

**ASSESSING SUPPLEMENTAL INSTRUCTION LEADERS’
INTERCULTURAL COMPETENCE AND CULTURALLY RESPONSIVE
PRACTICES IN NON-TRADITIONAL LEARNING ENVIRONMENTS**

by

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*I dedicate this dissertation to my Heavenly Father, who provided me with these research ideas. His seeds of **wisdom** and **love for all nations and all people** made this research enjoyable and worth it all. Throughout this dissertation process, I focused on the following scriptures:*

Trust in the Lord with all your heart; do not depend on your own understanding. Seek His will in all you do, and He will show you which path to take. Proverbs 3:5-6 (New Living Translation)

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ABSTRACT

Social justice researchers and practitioners have beckoned post-secondary institutions to provide inclusive and culturally responsive instructional practices that promote students' sense of belonging and empowerment. However, little research has demonstrated how competent intercultural behaviors can connect to one's integration of culturally responsive teaching. Therefore, this explanatory sequential mixed-methods study examined the interplay between these components within a distinguished undergraduate peer learning program, Supplemental Instruction (SI). Undergraduate SI leaders' behaviors were examined for their intercultural competence level, potential influencers, and valued commitment to diversity and inclusion. This study was supported and guided by Hammer's (2012) Intercultural Development Continuum (IDC) and Gay's (2018) Culturally Responsive Teaching (CRT) practices. Quantitative data were collected using Hammer's (2012) Intercultural Development Inventory (IDI), and qualitative data were in the form of interviews and analyses of leaders' session plans. The findings revealed that participants overestimated their intercultural competence. Relatedly, participants expressed concerns of uncertainty beyond solely acknowledging diversity and addressing intercultural insensitivity. Curricular and co-curricular programming were potential influencers to the leaders' intercultural competence knowledge (i.e., cultural self-awareness, culture-general, and culture-specific). Additionally, implications include recommendations for higher education administrators' initiatives for more inclusive and culturally responsive peer-learning programs.

Keywords: social justice, intercultural development, culturally responsive teaching, peer learning, non-traditional learning, higher education

CHAPTER 1. INTRODUCTION

Post-secondary institutions are becoming more aware of social justice matters and their impact on students. Many institutions have begun prioritizing diversity and inclusion resources to promote a more justice-oriented and inclusive collegiate environment. Some universities have implemented campus-wide and departmental programs, including training or positioning experienced personnel to support diverse students' needs (Thompson, 2018). The American Association of Colleges and Universities (AAC&U) highlights the University of Arizona's Universal Design of Learning training and Agnes Scott College's racial healing as examples of institutions moving towards justice-oriented practices (AAC&U, n.d.). Other institutions have also focused on providing instructional support to faculty to propel all students' learning experiences, such as Yale's Poorvu Center for Teaching and Learning, which positions faculty and graduate students to be well-informed of evidence-based inclusive classroom climate resources. Such resources provide holistic student support and promote a sense of belonging. As institutions attempt to remedy social injustice in their learning environments, this present investigation beckons institutions to apply similar diversity and inclusion efforts in non-traditional academic learning environments.

Diversity and *inclusion* are overarching terms comprising different aspects of recognizing, accepting, and adhering to cultural differences (O'mara, 2015). According to the Global Diversity and Inclusion Benchmarks: Standards for Organizations Around the World (O'Mara et al., 2014), diversity recognizes the variety of commonalities and differences among individuals' sociocultural identities (e.g., gender identity, race, and disability). The authors describe inclusion as measures to ensure human rights to promote achievement, equality, equity, and wellness. The authors also outline the five dimensions that fall under diversity and inclusion: "a) social justice/social cohesion/fairness and equity/overcoming oppression, b) cultural competence/multiculturalism/interculturalism, c) organization development/strategic diversity management, d) legal and compliance, and e) social responsibility" (O'Mara, 2015, p. 268; O'Mara et al., 2014). However, though more institutions have created diversity and inclusion-related marketing and revised diversity statements (Hutchinson & McAlister-Shields, 2020), Parrot and Hennessy (2021) argue that real action is more valuable than communication that is actionless.

Though learning environments can be diverse (e.g., having multiple representations of people groups, cultures, and values), diversity does not guarantee inclusion (feeling a sense of belonging and support) (Tienda, 2013). Pedagogies such as culturally responsive teaching (Gay, 2010) and culturally relevant teaching (Ladson-Billings, 1995) focus on being aware of personal cultural identity and acknowledging all students' cultures to make learning more relevant. These instructional approaches acknowledge the impact instructors' privilege and biases have on the teaching and learning experiences and the climate. As our nation becomes more diverse and globally interconnected, there is an impetus to prepare traditional and non-traditional instructors to address biases and promote positive change in the learning environment.

Despite the significant instructional shifts that have occurred with the integration of culturally responsive instruction (Heitner & Jennings, 2016), it has also exposed a lack of research utilizing these approaches in unique, non-traditional learning environments with non-traditional educators. Non-traditional learning occurs outside of the traditional learning context (Helman & Horswill, 2002). Peer learning is one example of non-traditional learning that is a beneficial method for students to engage in challenging course material while being guided by a peer (Boud et al., 2014). In higher education, administrators of peer-learning programs, such as the Supplemental Instruction (SI) Program, may increase educational impact in their programs by evaluating their academic peer leaders' intercultural competence and instructional decision-making for culturally responsive instruction.

Research Overview

The present investigation aims to promote justice-oriented practices in the context by examining undergraduate SI leaders' intercultural competence, narratives of their lived experiences, and their intrinsic culturally responsive instructional practices. This study remains significant for higher education administrators seeking to assess their leaders' intercultural competence and instructional practices. Furthermore, this study points administrators of academic learning programs toward assessment opportunities related to diversity and inclusion commitment. This study addressed the following research questions:

RQ 1: To what degree are SI leaders interculturally competent?

RQ 2: What experiences have influenced SI leaders' intercultural competence?

RQ 3: How do SI leaders demonstrate the value of diversity and inclusion in their leadership position?

This case study used a sequential explanatory mixed methods design to address the mentioned research questions. Quantitatively, I examined a group of (n=54) SI leaders' intercultural competence using the Intercultural Development Inventory (IDI), a 50-item psychometric. Qualitatively, the study examined (n=4) SI leaders through two (1 hour) semi-structured interviews and an analysis of their instructional planning. It is anticipated that the SI leaders will overestimate their intercultural competence and utilize collaborative instructional practices in their instructional planning. Additionally, it is expected that integrating mixed methods will provide a fuller picture to administrators regarding assessment forms with the hopes that training on intercultural competence and culturally responsive teaching will be ongoing.

Significance of Research

The investigation of this study has pedagogical and practical implications for higher education educators and administrators of peer-facilitated learning environments. First, this research examines the intercultural attitudes of undergraduate peer-instructors participating in academic leadership roles. Such research connects to the diversity and inclusion initiatives of the context and dispositions of leaders concerning such matters. Second, this research investigated contributing factors that have encouraged student leaders' dispositions in their cultural self-awareness and interactions with culturally diverse others. Most importantly, the study emphasizes institutional efforts that have prompted the student leaders' intercultural competence, which involves leaders' competency in their knowledge, skills, and attitudes. Third, this research acknowledges the limited research that has connected both intercultural competence and culturally responsive teaching for more dynamic forms of teaching and learning experiences. Practically, this investigation propels scholarly discourse through action as it focuses on interculturally competent attitudes and their impact on leadership responsibilities in instructional capacities. Unpacking and reinforcing both elements of *intercultural competence* and *culturally responsive teaching practices* in this study will guide higher education administrators and faculty of peer-instructors in well-aligned training to increase students' sense of belonging in these learning spaces.

CHAPTER 2. LITERATURE REVIEW

This chapter includes two subsections in which I convey the rich literature related to this study's investigation. The first subsection includes unpacking culture and introducing intercultural competence and culturally responsive pedagogy. The second subsection includes a rationale for the selected theoretical and conceptual frameworks that supported this investigation. Lastly, I acknowledge the integration of the selected frameworks that support the data analyses and interpretation of the results.

Section 1: Review of Literature

Essential to this present investigation is thoroughly comprehending and navigating the nuances of intercultural competence and culturally responsive pedagogy as it relates to instructional leadership practices. Intercultural competence has become a focal point for higher education institutions to prepare college students to become global citizens of the workforce in the 21st century (Griffith et al., 2016). Whereas culturally responsive teaching, once concentrated on K-12 education, has become a more relevant pedagogy for higher education to increase students' academic achievement (Mintz, 2022). This literature review explores these two concepts while considering how power dynamics can contribute to interculturally competent attitudes and culturally responsive teaching outcomes. Without a proper understanding of culture, the synthesis of the literature on intercultural competence and culturally responsive teaching would be irrelevant. To better understand their interaction, I must address what constitutes culture.

Understanding Culture

Despite many attempts, scholars face difficulties defining the term culture due to its abstract nature (Condon & LaBrack, 2015), especially since culture can describe many aspects of life, such as Western culture, workplace culture, and Marvel culture. American anthropologists Kroeber and Kluckhohn's (1952) noted the complexity of determining a standard definition of culture in their critical review. The authors analyzed 160 definitions and categorized them into seven categories: descriptive, historical, normative, psychological, structural, genetic, and incomplete. Example definitions are included in Figure 1, demonstrating scholars' diverse

positioning on culture. Since their publication, additional scholars have contributed to their insights hoping to understand and define culture.

