re-engage with the content. Although we are removed as active instructors and do not have class time with the students, we were still able to create engaging asynchronous learning experiences through innovative content creation tools and creative possibilities informed by an intersectional pedagogy.

Limitations

Several limitations of this case study and its results are noteworthy. The module, librarians, and students were from a single health sciences university, limiting the size and scope of the study. Additionally, the research focused on aggregated summative assessment data collected and reflective responses to the module, which were collected from a small sample. Additional research would be needed to investigate how students are interacting with the asynchronous module across its segmented lessons.

Conclusion

This case study demonstrates how instructional librarians can apply intersectional approaches to asynchronous teaching and learning experiences in the STEMM disciplines. These findings support the module's intentional design to include intersectionality in the STEMM disciplines (i.e., the health sciences). It also reveals important insights into how asynchronous instruction can create returnable, permanent learning spaces for students to engage in critical dialogues that center race, gender, sexuality, language, etc. The module intentionally contextualizes issues of privilege, oppression, and systemic disparity in the domain of health sciences research. Students engage in making critical connections between intersectionality and their work as researchers and evidence-based practitioners.

An intersectional lens is also shown to be not only possible, but also effective when applied to an asynchronous instruction model. Intersectional and asynchronous instruction share several key characteristics, particularly in the dimensions of learner agency, social engagement, and autonomous flexibility for instructional librarians. This model can help to build a permanent, scalable space for students to learn, reflect, and engage with intersectional research skills. While I have identified several potential areas for improvement with the module, an intersectional teaching mindset means being able to be critically reflective of the instruction process and to continually work on improving one's practice.

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References

Arellano Douglas, V. (2020). Moving from critical assessment to assessment as care. *Communications in Information Literacy, 14*(1), 46-65. https://doi.org/10.15760/comminfolit.2020.14.1.4

Association of College and Research Libraries. (2016). *Framework for information literacy for higher education.* https://www.ala.org/acrl/standards/ilframework

Barr-Walker, J., & Sharifi, C. (2019). Critical librarianship in health sciences libraries: An introduction. *Journal of the Medical Library Association, 107*(2), 258-264. https://doi.org/10.5195/jmla.2019.620

Berdai Chaouni, S., Claeys, A., van den Broeke, J., & De Donder, L. (2021). Doing research on the intersection of ethnicity and old age: Key insights from decolonial frameworks. *Journal of Aging Studies, 56*, 100909. https://doi.org/10.1016/j.jaging.2020.100909

Bi, S., Vela, M. S., Nathan, A. G., Gunter, K. E., Cook, S. C., Lopez, F. Y., Nocon, R. S., & Chin, M. H. (2020). Teaching intersectionality of sexual orientation, gender identity, and race/ethnicity in a health disparities course. *MedEdPORTAL, 16*, 10970. https://doi.org/10.15766/mep_2374-8265.10970

Boczar, A., & Jordan, S. (2022). Continuity during COVID: Critical digital pedagogy and special collections virtual collection. *IFLA Journal, 48*(1), 99-111. https://doi.org/10.1177/03400352211023795

Bussmann, J. F., Altamirano, I. M., Hansen, S., Johnson, N. E., & Keer, G. (2021). Science librarianship and social justice: Part three: Advanced concepts. *Issues in Science and Technology Librarianship, 97.* https://doi.org/10.29173/istl2601

Crenshaw, K. (1989). Demarginalizing the intersection of race and sex: A black feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics. *University of Chicago Legal Forum, 1989*(1), 139–167. https://chicagounbound.uchicago.edu/uclf/vol1989/iss1/8

Crenshaw, K. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review, 43*(6), 1241-1299. http://www.jstor.org/stable/1229039

Ding, Y. (2022). Feminized flexibility, one-shot, and library professionalism: Oxymoron or opportunity? *College & Research Libraries, 83*(5), 795-806. https://doi.org/10.5860/crl.83.5.795

Drabinski, E. (2013). Queering the catalog: Queer theory and the politics of correction. *The Library Quarterly, 83*(2), 94-111. https://doi.org/10.1086/669547

Ettarh, F. (2014, July 2). Making a new table: Intersectional librarianship. *In the Library with the Lead Pipe*. https://www.inthelibrarywiththeleadpipe.org/2014/making-a-new-table-intersectional-librarianship-3/

Fritch, M. E. (2018). Teaching as a political act: Critical pedagogy in library instruction. *Educational Considerations, 44*(1). https://doi.org/10.4148/0146-9282.1868

Gaylor, R., Cain, J., Chase, M., & Evener, J. (2022). Cultivating a community of scholars: Crafting a virtual information literacy hub to support student research. *Journal*

of Library & Information Services in Distance Learning, 16(2), 108-121.
https://doi.org/10.1080/1533290X.2022.2112802

Gohr, M., & Nova, V. A. (2020). Student trauma experiences, library instruction and existence under the 45th. *Reference Services Review, 48*(1), 183-199. https://doi.org/10.1108/RSR-09-2019-0062

Honma, T., & Chu, C. M. (2018). Positionality, epistemology, and new paradigms for LIS: A critical dialogue with Clara M. Chu. In R. L. Chou & A. Pho (Eds.), *Pushing the margins: Women of color and intersectionality in LIS* (pp. 447-465). Library Juice Press.

