Article

Structural Competence and Equity-Minded Interprofessional Education: A Common Reading Approach to Learning

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Abstract: As a result of the COVID-19 pandemic and the Black Lives Matter movement, leaders in the field of interprofessional (IP) education have encouraged faculty to explore online adaptations to curriculum and examine strategies that enhance students' structural competence. Structural competence is broadly defined as the ability to understand how oppression, governmental policies, and environmental inputs impact the health and well-being of an individual. With these changes in mind, a team of IP health science faculty developed two online curricular activities guided by the "common reading" book, *Five Days at Memorial: Life and Death in a Storm-Ravaged Hospital* by Sheri Fink. This article describes the development and findings of a mixed-methods evaluation of the two IP learning activities: (a) The Interprofessional Common Reading Experience (IPCRE) and (b) The IPCRE follow-up. The activities engaged over 250 students across multiple health professions (i.e., social work, nursing, athletic training, speech-language pathology, nutrition, and public health) attending three different universities. Our findings contribute to a greater understanding of how to develop online IP activities and curricular innovations that help to train equity-minded and anti-racist practitioners.

Keywords: interprofessional education; equity; anti-racist practice; healthcare teams

1. Introduction

The COVID-19 pandemic and the Black Lives Matter movement have called attention to the need for curricula that prioritize disaster preparedness and anti-racist and anti-oppressive practice in the health sciences. In addition, scholars have been vocal about the need for programs to alter their curricula to better integrate these concepts, provided that health disparities, racism, and bias are antithetical to the oaths, moral commitments, and ethics of health professionals [1–3]. To date, health science programs have affirmed their commitment to training practitioners to respond to disasters and crises, such as the COVID-19 pandemic [4]. Several national associations also have strengthened their commitment to anti-racist and anti-oppressive pedagogy by adapting their professional competencies to focus more on the disrupting patterns of structural oppression and systemic racism that contribute to healthcare disparities [5–8].

As critical as disaster preparedness and anti-racist practice are for future health professionals to incorporate within their line of work, considerable gaps exist in identifying interprofessional (IP) curricular activities that introduce students to these vital topics [9]. Scholars argue that a focus on structural competence, defined as the ability of students to consider structural determinants of health that exist outside the clinical setting, is noticeably absent within IP education [1,3]. To improve structural competence among IP students, a team of health science faculty developed two curricular activities using a "common reading" book. The common reading book served as a tool to engage students in discussions about

structural determinants of health, disaster preparedness, and systemic and historic forms of racism that continue to influence healthcare systems, IP teams, and patients today.

The purpose of this article is to provide a comprehensive overview of the development and mixed methods evaluation of two IP education activities (a) the IP Common Reading Experience (IPCRE) and (b) the IPCRE follow-up. Both of the IP curricular activities were guided by the book *Five Days at Memorial: Life and Death in a Storm-Ravaged Hospital* [10]. The activities engaged over 250 students across multiple health professions (i.e., social work, nursing, athletic training, speech-language pathology, nutrition, and public health) attending three mid-to-large size universities.

2. Structural Competence in Interprofessional Education

IP education enables health science students, faculty, and preceptors the opportunity to learn from, with, and among one another to enable effective collaboration and improve health outcomes [11]. Within health science training programs, several gaps exist in developing IP activities that prepare teams to consider historical patterns of oppression and to recognize how privilege, power, and identity influence patients, team dynamics, and organizations as a whole [3]. Cahn [1] firmly believes that educators and other health science programs have opportunities to strengthen students' structural competency. Cahn [1] advocated that structural competence is crucial because it expands the level of analysis from the interaction between individual health professionals and patients and encourages students to consider how oppression, governmental policies, and environmental inputs impact the health and well-being of an individual. Incorporating structural competence in health science curricula has the potential to reframe individualistic views regarding health problems, to help future professionals understand historical and oppressive barriers that affect socially vulnerable communities [1,3], and to ultimately improve health outcomes.

IP teamwork, collaboration, and communication are also critical elements of an effective response during a major health crisis, disaster, or emergency. The COVID-19 pandemic has illuminated the structural and practical adaptations necessary to provide quality care in a crisis. For example, during the COVID-19 pandemic, the entire healthcare system witnessed the redeployment of providers and practitioners to care for critically ill patients and distressed families [12]. IP healthcare teams engaged in upstream efforts, such as the development of new protocols for triaging patients, the implementation of risk reduction strategies, and the reallocation of resources and personnel. The effective collaboration, interprofessional communication, understanding of beliefs and values to inform practice, and clarity of roles and responsibilities demonstrated by interprofessional healthcare teams during the pandemic provide educators with multiple exemplars to reinforce the importance of Interprofessional Education Collaborative's Core Competencies [13].