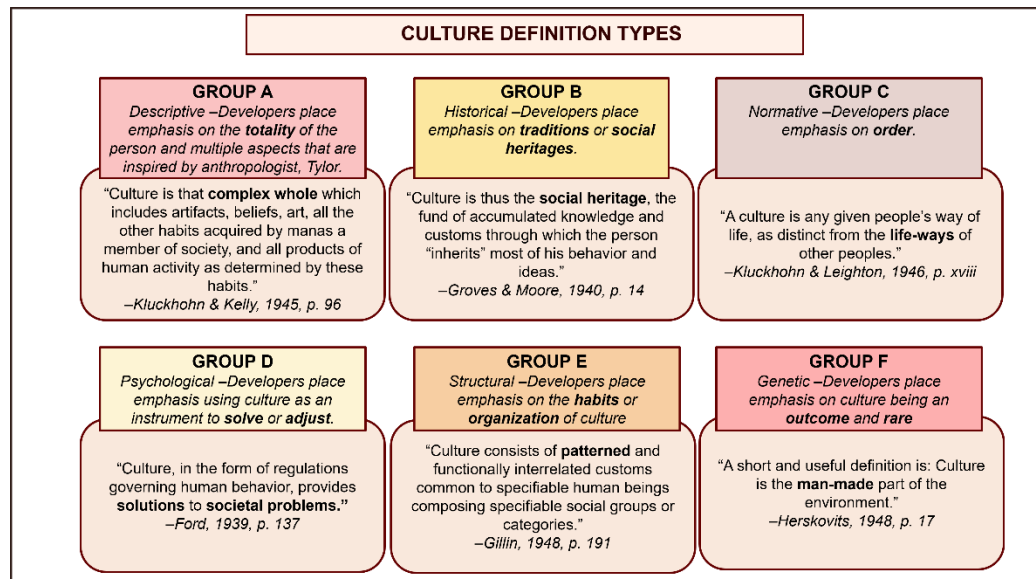


Figure 1

Culture Definition Types adapted from Kroeber and Kluckhohn's (1952)

Given culture's abstract nature, scholars tend to illustrate culture using Hall's (1976) iceberg model. Essentially, the model demonstrates that individuals tend to view others' cultures on the surface, including behaviors such as food, fashion, and language. Compared to what is considered underneath the surface that pertains to cultural roots, such as concepts of time, values, and approaches to child-rearing (Hanley, 1999).

Considering the lack of agreement in defining culture, Whiten et al. (2011) consider it a best practice for scholars to be transparent in their cultural perspectives as they engage in scientific research while sharing other definition variations. Thus, this investigation utilized Nieto's (2008) definition of culture, which defines culture as "the ever-changing values, traditions, social and political relations, and worldview created, shared, and transformed by a group of people bound together by a combination of factors that can include a common history, geographic location, language, social class, and religion" (p.129). The author states that the culture definition demonstrates that "culture is complex and intricate; it includes content or product (the what of culture), process (how it is created and transformed), and the agents of culture (who is responsible for creating and changing it)" (p.129). Individuals must see culture as more than cultural traditions,

food selections, and race. These elements represent culture or sociocultural identities, but solely limiting culture to these components can present a façade from seeing culture's rich and ever-changing nature.

Power Dynamics

Critical to understanding culture is acknowledging its connection or binding to the societal context. Specifically, the sociopolitical dynamic of the times can influence culture as it is impacted and shaped by the “historical, social, political, and economic conditions, and therefore they are influenced by issues of power” (Nieto, 2008, p. 130).

The concept of power distance emphasizes that there are individuals or groups in a position of authority with others limited in their power, which can vary across cultural groups (Torelli & Shavitt, 2010). The authors’ work assesses individuals’ power for self and power for supporting others and outlines that groups engage in stereotypical habits. Such habits are attached to power, and individuals who prioritize individualism (vertical individualist) will engage in more self-serving ways when power is more salient. Individuals who prioritize supporting others through shared goals and feel a sense of accountability for others (horizontal collectivist) may engage in more supportive roles to assist others. The idea of power reinforces a hierarchical system well-suited for comfort, which can make one unaware of their monocultural mindset, which Kivel (2004) states

We may go through life complacent in our monoculturalism, not even aware of the limits of our perspectives, the gaps in our knowledge, the inadequacy of our understanding. We remain unaware of the superior status and opportunities we have simply because we're white, or male, or able bodied, or heterosexual. Of course, a culture of power also dramatically limits the ability of those on the margins to participate in an event, a situation, or an organization. They are only able to participate on unfavorable terms, at others' discretion, which puts them at a big disadvantage. They often have to give up or hide much of who they are to participate in the dominant culture. And if there are any problems it becomes very easy to identify the people on the margins as the source of those problems and blame or attack them rather than the problem itself (p.3-4).

Kivel’s mentioned points also reveal the negative impact faced on those with less power, which are often non-dominant people groups. Groups that remain oppressed and ostracized, resulting in limited power, have used their limited power to enact change through social justice movements. To combat inequities of power distance, Gaventa and Cornwall (2008) signal individuals to engage

in action-oriented ways (i.e., research) that invest in knowledge creation and spark awareness and truth to the issues of power.

BIPOC and Power. *Social justice* is a movement embracing the desire and urgency to promote change for individuals facing oppression and inequality. It encompasses joint efforts to create and uphold equality where all persons and cultural groups are seen as dignified and humanized while eradicating all forms of systemic issues (i.e., racism) that goes against these objectives (John Lewis Institute for Social Justice, n.d.). Notably, this literature review uses the acronym BIPOC (Black, Indigenous, and Persons of Color) as it roots the cause for Black, Indigenous, and other Persons of Color to further the collective need for change concerning justice-oriented action (Clarke, 2020). Garcia (2020) emphasizes the term's purpose to unmute groups that have been silenced, overlooked, and devalued. According to the BIPOC Project (n.d.), an agency that focuses on undoing the invisibility of marginalized groups, focuses on the following six tenets: a) decolonizing stories, b) developing a power analysis, c) uplifting Native and Black humanity, d) organize your people, e) build intergroup connections and relationships, and f) commit to personal and collective healing. Still, much progress must happen to dismantle the detrimental systemic chains to Persons of Color.

The following sections discuss examples of power struggles in BIPOC communities and support the discussion on intercultural competence and culturally responsive teaching. These sections provide perspective on power struggles that BIPOC populations have faced; however, the sections are not all-encompassing, and many other power struggles exist beyond the mentioned examples.

African American and Black Peoples. The Civil Rights Movement is one historical marker that ushered in a time for change and equality for all since Persons of Color, especially the Black community, were viewed as second-class citizens and were continuously mistreated. People like Dr. Martin Luther King Jr. became activists against social injustice and inequity placed upon Persons of Color daily. Power struggles included, but are not limited to, racial discrimination (i.e., Jim Crow laws) along with segregated public spaces (i.e., water fountains, restaurants, and underfunded schools) (Patterson et al., 2001). However, the race for a fair and equitable life, an affordance that every human should have, remains out of reach for the Black community despite meaningful progress.

Discrimination in home loans demonstrates typical inequitable practices of lending companies that believe race is a predictor of capabilities in financial responsibilities (Olick, 2020). The author details a Black male wanting to refinance his home due to the COVID-19 pandemic, receiving interest from lending companies, but turned away as soon as he revealed his race. Such cases are common and demonstrate the disparities in homeownership among minority residents compared to White communities. Enwemka and Mara (2022) draw attention to the historical illegal redlining federally outlawed in 1968. However, the author highlights that it is still evident that White residents possess home ownership in Boston with 44%, while Black residents have 30% and Latino residents have 17%. This form of power struggle is just a fragment of power struggles the Black community continues to face as this community endures other conditions of struggles, such as educational debt (Grinstein-Weiss et al., 2016), maternal morbidity (Noursi et al., 2020), and police brutality (Njoku et al., 2021).

Indigenous Peoples. Indigenous People have endured power struggles and negative impacts on their livelihood and culture (The World Bank, 2022). McKinley and Smith (2019) acknowledge forced colonization stating, “Colonial invasion and exploitations have shattered Indigenous knowledges and ways of knowing, and as a result the pieces have become scattered – destroyed, hidden, and other parts just waiting to be reconstructed” (p. 2). Indigenous people groups comprise many groups around the world, such as Mayas (Mexico), Ainu (Japan), and the Native American (United States) (UCLA, 2020).

The preservation of Indigenous land has become an ongoing struggle for Indigenous people as political systems and business corporations seek to undermine sacred land for monetary gain (Squires et al., 2020). In 2020, the Supreme Court ruled in favor that about half of Oklahoma’s land would be protected from criminal prosecutions as it is connected to the Muscogee Creek Nation and will honor the ancestors of this land (Wamsley, 2020). However, two years later, Totenberg (2022) reports that the Supreme Court acquired the power to prosecute a non-Indian in a separate ruling. The author declares that there has been speculation from the Principal Chief that the governor has not approached their decision-making with the Native Americans cooperatively.

Asian and Asian American Peoples. Behaviors of xenophobia and discrimination against Asian and Asian Americans revolving around the coronavirus pandemic (Braine, 2020; Hill et al., 2020) further plague and demonstrate ignorance and decisiveness. Through the Pew Research Center, Ruiz et al. (2020) findings show that 58% of Asian adults deem it more probable for others

to express culturally insensitive, racist views since the COVID-19 pandemic. However, Mineo (2021) argues that these xenophobic and discriminatory actions are not new since Asian and Asian Americans have endured throughout history and continue to perpetuate the vulnerability of this cultural group.

A stereotypical cloud hovers over Asian and Asian Americans as they are perceived to be the model minority, which has historically and purposefully positioned Blacks against Asian and Asian Americans (Liu, 2021). Scholars, Chin and Pan (2021), posit that the model minority concept falsely perpetuates that a) Asian Americans are always flourishing despite the employment difficulties they face climbing the corporate ladder, b) promotes erasure of Asian American culture and further positioning the cultural group as life-long foreigners, and c) overlook the microaggressions placed upon this people group, such stereotypical assumptions of their academic abilities in STEM.