Killermann, S. (n.d.). *The genderbread person*. It's Pronounced Metrosexual. https://www.itspronouncedmetrosexual.com/genderbread-person/

Ladenson, S. (2010). Paradigm shift: Utilizing critical feminist pedagogy in library instruction. In M. Accardi, E. Drabinski, & A. Kumbier (Eds.), *Critical library instruction: Theories and methods* (pp. 105-112). Library Juice Press.

Leung, S. Y., & Lopez-McKnight, J. R. (2020). Dreaming revolutionary futures: Critical race's centrality to ending white supremacy. *Communications in Information Literacy, 14*(1), 12-26. https://doi.org/10.15760/comminfolit.2020.14.1.2

Lierman, A. & Santiago, A. (2019). Developing online instruction according to best practices. *Journal of Information Literacy, 13*(2), 206-221. http://dx.doi.org/10.11645/13.2.2649

Lorde, A. (1982) *Learning from the 60s*. BlackPast.org. https://www.blackpast.org/african-american-history/1982-audre-lorde-learning-60s/

Maheshwari, S., Jain, P., Ligon, B. L., & Thammasitboon, S. (2021). Twelve tips for creating and supporting a meaningful asynchronous learning as parts of virtual transition of a curriculum. *MedEdPublish, 10*(1), 111. https://doi.org/10.15694/mep.2021.000111.1

Morales, M. E., & Williams, S. (2021). Moving toward transformative librarianship: Naming and identifying epistemic supremacy. In S. Y. Leung & J. R. López-McKnight (Eds.), *Knowledge justice: Disrupting library and information studies through critical race theory* (pp. 49-71). MIT Press. https://doi.org/10.7551/mitpress/11969.003.0006

National Center for Education Statistics. (n.d.). *College navigator*. University of St. Augustine for Health Sciences. https://nces.ed.gov/collegenavigator/?q=university+of+st.+augustine&s=all&id=367954

Pickard, E., & Sterling, S. (2022). Information literacy instruction in asynchronous online courses: Which approaches work best? *College & Research Libraries, 83*(2), 184-220. https://doi.org/10.5860/crl.83.2.184

Potter, L. A., Burnett-Bowie, S., & Potter, J. (2016). Teaching medical students how to ask patients questions about identity, intersectionality, and resilience. *MedEdPORTAL, 12*, 10422. https://doi.org/10.15766/mep_2374-8265.10422

Safe Zone Project. (n.d.). *Identity signs*. https://thesafezoneproject.com/activities/identity-signs/

Saunders, L. (2017). Connecting information literacy to social justice: Why and how. *Communications in Information Literacy, 11*(1), 55-75. https://doi.org/10.15760/comminfolit.2017.11.1.47

Stockdale, K. J., Sweeney, R., & McCluskey Dean, C. (2022). Exploring the criminology curriculum – Using the intersectionality matrix as a pedagogical tool to develop students' critical information literacy skills. *Journal of Criminal Justice Education, 33*(4), 567-585. https://doi.org/10.1080/10511253.2021.2019290

Tomaszewski, R. (2021). A STEM e-class in action: A case study for asynchronous one-shot library instruction. *Journal of Academic Librarianship, 47*, 102414. https://doi.org/10.1016/j.acalib.2021.102414

University of St. Augustine for Health Sciences. (n.d.-a). *Consumer information*. https://www.usa.edu/legal/consumer-information/

University of St. Augustine for Health Sciences. (n.d.-b). *Institutional learning outcomes (ILOs)*. https://www.usa.edu/about/institutional-learning-outcomes-ilos/

Varkey, T. C., Varkey, J. A., Ding, J. B., Varkey, P. K., Zeitler, C., Nguyen, A. M., Merhavy, Z. I., & Thomas, C. R. (2022). Asynchronous learning: A general review of best practices for the 21st century. *Journal of Research in Innovative Teaching & Learning, 16*(1), 4-16. https://doi.org/10.1108/JRIT-06-2022-0036