3. Movement from Cultural to Structural Competence in IP

In light of the Black Lives Matter movement, anti-racist and anti-oppressive pedagogy within health science training programs is imperative to address current and future health disparities at the individual, community, and institutional levels. These approaches to pedagogy are meant to help students situate health and social issues within the context of history, societal norms, as well as their power and privilege. In short, curricula are designed to enable students to move beyond cultural competence and toward the practice of cultural humility [1,14,15], and to strengthen students' reflections on their positions in society [16]. Notably, IP leaders advocating anti-racist curricular activities to help students engage in dialogue about structural factors contributing to health disparities are sparse within IP training programs [1,17]. Central to learning about structural issues are students' knowledge, skills, and competencies regarding engagement in critical, thoughtful, and respectful dialogue about topics such as diversity, difference, and equity. However, often these skills are not modeled nor taught in IP education activities. In response, IP educators need to adapt their pedagogical practices to better prepare pre-service students for engagement in anti-racist practice and culturally responsive leadership.

Common Readings

"Common readings" have gained popularity in recent years in institutions of higher education because assigning students the same book to read over the summer creates opportunities for meaningful small-group discussions [18]. Common readings also allow faculty to engage with students from different majors, cultures, and backgrounds and to lead discussions that bring student viewpoints to the forefront of conversations. Given the utility of common readings to facilitate respectful discourse, educators have begun to use this approach when designing IP curricular activities [19]. Before the COVID-19 pandemic, Walker and colleagues [19] developed an IP common reading activity (initial, in-person IPCRE) using the book *Five Days at Memorial: Life and Death in a Storm-Ravaged Hospital* [10].

Five Days at Memorial is a Pulitzer Prize-winning book written by Sheri Fink [10] that explores controversial issues, such as end-of-life care, medical rationing, team and communication breakdowns, class and racial discrimination, and euthanasia. The initial IPCRE engaged over 200 students in conversations about teamwork and ethics during disaster situations. Students reported a positive experience and significant, positive changes in scores on IP learning assessments [19]. In light of positive findings from the initial pilot, the authors of this study planned to implement the IPCRE again during the 2020–2021 academic year. However, the COVID-19 pandemic and the death of George Floyd in 2020 influenced higher education in unprecedented ways.

Our faculty adapted the IPCRE curriculum for online delivery and focused on enhancing students' structural competencies. Initial learning objectives and content were revised to address the two pandemics facing our nation: COVID-19 and systemic racism. Our curricular changes led to the development of a second IPCRE follow-up activity focused on anti-racist practice, equity, and interprofessional perspective-taking. We sought to evaluate the influence of these curricular changes to strengthen our understanding of factors that contribute to the development of high-quality, student-centered, online IP curricula. Next, we share the development and evaluation of the: (a) IPCRE in fall 2020 and (b) IPCRE follow-up in spring 2021.

4. IP Common Reading Experience

4.1. Participants

In total, 223 students—ranging from undergraduate juniors to doctoral students—majoring in nursing (37%), social work (24%), public health (23%), speech-language (13%), and athletic training (3%) participated in the fall IPCRE. A majority of the students self-identified as female (93%), followed by male (5%), transgender (0.5%), non-binary (0.5%), and 1% preferred not to say. Further, 57% of students self-identified as White, 14% as Latinx, 11% as Black, 8% as Asian, 6% as two or more ethnicities, 2% as African, and 2% responded "Other" or preferred not to answer the question.

4.2. IPCRE Design

The summer before fall 2020 semester, student participants were sent a letter overviewing the IPCRE activity, provided a reading guide, and instructed to read the book before the fall event. Notably, the IPCRE committee included language and supports in the letter that addressed how the book may elicit strong feelings if individuals experienced the events of Hurricane Katrina or if other topics in the book were relevant to their own lives. This was done to ensure readers felt more prepared, better informed, and aware of topics in the book. In the fall, leaders of the IPCRE committee identified IP faculty to serve as facilitators and created an online facilitator training (i.e., athletic training, social work, nursing, speech-language pathology, nutrition, public health). The online facilitator training consisted of several components, including an overview of the learning objectives, instructions on how to engage students using several online icebreakers, a summary of an abbreviated Courageous Conversations protocol to facilitate respectful discourse [20], and a walk-through of the discussion prompts. On the day of the activity, students were placed in individual Zoom rooms comprised of 10 students and one facilitator.