Latin American Peoples. Latin American groups also face barriers in power relations, even in education. Palo and McGinnis' (2011) documentary *Precious Knowledge* depicts the pushback state legislators (i.e., Superintendent Tom Horne and State Senator John Huppenthal) expressed in the Tucson Unified School District's Mexican American Studies (MAS) ethnic studies curriculum, which resulted in a ban in 2009. Acosta (2019) applied a transformative historical capital framework detailing the forms of advocacy students took. Statistical analyses revealed that students of the MAS classes excelled in their courses compared to non-MAS students and indicated that MAS students were more likely to increase their academic success the more they took MAS classes.

Kiefer (2017) also addresses the Gonzalez v. Douglas lawsuit, emphasizing that federal Judge Tashima ruled the ban on ethnic studies racist and unconstitutional. He also acknowledged that the state's threats of withholding 10% of the school district's funding were illegal. Although this was an uphill battle, positive outcomes came out of this case of injustice, such as the integration of ethnic studies programs in states like California with large percentages of minority ethnic students (Medina, 2017).

(Re)adjusting Power. Though the mentioned power struggles evoke a sense of pain and empathy, it also makes space for all persons to spring into action to contribute to using their power to support others. Kendi (2019) also expresses the impact individuals can have transforming into advocates as he defines anti-racists as "One who is expressing the idea that racial groups are equals

and none needs developing and is supporting policy that reduces racial inequity” (p. 24). Ornstein (2017) contends that advocating for social justice takes “persistence, guts, and knowing and doing what’s right” (p. 546). The author emphasizes that social justice advocates are unlike superheroes and indeed are everyday people. Likewise, equity-focused researchers and practitioners, such as Geneva Gay (2018), serve as our education superheroes waging war against instructional practices that ostracize and limit the power of diverse students. Their research and implications have demonstrated that equitable instructional practices are necessary and possible for students’ academic well-being.

Individuals and organizations' engagement in intercultural competence could help reduce or alleviate continued trauma on BIPOC populations. More importantly, this literature review looks at how this historical context could frame the people's commitment to diversity and inclusion efforts even in higher education.

Intercultural Competence

Intercultural Competence (ICC). Intercultural communication scholars have invested in investigating the development of one’s intercultural competence. Intercultural competence (ICC) stems from intercultural communication and focuses on comprehending and confronting the issues between persons from diverse cultural contexts, ethnicities, and religions (Brown, 2008). Spitzberg and Changnon (2009) define ICC as the “appropriate and effective management of interaction between people who, to some degree or another, represent different or divergent affective, cognitive, and behavioral orientations to the world” (p.7). Although ICC development involves language and intercultural abilities (Fatini, 2000), this investigation focuses on intercultural abilities.

The term *intercultural* has become a more befitting term than *multicultural* since *intercultural* acknowledges a relationship between domestic and international individuals (King & Baxter Magolda, 2005; Landreman, 2003). Other terms that hold synonymous meaning to ICC are global competence (often used in engineering programs), multicultural competence (often used in diversity initiatives), and cultural competence (used in more social work fields). However, Harvey (2020) emphasizes that the term used must demonstrate a continued process, but most importantly, individuals must experience transformation through the process. The development of one’s ICC is a lifelong process since Fantini (2000) emphasizes that “One is always in the process

of “becoming,” and one is never completely “interculturally competent” (p. 29). The art of “becoming” involves critical reflection of self.

Identity. Critical to this literature review is understanding sociocultural identities. Identities can be self-identifying into a social group, including but not limited to one’s race, ethnicity, beliefs, gender identity, sexual orientation, and nationality. However, Patterson (2014) acknowledges that such self-identification can be subjective and intersubjective since it involves sense-making of the self and the surrounding world. Because identities are socially constructed, individuals can self-identify their sociocultural identities and focus on new identities as they learn more about their needs and heritage (UNESCO, 2013). Additionally, one’s worldview is subjective because it involves considering the beliefs, values, and actions of others within their culture to help provide perspective for sense-making (Bennett, 2015).

Essential to this discussion on identity is acknowledging how particular sociocultural identities can increase marginalization based on society’s dominant cultural groups and norms. Crenshaw (2016) coined the term *intersectionality* to emphasize that sociocultural identity can also intersect like a road intersection and face power differentials based on society’s norms. Though the author coined the term to highlight the power struggles of Black women (e.g., pay and healthcare), the author contends such intersectionality can occur in multiple people groups as society perpetuates erasing identities for their self-gain (i.e., Native Americans’ achievements). Indeed, individuals need to unpack who they are and the influencers that have molded their view of how they see themselves and others. This form of awareness is not natural and does take intentional effort (Gao, 2020).

Cultural Self-Awareness. Culture enables individuals to contribute to and from its historical investment (Erickson, 1997). Nieto (2008) explains that culture is not hereditary but is discoverable. Cultural self-awareness is critical to the development of one’s intercultural competence because it a) promotes recognition of cultural influences on their and others’ lives, b) promotes an appreciation for culture and how theirs and others’ culture is important, and c) promotes utilizing cultural differences as a reference of understanding self and others more (Paige, 2015). Deep cultural self-awareness can become more salient from an intentional self-examination process, especially in interactions with diverse others (Madden, 2015). Though cultural self-awareness may seem challenging (i.e., culture shock), cultural self-awareness is the main component of developing one’s intercultural competence (Deardorff, 2006).

Conceptualizing ICC. Considering the variety of ICC definitions utilized and contributed by scholars, researchers should prioritize becoming familiar with the ICC literature and its dimensions. Leung et al., (2014) emphasized that more than 300 characteristics of ICC can be organized into three intercultural domains: traits, attitudes and worldviews, and capabilities. *Intercultural traits* denote elements that appropriately describe an individual's disposition in intercultural conditions, such as demonstrating attributes of empathy, respect, openness, and the readiness to suspend judgment (Fantini, 2000). *Intercultural attitudes* and worldviews describe an individual's perceptions of another culture based on presuppositions and acquired knowledge (Schelfhout et al., 2022). *Intercultural capabilities* acknowledge the capacity of an individual must be able to work towards being interculturally competent, such as one's cultural intelligence. Leung and colleagues (2014) caution intercultural trainers to consider the three domains as they intentionally select theoretical models and instruments as such resources can focus on specific domains, such as the alignment of the Development Model for Intercultural Sensitivity (DMIS) and the Intercultural Development Inventory (IDI) with the intercultural attitudes and worldviews domain.

ICC Models. Many theoretical and conceptual models are proposed as ways to consider the process, contributors, outcomes, and movement of one's ICC. The following sections provide an overview of commonly utilized intercultural development models.

Bennett's DMIS. Bennett is a trailblazer supporting intercultural trainers in understanding one's intercultural sensitivity and developing individuals' intercultural competence through his developed continuum, the Developmental Model of Intercultural Sensitivity (DMIS). Created based on the instructional and training experiences related to intercultural communication (Bennett, 1986), the DMIS Model, as shown in Figure 2, the DMIS Model illustrates that individuals' worldviews can be expanded as they meaningfully engage and interact with difference. Bennett (2009) emphasizes that the DMIS assumes that individuals operate from their 'default' worldview, and meaningful interactions and relationships with diverse others are needed to promote healthier cross-cultural experiences.

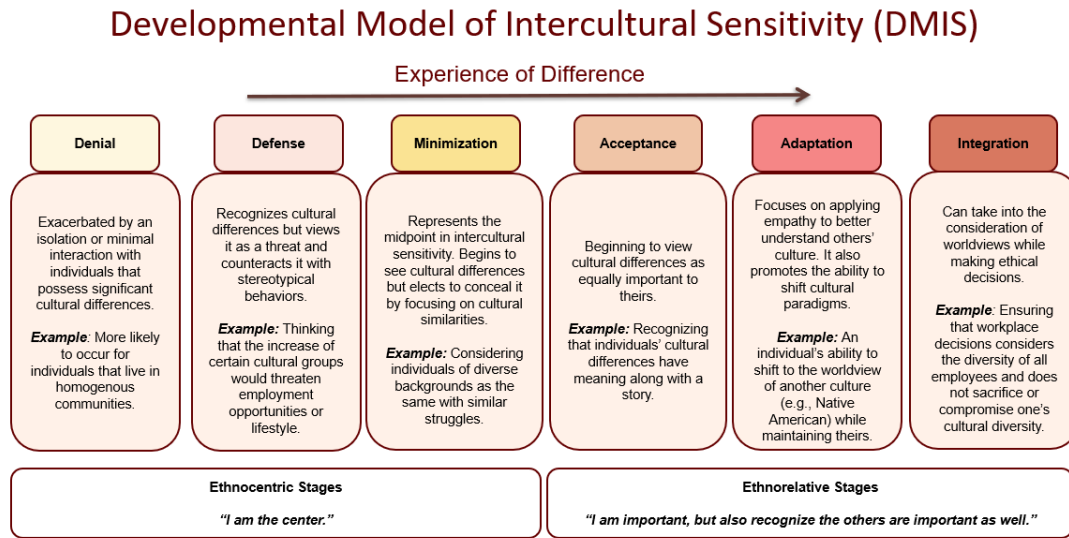


Figure 2

Developmental Model for Intercultural Sensitivity (DMIS) adapted from Bennett (1986)

Bennett (2009) contended that this competence heightens individuals' capacity to be sensitive and appropriate in short and long-term interactions with persons from other cultural contexts. Each level of difference is connected to the six stages of intercultural competence (*Denial*, *Defense*, *Minimization*, *Acceptance*, *Adaptation*, and *Integration*), which span two mindsets: *ethnocentric* ("I am the center") and *ethnorelative* ("I am important, but also recognize that others are also important.") The DMIS Model has remained a supportive model for scholars engaging in intercultural competence research to continue comprehending how individuals engage and interact with culturally diverse others.

Deardorff's Intercultural Competence Model: Another prolific scholar in ICC research, Deardorff (2011), challenges the quality of ICC assessment by advocating for assessors to consider the multiple factors that can influence an individual's ICC. Deardorff (2006) used a Delphi technique to reach a consensus among a group of intercultural scholars, further enhancing the development of the Intercultural Competence Model. In Deardorff's (2006) conceptualized pyramid model, the author emphasizes that the surface level of the pyramid, which represents attitudes, serves as the prerequisite to acquiring knowledge on one's cultural self-awareness, culture-general, and culture-specific) (Cushner, 2012).

As one engages in their knowledge of culture, it is vital to identify the orientation in which they are learning about cultures, culture-general and culture-specific. Culture-general knowledge focuses on comprehending frameworks that enable individuals to compare cultures without the specificity of one culture and can be beneficial to compare attitudes and other dimensions of culture (e.g., values, nonverbals, conflict approaches) with others with cultural differences (Bennett, n.d.). Though this knowledge is more holistic since it includes transferrable skills to shift into other cultural contexts and intercultural relations, it can seem more challenging to acquire because it taps into attitudinal, behavioral, and cognitive intercultural competence development (Stadler, 2017). In comparison, culture-specific knowledge focuses on knowledge beneficial for interacting with a particular culture, such as researching Japan in preparation for a study abroad experience. Stadler (2017) highlights that this type of knowledge may seem favorable to others because it is quicker to retrieve information; however, it can be misleading and perpetuate stereotypes.

Since the development of the pyramid model, Deardorff (2011) developed another causal model, which illustrates the ongoing, four-part process which includes attitudes (respect, openness, and a sense of curiosity), knowledge and comprehension (cultural self-awareness, in-depth cultural knowledge, sociolinguistic recognition), skills (listening, observing and evaluating, analyzing, interpreting, and relating), desired internal outcomes (adaptability, ethnorelative worldview, flexibility, and empathy), and desired external outcome (effective and appropriate communication and behavior in intercultural interactions). Spitzberg and Changnon (2009) pinpoint the admirable qualities of this causal model's ability to include outcomes, interact simultaneously, and allow for stepwise causal paths.

The DMIS and ICC models are strongly considered in this study's investigation because they guide in comprehending individuals' ICC and recognizing that individuals are engaging in ongoing development in their ICC.

Measuring ICC and Intervention. As administrators engage in intercultural competence assessment, Deardorff (2020) pleads for administrators to be cautious and intentional in considering their organization's goals and objectives. The author argues against one-time assessment and instead beckons for intercultural assessment to include aligning multiple methods and promoting data triangulation. For instance, the author emphasizes that if the goal is to master a level of competent intercultural skills, the individual will not be as successful. Though the

assessment process can become time-consuming and costly, Deardorff (2009) encourages administrators to engage in these steps to reduce pitfalls in implementation and intervention:

1. Define and prioritize specific elements to be measured; [realistic] develop goals and objectives; be engrossed in the intercultural competence literature
2. Assemble a team dedicated to seeing these goals fulfilled
3. Develop an assessment plan before the assessment implementation
4. Research assessment tools and intervention methods to determine if such resources align; utilize formative and summative assessment
5. Ensuring goals and objectives are well-aligned with assessment and intervention
6. The assessment plan must include a multimethod evaluation that is well-integrated and appropriate for the context
7. Remain realistic about what can be accomplished and consider the time constraints for multimethod assessment
8. Remain committed to your assessment [or revised] plan; focus on the process and progression of your learners' intercultural competence

The mentioned protocol provides a valuable checklist for assessors seeking intentional assessment and intervention. The following two sections explore how intercultural assessment has occurred in education.

ICC in Higher Education. Bennett's (1986, 2008) DMIS and Deardorff's (2006, 2011) ICC models continue to advance the quality of intercultural learning support and research on intercultural attitudes, sensitivity, and worldview. For example, the Association of American Colleges and Universities (AAC&U) utilized Bennett (2008) and Deardorff (2006) in the development of their Intercultural Knowledge and Competence Value Rubric. The AAC&U rubric encompasses a rating system to promote further quality integration of intercultural knowledge competence that considers knowledge (cultural self-awareness and worldview frameworks), skills (empathy and communication), and attitudes (curiosity and openness). The AAC&U is one example of how higher education adopts intercultural competence in collegiate learning environments. Additionally, Harvey (2021) also emphasizes that higher education must support its students in developing intercultural competence to think more innovatively in collaborative and multicultural teams.

ICC and Education

Bennett (2014) asserts organizers of diversity and inclusion initiatives to consider the integration of intercultural competence, stating

“Various professional contexts promote intercultural competence to facilitate global leadership in the corporate world, culturally responsive teaching and learning at all levels of education, provision of culturally competent health care, development of culturally sensitive customer service, and even culturally appropriate tourism” (p. 158).

Educational settings benefit from the influence of culturally self-aware educators who display attitudes, knowledge, and skills that are appropriate and effective as they consider their teaching and learning experiences. Hutchison and McAlister-Shields (2020) emphasize that educators should make intercultural competence a component of their instructor identity for more inclusive instructional practices. The authors contend that leaders of educators should provide opportunities for educators to “evaluate their previously held beliefs, consider making personal belief changes, and dedicate themselves to teaching all students who make up various types of learning environments” (p.4). Furthermore, intercultural development benefits education since individuals can acquire multiple skills, such as adjusting to new cultural contexts, behaving appropriately, and interacting with others from diverse cultures (Cajander et al., 2012). The following sections provide more perspective on culturally responsive pedagogy, which benefits all students.

Culturally Relevant Pedagogy (CRP)

Coining the term culturally relevant pedagogy, educational anthropologist Ladson-Billings (1995) advocates for educators to adequately educate students from ethnic groups that were historically excluded (e.g., Native American, African American, Latinx, and Asian American), especially in urban education. While researching the impact influential educators can have on marginalized populations, Ladson-Billings (2014) asserted that this form of pedagogy would promote academic success; aid students by simultaneously maturing them academically while developing their cultural identities (New America, n.d.); and encourage students to become more engaged and analyze real-world issues.

Although the author's work has promoted a shift in culture for education, Ladson-Billings (2014) expresses that her initial pedagogical work has been distorted or limited in some ways by educational leadership and individuals misrepresenting the pedagogy. As the author states, "The

idea that adding some books about people of color, having a classroom Kwanzaa celebration, or posting "diverse" images makes one "culturally relevant" seem to be what the pedagogy has been reduced to" (Ladson-Billings, 2014, p. 82). Other researchers (e.g., Gay, 2002; Paris, 2012), acknowledging the total value of Ladson-Billings' research, have extended or developed similar perspectives to enhance teachers' instructional practices and intentionality.

Educating White culturally responsive leaders. It is worth mentioning that most Whites are often hesitant to discuss 'taboo' topics of diversity and inclusion. Helms' (1990) theory on White racial identity development postulates that Whites initially are unaware of their culture and contend that racial matters are irrelevant. As they work towards a more progressive and social justice mindset of viewing their culture as essential but a part of a larger picture of other cultures, they work toward a multicultural identity (Bollin & Finkel, 2006). Color-blindness is the go-to to escape conflict; however, color-blindness enables the "institutionalized system of racial inequality that benefits White people" (p. 127). Instead, Whites, especially White educators, should engage in anti-racist education. DiAngelo (2012a) states, "anti-racist education seeks to interrupt this system by educating people to identify, name, and challenge the norms, patterns, traditions, structures, and institutions that keep racism and White supremacy in place" (p.4).

In Freitas and McAuley's (2008) qualitative study, the researchers sought to prepare 25 White pre-service teachers in diverse teaching practices in predominantly White communities. The authors found that pre-service teachers developed their inclusive identity through engaging in meaningful activities focused on power and privilege. Such activities included pre-service teachers creating cultural mind maps to acknowledge the differences in their heritage and upbringing compared to the students they serve. They also completed McIntosh's (2007) Unpacking White Privilege checklist. Additionally, the authors found media depicting the power struggle and cultural stereotypes beneficial to the intervention. Although Whites tend to be hesitant because they want to avoid being the oppressor in race-related discussions, the authors contend that moments of discomfort provide enlightenment. Whites also need to comprehend that their culture is valuable since they have narratives that contribute to educational diversity (Howard, 2007).

Thus, Villegas and Lucas (2002) recommend that educators of culturally responsive leaders provide opportunities for leaders to examine their sentiments towards racial and ethnic groups. While emphasizing the role that educators and leaders have, the authors state, "Educators can prepare teachers to be agents of change by encouraging them to develop a personal vision and

professional identity that incorporate a commitment to social justice" (p. 60). Thus, becoming an agent of change includes recognizing one's day-to-day contribution to social justice.

Section 2: Theoretical Frameworks

The literature review supports the collective discourse on culturally responsive teaching and intercultural competence. This section outlines the frameworks that will backdrop the present investigation.