To begin the activity, the facilitators introduced the learning objectives and led a brief icebreaker to frame the activity. The learning objectives for the fall IPCRE were grounded in the four Interprofessional Education Collaborative's Core Competencies (2016) and included: (a) Engage in respectful discussion about ethics, values, and behaviors that arise among professionals in disaster situations within healthcare settings (*Values and Ethics*), (b) Describe indicators of effective teamwork in disaster situations (*Teams and Teamwork*), (c) Explain how tools, such as technology and social media, facilitate effective IP communication and planning in healthcare settings (*IP Communication*), and (d) Identify how lessons learned in a disaster situation apply to their role as a future professional (*Roles and Responsibilities*).

The icebreaker asked students to use the Padlet platform to post one word to summarize a thought or feeling experienced while reading *Five Days at Memorial.* Students were then asked to share the "lens of your profession" concerning the book. Facilitators then briefly introduced students to the Courageous Conversations protocol. The Courageous Conversations protocol is an educational tool used to frame discussions about race and intersectionality [20]. We asked that each group remain committed to the following four agreements: (a) Stay engaged (no phones or other materials open), (b) Speak your truth (i.e., do not speak for your entire race, gender, etc., nor others and never devalue another person's truth, use of "I" statements were modeled and enforced), (c) Experience discomfort (i.e., this may not be pleasant, but reflect on the number of times you've talked about race and how news things may bring anxiety, centered within fear and excitement due to their newness), and (d) Expect and accept non-closure (i.e., conversations may not end succinctly or nicely) (adapted from [20]).

Following the framing and introductions, facilitators guided students through a series of five discussion prompts, each designed to last about 10 min. Facilitators had guides with additional probes and examples of how the questions aligned with specific examples from the book and opportunities to link the book and discussion to the COVID-19 pandemic and ongoing social justice movements (e.g., Black Lives Matter, #MeToo). Further, facilitators were trained to cue students back to the four agreements to promote respectful discourse. Table 1 overviews the competencies and prompts informed by the four learning objectives used to engage students in the discussion. At the end of the activity, facilitators reviewed the learning objectives and encouraged students to complete the evaluation.

Table 1. Competencies and IPCRE Prompts.

	Competency	Prompt(s)
1.	Values and Ethics	What ethical situations did you think of as you read *Five Days at Memorial?* Recall one instance which demonstrated mishandling of the disaster at a local or national level. What factors played a role in the mishandling of this disaster?
2.	Teams and Teamwork	When was there good teamwork? When was there not good teamwork? What are indicators that teams are working well together in disaster situations?
3.	IP Communication	How could IP communication have been improved in the disaster situation? We live in the era of Facebook, Twitter, and other forms of social media. How do you think events would have played out if cell phones and social media had been as prevalent in 2005?
4.	Roles and Responsibilities	What are some lessons from this disaster situation that you can apply in your role as a future professional?

5. IPCRE Follow-Up

5.1. Participants

In the spring, 56 students majoring in nursing (52%), social work (27%), speech-language pathology (16%), athletic training (4%), and public health (2%) participated

in the follow-up common reading activity. A majority of the sample self-identified as female (91%), followed by male (5%), and preferred not to answer (3%). Further, 63% of students self-identified as White, 14% as Latinx, 9% as two or more ethnicities, 7% as Black, 4% as Asian, and 3% preferred not to answer. A majority of students (79%) mentioned participating in the initial IPCRE activity in the fall. The other 21% only participated in the spring activity. We were unable to engage the same students across both activities due to scheduling conflicts. Of note, students who only participated in the spring event had the option to read *Five Days at Memorial* in its entirety but it was not a requirement. Rather students were assigned pre-work that included listening to the *Playing God* podcast [21] about the events that took place during Hurricane Katrina.