Intercultural Development Continuum

Bennett's (1986) Developmental Model of Intercultural Sensitivity (DMIS) provided a solution to a model concern regarding identifying trainees' initial intercultural attitudes. However, Hammer's (2012) IDC extends the DMIS by refocusing individuals' need to measure and develop their intercultural competence. The author contends that individuals progress from a monocultural to an intercultural mindset. The continuum, depicted in Figure 3, is a continuum that demonstrates that individuals can shift in their intercultural competence due to their experiences. Each of the five stages (*Denial*, *Polarization*, *Minimization*, *Acceptance*, and *Adaptation*) represents an intercultural orientation with strengths and growth opportunities. In conjunction with the IDC, individuals' intercultural competence is assessed using the IDC's metric, the Intercultural Development Inventory (IDI).

Hammer et al. (2003) developed the 50-item IDI instrument after conducting a qualitative research study, which included interview questions based on the DMIS to evoke the participants' background on cultural differences. The research team used interrater reliability to narrow the number of items into a comprehensive assessment (Hammer & Bennett, 1998). Desiring to assess the instrument's validity for its psychometric features, Paige et al. (2003) conducted a quantitative study involving 353 high school and college-level students and instructors from language and culture courses. Although the authors found the IDI to be a reliable metric, the authors caution researchers to closely examine theoretical studies to ensure that the theories' assumptions are accurate.

Intercultural Development Continuum (IDC™)

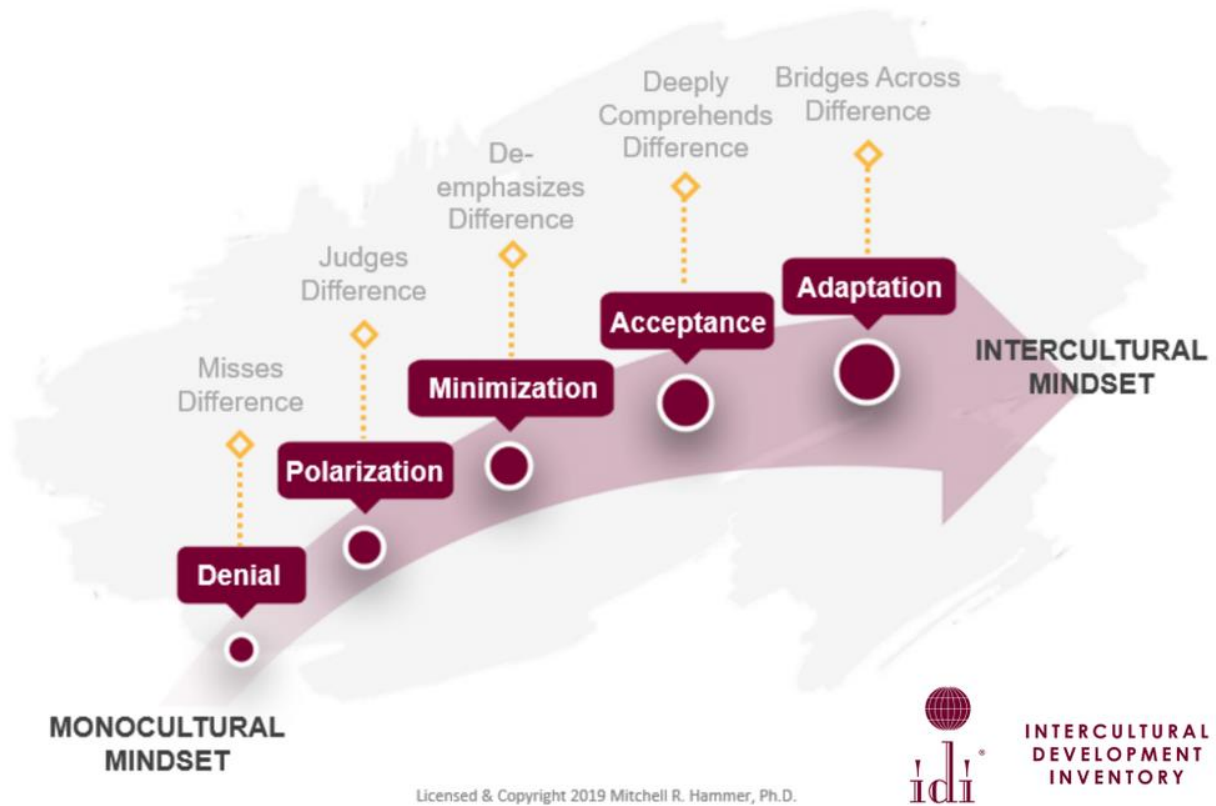


Figure 3

Intercultural Developmental Continuum®, Hammer (2020), IDI, LLC with permission.

Culturally Responsive Education

In the realm of learning, educators should be familiar with intercultural competence as they work with learners. Their instructional and facilitation practices should be culturally responsive to encourage effective learning (Hutchinson & McAlister-Shields, 2020). However, several terms describe culturally responsive education (e.g., culturally responsive pedagogy, culturally relevant teaching, culturally congruent instruction, and culturally sustaining pedagogy). The following subsection highlights culturally responsive teaching, demonstrating scholars' advocacy of educators' maturing in culturally responsive instructional practices.

Culturally Responsive Teaching (CRT)

Recognizing the value of Ladson-Billings' pedagogy, Geneva Gay contributes to the field by extending the work of Ladson-Billings. Coining the term culturally responsive teaching (CRT), Gay (2002) defines it as "using the cultural characteristics, experiences, and perspectives of ethnically diverse students as conduits for teaching them more effectively" (p. 106). This form of teaching is impactful since it revolves around "close interactions among ethnic identity, cultural background, and student achievement" (Gay, 2010, p. 27).

Indeed, the CRT's mission is to provide academic quality and equity for "ethnically and racially marginalized students" (Gay, 2013, p. 354). Certainly, students from Native American, African, Latino, and Asian American backgrounds are commonly overlooked and disregarded in their learning environments (Gay, 2002; Gonzalez, 2017), which is detrimental to their learning process and contradicts the mission of the CRT. Furthermore, educators may also endorse *colorblindness* in which they ignore ethnic categories, but this does not resolve injustice issues, and in fact, it undermines the cultural and historical aspects of an individual's identity that should instead be celebrated (Richeson & Nussbaum, 2004; Freitas & McAuley, 2008). Instead of ignoring cultural diversity, Gay (2018) recommends that educators apply CRT instead of ignoring cultural diversity since it is multidimensional, empowering, transformative, humanistic, and ethical. These characteristics of CRT result in meaningful and inclusive learning experiences for all learners. Below, we explore educators' mindsets on cultural differences and the implementation of CRT.

Culturally Responsive Teaching Practices. Villegas and Lucas (2002), advocates of CRT, propose two perspectives that indicate how educators view their students from marginalized populations: deficit and affirmative. According to the authors, educators in the deficit perspective see cultural differences as a threat or a problem. Educators possessing these beliefs will focus their efforts on mending the 'brokenness' of the student. The authors highlight that this is quite common in K-12 education and has resulted in students feeling ostracized and powerless. At the same time, the authors assert that educators with an affirmative perspective focus on plurality in behavior, ideas, learning, and perspectives. This mindset reinforces learners' achievement and fosters supportive relationships between students and educators (Villegas & Lucas, 2002).

Using culture as a method to drive learning (Ladson-Billings, 1995), Villegas and Lucas (2002) maintain that CRT practices should include the following components: knowledge-construction from all students involved in the learning experience, a robust nature of students as

individuals that also have culture, guide students to examine course content from multiple angles, utilize multiple assessments to propel learning, and ensure the learning environment is inclusive to all students. As educators focus on using instructional practices that promote cultural pluralism, they aid in deconstructing the educational and systemic bonds that have pigeonholed diverse students from academic achievement (Ginsberg & Wlodkowski, 2009). Will and Najarro (2022) also encourage educators to integrate the following CRT practices in their teaching and learning experiences: incorporating a variety of literary scholars to promote diverse perspectives, uncovering multiple perspectives of historically oppressed groups, providing opportunities for students' cultural backgrounds and knowledge to be valuable to the learning experience, and empowering students to be critical of inequities through learning (Will & Najarro, 2022). These strategies recenter the students and demonstrate that the educator views the student as an asset to the teaching and learning experience.

Peer Learning and Intercultural Competence

Just like K-12 and pre-service educators require intercultural competence development, so do undergraduate leaders. Such training experiences can improve their intercultural sensitivity to assist other college students effectively. Collegiate peer learning programs in higher education allow students to practice challenging course material while engaging in approachable learning environments. More specifically, the Supplemental Instruction Program (SI) is a recognizable peer learning program utilized worldwide. SI is instrumental in preparing undergraduate students to conquer historically challenging courses, especially STEM fields, while boosting their studying skills. Prior research demonstrates the SI program's educational impact on undergraduates, including higher grades and lower course withdrawal rates (Congos & Mack, 2005). SI leaders are undergraduate students who have received an 'A' in historically challenging courses and are selected and trained by SI administrators. The paid SI leader attends the following semester's course lectures to relearn course material to effectively plan and facilitate interactive study sessions for undergraduate students enrolled in the SI-associated course. Additionally, the SI program enables undergraduate students to opt into using their services by attending weekly SI sessions. The interactive sessions include learning activities that promote collaboration, comprehension, and application of course content.

Since the SI Program focuses on serving all students enrolled in challenging courses (Congos & Mack, 2005), having a diverse population is most probable. It remains a consideration of this research study, especially considering the value of intercultural competence. Strait's (2020) multiple case study examined SI leaders' instructional decision-making and found that such skills would be pertinent to the undergraduate student group. The author found that White SI leaders expressed hesitation and discomfort when considering diverse audiences in their instructional strategies. This discomfort alludes to how institutions are experiencing more diverse enrollment. Although more institutions offer courses related to diversity and inclusion, Brown (2008) encourages institutions to intentionally implement programming to address the students' needs for intercultural development. Sandell and Tupy's (2015) study is just one example displaying how much college students need intercultural development. The authors' study used the Intercultural Development Inventory metric and found that students overestimated their intercultural competence because they "minimized cultural differences and emphasized cultural commonalities" (p. 378). Since SI leaders are undergraduate students, they may possess cultural biases that have gone unacknowledged, which this present investigation examined.