5.2. IPCRE Follow-Up Design

The learning objectives of the spring follow-up activity included an aim to increase student's awareness and understanding of: (a) How intersectionality and unconscious bias impact healthcare professionals and patient outcomes, (b) Your personal and professional comfort with conversations that center race, power, privilege, and issues of structural oppression, and (c) Steps IP teams can take to promote equity in healthcare settings. Before the spring activity, students were asked to listen to the podcast *Playing God* [21] and watch a short Panopto (pre-recorded) video. The recorded video introduced students to the scholarship of Dr. Kimberlé Crenshaw, who coined the term intersectionality and gave examples of how intersectionality informs how social identity and systemic inequities either reinforce privilege for some groups and replicate harmful forms of oppression for other groups [22]. The video also defined the term *unconscious bias* and presented an example of a research study that demonstrates how structural and historic oppression (e.g., enslavement, eugenics) continues to show up in healthcare today. In the chosen research, Hoffman and colleagues [23] explored whether false beliefs that emerged during enslavement about biological differences in skin color influenced current perceptions of pain and treatment recommendations among healthcare providers. Scholars found a connection between false beliefs about race (e.g., Black individuals have thicker skin than other racial groups) and less accurate treatment of pain among racial minority groups [23].

The IPCRE committee contextualized this study to the present day by noting how unconscious biases and historic forms of oppression tied to eugenics and enslavement contribute to inequities in healthcare treatment and patient outcomes. Then, students were re-introduced to the Courageous Conversations protocol (adapted from [20]) and asked to commit to the online agreements in an online quiz. The quiz was meant to serve as a mechanism of accountability and safety before students engaged in a discussion online. Following completion of the pre-work, students engaged in online discussion boards with 10 other students. Students were asked to respond to the following prompt associated with *Five Days at Memorial* or the *Playing God* podcast:

> Discuss the influence of race and how this impacted the handling of the disaster and identify how discrimination and marginalization impacted ethical decision-making. As you answer this prompt, consider factors such as the following: intersectionality between race and other identities such as age, weight, functional ability, and health status on the care at the hospital, the socioeconomic status of the individuals, and the presence of an advocate within the hospital room.

After completing their discussion post, students were then asked to reply to at least two other students in their group. Faculty facilitators were trained to monitor the online discussion boards, intervene using the Courageous Conversations protocol, and grade the activities using a brief participation rubric.

6. Methods

6.1. Measures

Student Learning Outcomes

All program evaluation activities were approved by the authors' Institutional Review Board. Student learning outcomes were evaluated using a retrospective pre-posttest design for both the IPCRE and IPCRE follow-up. To assess student learning across both activities, two questions were created with different stems (i.e., Before/After) that aligned with each learning objective. An example item stem for the IPCRE read: "Before reading the book and participating in the Common Reading event, how confident did you feel . . . " followed by the same question with a different stem that read: "After participating in the Common Reading event, how confident did you feel . . . " All items were measured on a five-point Likert scale ranging from 1 = *Not at all confident* to 5 = *Very confident*. To further assess student learning during the IPCRE follow-up, four items from the Diversity and Ethics subscale on the IP Attitudes Scale were included (IPAS) [24]. The IPAS is a scale designed to assess attitudes that relate to the 2011 Core Competencies for IP Collaborative Practice [25]. Each item began with the stem, "Please rank to what extent this activity helped you reflect on the need to . . . " All IPAS items were assessed using a five-point Likert scale ranging from 1 = *Strongly disagree* to 5 = *Strongly agree*.

6.2. Program Evaluation

To evaluate the IPCRE, a total of 17 items from the W(e) Learn IP Program Assessment were included in the evaluation [26]. The W(e) Learn, originally 30-items, is a validated self-report assessment tool designed to assess the structure, content, service, and outcomes of an IPE program. Items from the W(e) Learn are measured on a seven-point Likert scale ranging from 1 = *Strongly disagree* to 7 = *Strongly agree*. The measure was adapted for brevity and modified two items to better suit our assessment of facilitators and the organization of the activity. Questions also were organized on the measure to explore student perceptions across five key areas: (a) IP Content, (b) Future Practice, (c) Relevance, (d) Facilitation, and (e) Organization. For the IPCRE follow-up activity, the evaluation tool was abbreviated and only included four questions focused on relevance from the W(e)Learn assessment [26].

6.3. Open-Ended Questions

For both the IPCRE and the IPCRE follow-up, the evaluation tool included two open-ended response questions. The first open-ended question sought to assess student learning: "Describe one thing you learned from the experience". The second open-ended question aimed to capture student perceptions of how the activity could be improved: "How would you improve this experience"?

6.4. Quantitative Analysis

All scale items assessing student learning outcomes were ordinal variables, with each participant contributing a pair of scores. As a result, a non-parametric test of difference (i.e., Wilcoxon test) with statistical significance set at $p < 0.05$ was used to explore differences in the distribution of responses. Effect sizes ($r = z/\sqrt{N}$) were calculated using the formula proposed by Fritz and colleagues [27], with $r < 0.10$ indicating a small effect, $r > 0.10$ to $r < 0.30$ indicating a moderate effect, and $r > 0.30$ indicating a large effect [28]. All W(e) Learn items and the Diversity and Ethics IPAS subscale results were analyzed by examining students' overall mean scores and standard deviations on each item.

6.5. Qualitative Analysis

Open-ended questions were analyzed via conventional content analysis from each activity. Conventional content analysis allowed the systematic classification of qualitative data from codes to inductively identified categories [29]. Two researchers independently read the data repeatedly to establish familiarization, and then each researcher manually developed initial codes for each question. Color coding was used to facilitate further

categorization. A third researcher then read both sets of color-coded data to identify discrepancies and validate the emerging categories to ensure the reliability of the process. The entire research team then met to resolve discrepancies, and discussion continued until consensus was reached on all final categories. Recoding to the final categories was completed after the meeting by the researchers to establish accurate referent counts.

7. Results

7.1. Quantitative Results

7.1.1. Student Learning Outcomes

Student perceptions of their confidence levels significantly increased, with moderate to large effect sizes, across all of the learning objectives associated with the IPCRE and IPCRE follow-up (see Table 2). Students also reported positive perceptions of how the learning activity helped them to reflect on issues of diversity and ethics in IP practice (see Table 3).

7.1.2. Program Evaluation

Students' overall perceptions of the content, applicability to future practice, relevance to IP practice and education, perceptions of the facilitators, and organization of the activities were high, indicating students had positive overall assessments of the activities (see Table 4). Students reported higher scores on items assessing enjoyment of the IPCRE more than the IPCRE follow-up activity, but the follow-up activity yielded higher scores concerning students' needs and interests.

Table 2. Student Learning Outcomes.

Learning Objectives	N	Before Mean (SD)	After Mean (SD)	Wilcoxon Z	*p* Value	*r*
IPCRE						
Engaging in respectful discussion about ethics, values, and behaviors that arise among professionals in disaster situations within healthcare settings.	231	3.94 (1.01)	4.58 (0.58)	−9.22	0.001 *	−0.43
Describing indicators of effective teamwork in disaster situations.	229	3.55 (0.97)	4.38 (0.69)	−10.53	0.001 *	−0.49
Explaining how tools, such as technology and social media, facilitate effective IP communication and planning in healthcare settings.	226	3.73 (0.97)	4.45 (0.75)	−9.71	0.001 *	−0.46
Identifying how lessons learned in a disaster situation apply to your role as a future professional.	226	3.36 (1.08)	4.40 (0.74)	−10.40	0.001 *	−0.49
IPCRE Follow-Up						
How intersectionality and unconscious bias impact healthcare professionals and patient outcomes.	69	3.45 (1.01)	4.43 (0.82)	−6.10	0.001 *	−0.52
Your personal and professional comfort with conversations that center on race, power, privilege, and issues of structural oppression.	68	3.57 (0.96)	4.31 (0.88)	−5.83	0.001 *	−0.50
Steps IP teams can take to promote equity in healthcare settings.	67	3.13 (0.91)	4.08 (0.92)	−6.11	0.001 *	−0.53

Note. * Statistically significant at *p* < 0.05. All items range from 1 = *Not at all confident* to 5 = *Very confident*.

Table 3. Diversity and Ethics (IPCRE Follow-Up).

Diversity and Ethics Questions	N	Mean	SD
Respect the unique cultures, values, roles/responsibilities, and expertise of other health professions.	66	4.62	0.71
Understand what it takes to communicate effectively across cultures.	66	4.48	0.82
Respect the dignity and privacy of patients while maintaining confidentiality in the delivery of team-based care.	66	4.56	0.84
Provide excellent treatment to patients regardless of their background (e.g., race, ethnicity, gender, sexual orientation, religion, class, national origin, immigration status, or ability).	66	4.68	0.70

Note. All items range from 1 = *Strongly disagree* to 5 = *Strongly agree*.

Table 4. Program Evaluation.