A unique and essential component of the SI program model is that SI leaders are considered facilitators of learning versus teachers (Fayowski & MacMillan, 2008). Though there is a distinction, it also emphasizes the value both intercultural competence and CRT can have in non-traditional learning environments and leadership development of peer-instructors. Pierce et al. (2000) emphasize that leaders in facilitator roles should be "welcoming group diversity, honoring individual differences, and developing a safe environment in which to participate" (p. 27). Moreover, since research on culturally responsive teaching has typically focused on traditional learning contexts, examining if and to what extent these practices apply in non-traditional learning environments with student instructors is critical. I believe these areas should be addressed empirically because of the limited research on the SI Program's diversity and inclusion measures, especially concerning intercultural competence and culturally responsive teaching.

Call to Action

As Brown (2008) indicates, there has been a call to action for institutions to be more intentional in their intercultural developmental efforts. Specifically, post-secondary institutions can maximize their inclusive instructional efforts by investigating academic student leaders'

intercultural competence and possible relationship to their instructional decision-making. Therefore, this present investigation answers the call to action with the following overarching question: To what extent are SI leaders using culturally responsive instructional practices in their SI sessions for their students? To appropriately answer this overarching question, I asked the following sub-questions:

1. To what degree are SI leaders interculturally competent?
2. What experiences have influenced SI leaders' intercultural competence?
3. How do SI leaders demonstrate the value of diversity and inclusion in their leadership position?

CHAPTER 3. METHODS

This study holds significant value to higher education and its non-traditional academic learning environments as it will increase students' learning and academic success. The research design is strengthened by Hammer's (2012) Intercultural Development Continuum (IDC) framework and Gay's (2018) culturally responsive teaching practices (CRT) pedagogy. The Intercultural Development Continuum (IDC) is an extension of Bennett's (1986) Developmental Model of Intercultural Sensitivity (DMIS). Bennett (1986) developed the DMIS based on theory and teaching experiences to help intercultural facilitators comprehend individuals' initial intercultural attitudes detailing the progression from an ethnocentric to an ethnorelative mindset. I utilize these theories to conduct an explanatory sequential mixed-methods study appropriately. This research design emphasizes that informing quantitative data with qualitative data impacts the overall research study, elevating this present investigation (Creswell & Plano Clark, 2017).

Design of Study

Creswell and Plano Clark (2007) promote the integration of quantitative and qualitative strands of research since it is more impactful to comprehend research problems than using the approaches independently. An explanatory sequential mixed-methods design was appropriate for this study better to explore leaders' intercultural competence and instructional decision-making. Hence, quantitative data provided insights into the participants' intercultural competence for individual and group profiles. Subsequently, the qualitative case study involved examining multiple participants to expound on the quantitative data. Both strands of data were analyzed separately and then mixed for the study's results section.

Ethical Approval

Human subjects were approved at the university level, and IRB # 2020-1572 was assigned.

Context

The context for this research study is a land grant, Midwestern Research 1 institution in the United States. The University is well-known for its reputable curricula, research experiences, and continuous, cost-effective in-state tuition. The implications of the consistent tuition and other recruitment efforts have continuously increased freshman enrollment, with an incoming class of 10,191 in fall 2021 (The University, 2021). According to the University's Admissions archive, in 2020-2021 (The University, 2021), the University's enrollment of 49,639 students, with 37,101 (75%) being undergraduate students. Of the 10,191, 44% are in-state residents, 47% are out-of-state, and 8% are international students. Additionally, 13% of the students are considered domestic minority students. Thirty-one percent of the first-year class were enrolled in the College of Engineering, one of the University's largest colleges, followed by 14% in the College of Science.

External Influences. It is essential to consider that this study took place in the Spring of 2021. Thus, the University's enrollment, especially for international students, was impacted by the COVID-19 pandemic, resulting in lower in-person enrollment. Along with the global pandemic concerns, this study occurred during the height of racial and social justice issues in the United States. Given these concerns, it was critical to examine the leadership of the University's student-facing services because these services support undergraduate students in pursuing their academic goals holistically. Specifically, the SI Program is a global, peer-learning program that connects many students across disciplines.

The Braxton Achievement Center (BAC). This study's population involved undergraduate academic student leaders in the University's Supplemental Instruction (SI) Program, housed in the University's Braxton Achievement Center. Though departments across campus may have internal academic support services for students based on their discipline or diversity dimensions, such as being a first-generation or income-restricted college student (i.e., TRiO Student Support Services), the BAC is considered the central hub for academic reinforcement for undergraduate students. Aside from the SI Program, the BAC provides four other services: peer coaching, academic consultations, academic workshops, and a 1-credit academic success skills course.

According to the BAC's aggregate data, the BAC served 4,596 undergraduate students, with 86% connecting to one service and 14% relating to two or more services. The SI Program, one of the services, has run for the past 16 years to academically prepare undergraduate students in historically challenging courses, further promoting healthy academic habits.

Supplemental Instruction Program. At this University, the SI peer-learning program provides SI sessions for 32 STEM-based courses (e.g., aerospace engineering, biology, and calculus) and are historically challenging for students in this context, a Research 1 institution.

The report indicates that, in Fall 2019, 90% of students who engaged in at least eight or more SI sessions in a semester earned a C or higher, with 73% earning a B and 38% earning an A. However, in March 2020, the Center transitioned its SI sessions to Webex online sessions due to the height of the COVID-19 pandemic and the University's COVID-19 restrictions. Given the transition to remote learning, students could opt for a 'pass or no pass' option for their course grades. According to the report that compares the 2018-2019 and 2019-2020 academic years, 69.5% of students earned a C and 76% earned a D. For students that opted into the pass/no-pass option, 30.25% earned a C and 24.5% earned a D. This attendance data was considered to comprehend better the support of the SI program and the leaders involved.

SI Program Leadership Training. SI leaders are hired based on their completion of historically challenging courses with an A, or B+ for some courses, and their demonstrated leadership potential. Leaders undergo formal training facilitated by BAC's professional staff and returning SI leaders in administrative capacities. Training involves the following components: pre-training on the SI model, guidance in planning learning sessions, comprehending the administrative responsibilities, team-building activities, and participation in a diversity and inclusion workshop. For example, SI session learning activities (see Appendix A) are provided to maintain instructional quality. These activity examples are considered suitable for the nature of the SI sessions, which promotes collaboration and metacognition.

Before the pandemic, the SI leaders had not hosted their sessions virtually, but the BAC was preparing a pilot SI summer session for Summer 2020. Therefore, the professional staff understood the training components necessary for leaders to effectively transition to an online learning environment. This virtual element is critical to this study since the study was conducted in Spring 2021, giving the leaders at least two full semesters to grasp the facilitation of online SI sessions. Other training components parallel the BAC's five leadership competencies, reflective problem-solving, effective communication, professionalism, initiative, and inclusion, shown in Appendix B.

Each semester, the BAC embeds diversity and inclusion-focused sessions (i.e., disability and equity awareness) in their pre-training once a semester. The required session includes the

BAC's three student leader programs (Peer Success Coaches, Student Office Ambassadors, and Supplemental Instruction). However, currently, the BAC does not conduct assessments to determine if these skills are being applied, considered, or valued in the leaders' role, which is related to the objective of this research.

Given the instructional and facilitation responsibilities of the SI leaders, the leaders are periodically evaluated by peer leaders and, at times, professional staff using a standard observation form. Evaluators using this evaluation (see Appendix C) can indicate if critical components of the SI model are missing (i.e., the opener, main activity, and closer), strengths, and opportunities for improvement in facilitation. However, evaluations of their instructional practices are more general and have not included a diversity and inclusion focus. Thus, SI leaders' instructional practices will be evaluated using a culture-specific framework, the Culturally Responsive Teaching pedagogy. Though SI leaders are not trained in this pedagogy, this form of instructional evaluation will provide additional insights into the researcher and administrators' understanding of leaders' perceived commitment to diversity and inclusion in their leadership roles.

Recruitment Strategy and Participants

Recruitment Strategy. For this study, the population included 54 undergraduate SI leaders aged 18-21 who facilitated at least two interactive virtual peer-learning sessions weekly. Based on aggregate data from the BAC's Summit IDI testing, leaders comprise 41% men, 56% women, and 4% who prefer not to answer. Seventy-eight percent of the leaders are domestic students, and 12% are international students.

While I serve as the researcher for this study, I also serve as a Graduate Assistant with the SI Program, helping supervise and train our BAC's undergraduate leaders. In January 2021, BAC hosted their annual Summit Leader Training, a leadership development training opportunity for all three student leader groups connected to the BAC. Before the Summit, I distributed information to all leaders, instructing them to complete the Intercultural Development Inventory (IDI), a 50-item assessment for a required diversity and inclusion training session during the Summit (Phase 1 data collection).

During this Summit, I facilitated a two-hour session, leading the BAC's student leaders through an interactive group debrief of their IDI results. Upon completion of the workshop, SI leaders were made aware of the following opportunities: a) participation in a research study for 15

SI leaders, b) an individual IDI debrief to know their intercultural competence scores, and c) engagement in future discussions with their specific student leader group. Leaders interested in the research study were told upfront that they would receive compensation for the full completion of the study. Compensation included a \$25 gift card and two hours of paid time since the work contributed to the BAC's leadership development. Additionally, leaders were made aware that, within the Qualtrics form (see Appendix D), they could express their interest or disinterest in the study qualified them to be entered into a raffle to win a \$10 Amazon gift card. Even with the anticipation of gaining three leaders per Developmental Orientation for 12 participants, it was also highly probable that participants would not fall perfectly in the Developmental Orientations (e.g., *Adaptation*). In this case, the remaining Developmental Orientations would become the focus. With these recruitment strategies, 21 of the 54 leaders completed the Qualtrics survey indicating their interest (15) or disinterest (6) in the study.

With 15 leaders demonstrating interest, critical sampling procedures were used to retrieve information-rich data as Patton (2002) asserts that critical case sampling does not lead to generalizability; however, it can lead to "logical generalizations" based on valid evidence (p.236). Leaders needed to meet two conditions for eligibility in the study: a) at the time, be leading SI sessions, and b) have led for at least one entire semester before the current semester. Considering the lack of diversity and inclusion improvements in male-dominated fields (Krivkovich et al., 2017), diverse perspectives were essential to the study, especially for Persons of Color and women in male-dominated fields. These criteria ensured that this qualitative data would include diverse representations and voices, creating more reliable results.

Two leaders expressed interest during the research recruitment process but were considered ineligible. One leader was ineligible for the study because they served as an Assistant SI Leader, which would not provide a complete perspective of the sessions since Assistant Leaders serve as substitutes in SI leaders' absence. A second leader was ineligible for the study because he was not currently leading sessions, though he had much experience even in a team leader position. Though it was preferred to have three leaders per Developmental Orientation, a third leader was not selected because he was a senior, and in comparison, to another male participant (Aaron) who shared the same Developmental Orientation, it was more probable that Aaron would provide more impact in completion to the study since he was a junior.

Selected Participants. Of the 12 participants, 83% (10) were women, and 17% (2) were men. Sixty-seven percent of the participants were White, and 33% represented persons of Color (i.e., Asian Indian, Chinese, and Latina). Leaders facilitate the following subject areas: aerospace and aeronautical engineering, biology, chemistry, computer science, management, mathematics, and physics. These participants completed the full study, which involved their prior IDI assessment, two interviews, and submission of session plans.

Participants of the study were knowledgeable of the purpose of the study, to assess our leaders' intercultural competence and professional practice. Leaders were aware that their participation included two interviews and session plan submissions. However, they were unaware that their Developmental Orientation played a role in the critical case sampling.

Qualitatively, four participants' data were explored for more in-depth analysis. These four participants, included in Table 1, were selected because they represented diverse voices and perspectives and provided a complete picture of American students from diverse backgrounds (*Phase 2 data collection*).

Table 1
Participant Demographics

Participants	Gender	Pronouns	Race/Ethnicity	SI Content Area	Leader's Major
Aaron	Man	He, him, his	White	Aerospace & Aeronautical Engineering	Aeronautical & Astronautical Engineering
Amira	Woman	she, her, hers	White	Chemistry	Microbiology
Ayesha	Woman	she, her, hers	Asian Indian	Chemistry	Neurobiology & Physiology
Hailey	Woman	she, her, hers	Puerto Rican	Mathematics	Neurobiology & Physiology

Pseudonyms were used for all participants.

Measure

Intercultural Development Inventory (IDI)

The Intercultural Development Inventory (IDI) is this study's selected intercultural competence assessment. The IDI is a 50-item assessment that measures individuals and organizations' intercultural competence, providing a report to Qualitative Administrators to report the data participants of the metric. Aligned with the Intercultural Development Continuum (IDC), the metric's report utilizes proprietary algorithms that output individuals' scores based on their completion of the assessment.

Scores. Since the inventory uses an algorithm, the assessment searches for discrepancies in an individual's self-reporting on the IDI. Individuals received two scores, a Perceived Orientation (PO) and a Developmental Orientation (DO). The Perceived Orientation (PO) reflects where a person places themselves along the Intercultural Development Continuum. Therefore, individuals' scores can indicate one of the following three points about one's intercultural competence: that they a) overestimated their intercultural competence, b) underestimated their intercultural competence, and c) their intercultural competence is accurate or aligned.

First, if an individual's PO is higher than their DO, the individual has overestimated their intercultural competence. One's overestimation of their intercultural competence conveys aspiration for higher intercultural competence. However, such individuals may lack the knowledge, attitude, and skills to help them engage appropriately in their interactions and decision-making. Second, one who underestimates has a lower PO than their DO. This underestimation indicates that an individual is unaware of their interculturally competent skills. Lastly, one who is more accurate in their ICC is more aware of their ICC progress and has likely completed actions that unpack such understanding.

Because humans naturally view themselves as more competent in intercultural competency, they may overestimate their PO. Hammer (2021) highlights this misconception by drawing administrators of the metric to be cautious of this in their debriefing with individuals and organizations. The DO score is best described as the reality marker since individuals' DO tend to be less than their PO score.

The reported scores are beneficial to this metric because it helps IDI Qualified Administrators understand where individuals or organizations measure their intercultural

competence according to the IDC. As shown in Table 2, the IDC includes five Developmental Orientations: *Denial*, *Polarization*, *Minimization*, *Acceptance*, and *Adaptation*.

Table 2

Descriptions of the Intercultural Development Continuum

Intercultural Development Continuum (2019, IDI Qualifying Seminar, pp.29-33)	
Orientation (in ascending order)	Definitions
<i>Denial</i> (more monocultural)	Characterizes individuals that have limited experience with other cultural groups, typically generalize others using broad stereotypes, and show little interest in exploring diverse communities' cultural values and practices.
<i>Polarization</i>	Views cultural differences as "us versus them." Individuals can either be a) frequently sees cultural differences as inharmonious and threatening to one's way of doing things (<i>Defense</i>) OR b) tendency to idolize other cultural practices while belittling one's own cultural group (<i>Reversal</i>)
<i>Minimization</i> (transitional)	Highlights cultural commonalities and universal values and principles that may also mask deeper recognition and appreciation of cultural differences
<i>Acceptance</i>	Recognize and appreciates patterns of cultural difference and commonality in one's own and other cultures
<i>Adaptation</i> (more intercultural)	Capability to shift cultural perspective and change behavior in culturally appropriate and authentic ways

The IDC's orientations indicate the progression in one's intercultural competence from a monocultural to an intercultural mindset. Such data helps inform the intentional integration of programming (e.g., course curricula and training) for more meaningful development of intercultural competence.

Validity. Hammer (2012, 2016, 2017) has continued refining and validating the IDI metric to become more suitable and accessible for domestic and international contexts (see Appendix J for sample IDI report). However, scholars have questioned the validity of the assessment and

implementation. Puntí and Dingel (2021) utilized aggregate data and found discrepancies between the measured IDI metric results and interview responses in a qualitative study of undergraduate students in residence halls. The authors questioned the metric's applicability for BIPOC populations. However, Hammer (2021) critiqued Puntí and Dingel's (2021) work because of their questionable methods (e.g., not disclosing all data and overlooking participants' Orientation Gap for their IDI scores), making one question the reliability of their results.

Paige's (2003) quantitative study also expressed hesitancy in using the IDI but found the metric to be reliable and still cautions researchers to ensure an alignment between the theories and the selected assumptions. Deardorff (2014) has continuously advocated for administrators not to solely utilize self-reported instruments in their assessment or development of intercultural competence because it only provides half of the story. The author's recommendation of using multi-methods remains crucial to the present investigation as I also considered power dynamics.

Demographic Questionnaire

Demographics were collected since their value is probable to impact and help comprehend the data collected, especially concerning the SI leaders' IDI results. Created and distributed by the researcher, the close-ended questionnaire (see Appendix E) yielded rich data that provided a snapshot of SI leaders' experiences. These elements included leaders' race or ethnicity, gender identity, domestic or international student status, associated SI course, the number of classes they have taken related to diversity and inclusion, and involvement in student organizations related to diversity and inclusion. Such data informed the collection of the critical case sampling for the participation selection.

Additionally, within the first interview protocol, participants are asked to select their three salient diversity dimensions and discuss how diversity impacts their life personally and academically.

SI Leader Interviews

Selected participants received email invitations to complete two semi-structured interviews (see Appendices H and I). The researcher created and facilitated the structured interview protocols inspired by the intercultural competence development training. Since intercultural competence and culturally responsive teaching focus on individuals recognizing their culture and others, these interviews provided insight into SI leaders' values concerning culture, diversity, and learning. The

interviews also positioned SI leaders to expound on their values and perceptions of intercultural competence in their leadership positions. Details of the interview protocols are provided within the following two subsections.

Interview I. Before completing this interview, leaders received a glossary document (see Appendix I) that was provided to the participants before the interview to ensure we had the same understanding of the terminology during the interview (i.e., culture, culturally competent, and ethnicity). This 1-hour interview (see Appendix F) focused solely on the leaders' lived experiences, including their view of their culture, salient diversity dimensions, moments of offense (self and others), and leadership. This interview provided a richer understanding of the participants' experiences to make more significant connections to their intercultural competence scores.

Interview II. Before completing this interview, the researcher randomly selected three leaders' session plans, which all coincided around the same time throughout the semester. Within the 1-hour interview (see Appendix G), leaders had the opportunity to review their session plans, supplemental resources, and academic goals to recall and engage in discussion on the purpose and impact of the sessions. Additionally, leaders completed an activity that allows them to consider cultural diversity while reflecting on their three mentioned session plans. Participants could identify their perceived use of culturally responsive instructional practices by placing an 'x' near the CRT pillar. The interview concluded with a discussion on how leaders believe their growth in their intercultural competence could help contribute on four levels: individual, organizational (the Braxton Achievement Center), institutional (the University), and globally.