W(e) Learn Questions	N	Mean	SD	N	Mean	SD
Relevance to IP Practice and Education		IPCRE			IPCRE Follow-Up	
The content was consistent with my professional interests and needs.	223	5.67	1.50	59	5.83	1.47
The content was applicable to a wide variety of healthcare contexts (e.g., hospital community, etc.).	220	5.93	1.44	59	6.03	1.47
I enjoyed the IP learning experience.	220	5.97	1.39	59	5.25	1.72
I have a deeper appreciation of the approach to collaborative patient-centered care.	221	6.24	1.23	59	5.86	1.43
IP Content						
The learning experience provided opportunities to learn about each other's professions.	226	5.75	1.47			
The learning experience provided opportunities to learn with and from each other.	224	6.12	1.22			
The learning activities promoted mutual respect among learners.	223	6.40	1.14			
The content included knowledge and skills necessary for IP teamwork.	225	6.18	1.25			
Future Practice						
The learning activities reflected situations encountered in practice.	225	5.86	1.38			
I have learned knowledge that I will apply in practice.	225	6.05	1.28			
I have learned skills that I will apply in practice.	224	6.00	1.32			
I am motivated to change my practice towards providing more effective IP collaborative care.	224	6.13	1.26			
Facilitators						
The facilitator promoted an open atmosphere in which all participants could be heard.	222	6.56	1.10			
The facilitator promoted collaboration among learners.	221	6.57	1.06			
The facilitator appeared well prepared and organized.	222	6.61	1.03			
My facilitator helped resolve disagreements or difficult conversations between learners.	224	6.47	1.18			
Organization						
The program I enrolled in adequately supported my participation in the IP learning activity.	224	6.31	1.20			
The learning activities were well organized.	223	6.46	1.08			
The learning activities were engaging.	222	6.36	1.17			

Note. All items range from 1 = *Strongly disagree* to 7 = *Strongly agree*.

7.2. Qualitative Results

Open-Ended Questions

Table 5 provides the themes for each question associated with the IPCRE with exemplifying student responses, along with a count of referents for each theme. The table is organized by theme in descending frequency for each question. For the IPCRE, there were six main themes for responses to the question "Describe one thing you learned from this experience": (1) Communication, (2) Perspectives of Other Professions (Roles and Responsibilities), (3) Teamwork and Collaboration, (4) Planning/Preparedness, (5) Ethical

Considerations, and (6) New Skills and Knowledge. Through this activity, students learned the value and need for strong IP communication and how those tools connect to various aspects of healthcare. Many students also commented on how much they enjoyed and valued hearing the perspectives of students from other professions. Student responses indicated that the activity facilitated an understanding of the importance of having each discipline on an IP team to provide unique insights. In addition, when asked to reflect on ways to improve the IPCRE, student comments centered around five themes: (1) Engagement, (2) Administrative, (3) Content, (4) Perspectives of Other Professions, and (5) Technology. Students found engagement difficult when they felt that there were not enough students speaking. Others found it difficult to engage with the activity because they felt their profession was not connected enough to the book, activity, or discussion.

Table 5. IPCRE Student Learning and Areas for Improvement.

Student Learning Themes (*n* = 171)	Exemplifying Student Responses	# Referents
Perspectives of Other Professions (Roles and Responsibilities)	• *"I found it interesting to see how everyone approached the questions coming from different backgrounds."* • *"The role of SLP's [speech language pathologists] in an IPE team."*	70
Communication	• *"Developed my skills further in having strong IP conversations."* • *"Communication and preparedness are essential in healthcare."*	50
Teamwork and Collaboration	• *"Teamwork takes effort but improves patient outcomes!"* • *"How different professions can collaborate together to make a difference."*	29
Planning/Preparedness	• *"Effective ways to deal with disasters in the future."*	20
Ethical Considerations	• *"Ethics informs practice."* • *"Ethics involving disasters."*	11
New Skills and Knowledge	• *"Distinction between euthanization and palliative care."*	11
Other: Overtly Negative (*n* = 2): e.g., "I would prefer not to do it next semester." N/A (*n* = 1). Neutral but positive (*n* = 1): "Really helpful!"		

Areas for Improvement Themes (*n* = 152)	Exemplifying Student Responses	# Referents
Engagement	• *"Get more people to talk."* • *"It applies much more to other professions like nursing. [Speech-language pathology] was more difficult to connect."*	22
Administrative	• *"Closer to completion of reading the book."* • *"Fewer prompts and more time to discuss things. Some discussions were cut short because we had to move on to the next prompt."* • *"Shorten to one hour."*	21
Content	• *"Maybe more activities besides just discussion."* • *"It would have been interesting to talk more about parallels between this book and COVID-19 pandemic."*	16
Perspectives of Other Professions	• *"Include more health professions."* • *"Discuss more about how each discipline has an important role in this."*	12
Technology	• *Zoom, unfortunately, is difficult to have a collaborative discussion since it auto-mutes secondary speakers. Due to this, it was more individual points, not so much a discussion. Hopefully, we can be in person again soon!"* • *"Less technical difficulties."*	7
Other: Overtly Negative (*n* = 1): *"Not doing it next semester."* N/A, None, Nothing, No recommendations, Not sure: (*n* = 47); Neutral but positive (*n* = 28): e.g., *"I really liked it! Great job!"*		

Note. Some student comments were coded to more than one theme.

In terms of what students learned about in the IPCRE follow-up, student comments generated five themes (see Table 6): (1) Intersectionality/Bias, (2) Importance of Various Perspectives, (3) Teamwork and Collaboration, (4) Navigating Difficult Conversations, and (5) Disaster Preparedness. Students discussed how the pre-work was beneficial and opened their eyes to the concept and prevalence of intersectionality and bias in healthcare. Additionally, students valued the opportunity to engage in respectful dialogue with peers

who held different perspectives than their own. In terms of improving the IPCRE follow-up, student comments centered around four themes: (1) Content, (2) Method of Delivery, (3) Engagement, and (4) Administrative. Multiple students recommended that the activity include more interactive content rather than just discussion boards. However, regarding the method of delivery, five students specifically commented on the value of the discussion board format to allow adequate time to formulate their thoughts and responses, four students commented that they would have preferred the activity be held in a live discussion format (Zoom or in-person).

Table 6. IPCRE Follow-Up Student Learning and Areas of Improvement Themes.

Student Learning Themes (*n* = 37)	Exemplifying Student Responses	# Referents
Intersectionality/Bias	• *"I learned that intersectionality and biases are common in the medical field, and it is our duty to eradicate those biases and give everyone equal and excellent treatment."* • *"I was able to learn about intersectionality and marginalization."*	14
Importance of Various Perspectives	• *"It is okay to have an opinion that is different than someone else's. We were in a safe place to provide our opinion, and it was nice to have other people share ideas that were similar but also different from my own."* • *"Getting to read others' responses further showed me the variety in perspectives we have as a society. We all saw various racial issues and described them from our own standpoints, each expressing frustration and a need for change in different ways. It shows me that my perspective is not always the most accurate or correct, and that each of us have unique biases and interpretations."*	11
Teamwork and Collaboration	• *"I learned that healthcare providers have to come together to make a change in the actions that are made for patients. It takes everyone to make a difference, and as a nursing student, I learned how I should always advocate for my patients."* • *"Collaboration between all professionals make for a more cohesive workplace, and emergency planning may not always go to plan, but adaptation is key."*	4
Navigating Difficult Conversations	• *"The IPE threaded discussion forced students from different programs to have difficult conversations about discrimination and the effects of it. Some of the information in Five Days at Memorial was very difficult to read, but it is real-life events. Unfortunately, there is inequality in America today. This provided a starting point to have frank discussions."*	4
Disaster Preparedness	• *"The process of triage and how it worked in the Memorial hospital during Katrina."*	3

Other: Overtly Negative (*n* = 1): *"Nothing. I don't need a class to teach me how to work with other careers."* Neutral but positive (*n* = 1): *"It was a great experience."*

Areas of Improvement Themes (*n* = 35)	Exemplifying Student Responses	# Referents
Content	• *"Even examples from other topics in the book could have been helpful and shown us other opinions."*	10
Method of Delivery	• *"I liked how the discussion on this topic was formatted as a discussion board. I felt like I had more time to formulate my thoughts and express my thoughts through this platform."* • *"I thought the experience was very thorough and convenient for us as students. I really enjoyed last semester with the meeting consisting of synchronous attendance but did not consume a majority of the student's time. I would recommend the Zoom approach rather than the discussion board approach."*	4
Engagement	• *"I would improve it by maybe asking more questions to help go more in-depth about our discussions, to help view a more deeper perspective from one another."*	3
Administrative	• *"More people in groups to have more perspectives to hear from."*	2

Other: Overtly Negative (*n* = 1): *"STOP DOING IT. IT IS STUPID."* N/A, None or Nothing (*n* = 7). Neutral but positive (*n* = 9): e.g., *"I enjoyed it. Thank you!"*

8. Discussion

The COVID-19 pandemic and Black Lives Matter movement call for greater focus on systemic inequities across health disciplines requiring IPE educators and leaders to strengthen online IP curriculum delivery and enhance students' structural competencies [1,30]. Walker and colleagues [19] conducted an initial, in-person pilot evaluation of an IPCRE with over 200 health science students in 2019. Students participating in the initial IPCRE reported positive experiences and significant differences in pre- and post-test scores [19]. Our results build upon the initial evaluation by exploring the delivery of IP content virtually, and the influence of curricula focused on intentional elements of structural competence, such as critical reflection and perspective-taking [1].

Our findings indicated that both online IPCRE activities contributed to significant differences in pre- and post-test assessments of students' learning outcomes. The magnitude of changes in student scores from pre- to post-test was moderate and large, suggesting a majority of the students benefited from the content, design, and delivery of the IPCRE. We found a second IP curricular activity focused on diversity and ethics helped students navigate difficult conversations about racial positionality and healthcare imbalances that influence patients and families. Students reported the IPCRE follow-up content contributed to positive reflections on their ability to equitably deliver IP healthcare services to individuals from intersectional backgrounds. Students also shared that the IPCRE follow-up activity was highly applicable to future IP practice in regard to disaster preparedness and anti-racist practice. Notably, the common reading book, *Five Days at Memorial*, allowed students to engage in critical reflections of their positionalities as people and healthcare professionals, as well as deconstruct instances of structural oppression and systemic racism during Hurricane Katrina. In alignment with calls from national healthcare associations to focus on anti-racist and anti-oppressive pedagogy, instructors were able to help students develop structural competencies by retrospectively reflecting on disparities in access and structural issues that negatively influenced the equitable delivery of care [5–8]. The book *Five Days at Memorial* provided students with a context-specific case example where they could reflect, relearn, and refocus on situating themselves as active participants in resisting future harm and improving healthcare service delivery.

In the case of this evaluation, results further our understanding of whether IPE activities are strengthened or diminished in the online space [30]. Students reported enjoying the online, face-to-face IPCRE activity more so than the follow-up activity that utilized online discussion boards, although students reported the IPCRE follow-up activity allowed them more time to think about their responses, ideas, and perspectives. Our findings align with prior research on effective online design strategies that facilitate meaningful discourse. Scholars found social and cognitive learning often takes place when activities set structured expectations and engage students in activities that allow them to share, discuss, and reflect on different perspectives and ideas [31].

The discussion-style format of the IPCRE and exceedingly positive perceptions of the trained facilitators appeared to help empower learners to problem-solve and socialize interprofessionally. Evans et al. [32] argued cognitive and social learning happens when facilitators are not there to impose power or dictate learning but rather to help groups engage in shared decision-making and problem-solving. The intentionality in building the skills of faculty before the IPCRE event via the online faculty training and faculty discussion guide likely strengthened the student experience. Faculty were given tools to monitor and support respectful discourse (e.g., the Courageous Conversations protocol) that also may have helped to frame boundaries and expectations for students. Students provided feedback that the IPCRE activities could be improved in the future by including more professionals from additional disciplines, more people in groups, and greater maximization of time. Further, students expressed a need for faculty to work toward greater integration of topics from the book to COVID-19 and systemic issues influencing intersectional populations. It is possible to improve the IPCRE follow-up online discussion board activity by having IP faculty more actively engaged in facilitation.

9. Limitations

Our study is not without limitations. Student participants were not required to complete the evaluation after the activities. As a result, students who found the activities more favorable may have participated in the evaluation, potentially resulting in response bias. We also did not conduct a follow-up evaluation to examine whether their learning influenced their future behaviors in practicum or professional settings. Moreover, we were unable to engage the same students across both IPCRE activities because of scheduling and autonomous decision-making for different programs across the three universities. Lastly, our data were not normally distributed, resulting in the inability to compare the initial, in-person IPCRE scores to the online IPCRE follow-up scores.

10. Conclusions

IP educators can work to train equity-minded practitioners that are willing to engage in the necessary, and sometimes difficult, conversations that lead to structural change. The outputs of our IPCRE activities are promising and important, provided that, now more than ever, the success of IP healthcare teams depends on their ability to successfully navigate discussions about structural determinants of health. In addition, our findings demonstrate how a common reading book can allow for the development of in-person, online, and discussion board IP curricular activities, as well as integration of topics such as the global COVID-19 health crisis and current social movements. Our IPCRE activities helped students to gain a unique appreciation for the diverse roles and perspectives of their fellow healthcare professionals and to advance their insight and understanding of hard-to-teach concepts like intersectionality, ethics, perspective-taking, and unconscious bias.

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