Session Plan Evaluations and (CRT). The qualitative data included three evaluations of SI leaders' session plans. Leaders' session plan template is structured for SI leaders to include the following components: students' academic challenges from the prior session, learning outcomes, integrated study skills, necessary materials, and learning activities. This data source connects to this research study since I examined how SI leaders demonstrate their commitment to diversity and inclusion through the intrinsic use of culturally responsive practices in their instructional planning. As a strong advocate for equitable learning for all students, Gay (2018) recommends that educators utilize the "pillars for progress" to assess culturally responsive instructional efforts adequately (p.291). Therefore, Gay's CRT list of characteristics strengthens this research as I analyzed SI leaders' session plans, seeking culturally responsive practices.

Integration of Methods

The last component of this research is examining the quantitative and qualitative strands' results for interpretation. Using the quantitative data (IDI scores), I analyzed the data set to determine if leaders' intercultural competence informed their commitment to diversity and inclusion in their leadership position. This insight remains the crux of this research study since CRT and IDI are typically examined separately. The following sections detail the data collection, the three phases, and the analytic approaches, as illustrated in Figure 4.

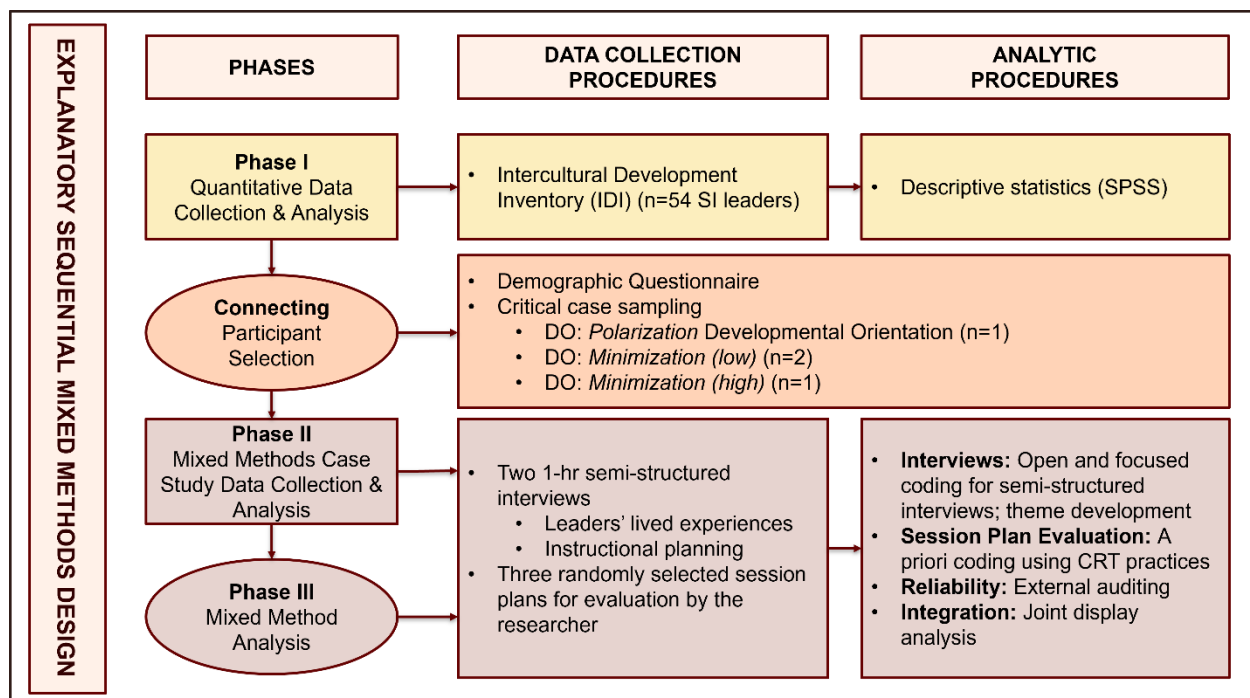


Figure 4

Mixed methods design procedures. *Note:* The figure includes the procedural process and the phases and their corresponding procedures are listed horizontally. Adapted from Creswell and Stick (2006) and Brown and Fetter (2021).

Data Collection

Phase I. At the beginning of this study, during the initial quantitative phase, all SI leaders completed the IDI assessment during their mandatory Summit Leadership Training (January 2021). According to the IDC framework, these data measured the leaders' intercultural Developmental Orientation. This measurement determines whether participants operate from a monocultural or

intercultural mindset. IDI scores pinpointed the leaders' intercultural competence level on the IDC (*Denial, Polarization, Minimization, Acceptance, and Adaptation*). As an IDI Qualified Administrator, the participants' scores were accessible upon completion.

Phase 2. Following the BAC's IDI group debrief at the Summit training, I sent an email requesting SI leaders' voluntary participation in the research study. While interested in identifying any significant differences between the two standard deviations of *Minimization*, leaders in this Developmental Orientation were assigned low *Minimization* or high *Minimization* based on where their intercultural score fell on the two standard deviations. Participants who opted into the study and were selected were contacted to complete their consent form for the Internal Review Board and encouraged to schedule both interviews using a calendar scheduling tool. A calendar invite was sent to confirm their interview sign-up, which spanned February 9-22, 2021 (Interview I) and March 23-April 6, 2021 (Interview II). Additionally, to ensure participants comprehended the culture-specific terminology, leaders were emailed a glossary of terms. This consideration was important because identities such as ethnicity and race tend to be challenging to comprehend.

While in Interview I, participants were read a statement acknowledging they could opt out of the research study at any time. Upon their verbal consent to continue, participants were made aware that all components of this study would be kept confidential, and any identifying data would be removed from their data. During the interview, questions were asked with some follow-up questions were asked for more clarification. Specifically for question three, diversity dimensions were shown on a chart for participants to select and were highlighted once selected. After the interview, participants were asked if they had any remaining questions or additional points to share.

Phase 3. Before Interview II, three session plans from each participant were selected, spanning the same timeframe. While utilizing Zoom's shared screen feature, participants were provided an opportunity to recall the three randomly selected session materials and purpose. Leaders were then transitioned to a slide presentation with a quote by Maya Angelou, which states, "We all should know that diversity makes for a rich tapestry, and we must understand that all the threads of the tapestry are equal in value no matter what their color." After reading this quote, leaders interpreted it, and what potential connections it has to the SI context, a strategy Gay (2018) suggested in training educators in culturally responsive teaching practices.

Leaders made predictions about what culturally responsive teaching means and were later shown the definition and informed on the mission of the pedagogy. Participants were asked to only

speak from their perceptions as they engaged in the CRT activity, as shown in Appendix K. Leaders were shown four presentation slides for the CRT activity with information on the CRT pillars and their abbreviated descriptions. The activity aimed to introduce leaders to CRT practices and allow leaders to verbalize which CRT practices were evident in their planning or facilitation. Using Zoom's remote-control access, leaders indicated their perceived use of CRT practices in the following columns: 'In my session plan' and 'In my facilitation.' Though planned instruction is central to this study, it is assumed that leaders may complete more organic actions not detailed in their planning. Therefore, a facilitation column was critical in this activity. Upon reflection on their three-session plans discussed earlier in the interview, participants were free to place an 'x' where they perceived they integrated those elements into their session planning or facilitation. They were also made aware that if they were unsure about any of the pillars, they could ask for clarity or skip the pillar.

Upon completing the activity, participants shared ways they would like to develop their leadership skills to foster culturally responsive learning experiences. This conversation segued into the participant sharing how they felt their growth in their intercultural competence could contribute on four levels: individual, organizational, institutional, and globally. After the interview, participants had an opportunity to ask questions or include additional points. For both interviews, recordings were made and stored on a password-protected computer and storage drive to protect and maintain the anonymity of the participants.

Researcher's Positionality. As an African American woman and an instructional designer, I am personally concerned with the level to which academic student leaders in higher education consider diverse audiences in their instructional practices. As the Graduate Assistant for the University's BAC's Supplemental Instruction Program, I recognize the potential power dynamic in my research as a supervisor of SI leaders. However, to address these concerns, I provided personal messaging to our student leaders to assure them that their responses would be kept confidential and not shared with the professional staff. I communicated that their Intercultural Development Inventory responses, interview questionnaires, and session plan evaluations would not negatively impact their leadership role or employment with our SI program. Instead, SI leaders were made aware that their honest responses will contribute to our SI program's development to become more inclusive in our instructional practices.

Additionally, I recognize that my faith, educational background, prior research and professional experiences, and my narrative as a Person of Color in the United States can influence my data analysis and interpretation. Therefore, I utilized multiple data sources for triangulation and an external auditor to maintain objectivity and reliable and validated research findings. My critical reflective journal clarifies my intentional methods of conducting a reliable research study while recognizing how my experiences and constructivist perspectives may impact the research design (Ortlipp, 2008).

External Auditing Process. Critical to this study was maintaining credible and reliable results related to the Center's future directions. For this study, I utilized Akkerman et al.'s (2008) auditing practices that promoted quality research to ensure transparent and credible results. Adapted by Halpern's (1983) audit procedure, Akkerman et al.'s (2008) auditing process comprises seven stages: a) orientation to the procedure, b) overview of the study, c) deciding if the study is auditable, d) developing a contract, e) assessing the work completed, f) making modifications, and g) a written concluding report from the auditor. I used this thorough process as a guide as I remained transparent with reviewers and scholars about my dissertation.

In selecting my auditor, I identified a scholar familiar with my established theoretical frameworks and metrics and could challenge the rigor of my study. The external auditor is a well-informed scholar whose research focuses on the higher education faculty members' intercultural competence and culturally responsive teaching in their instructional practices. The auditor's expertise in instructional quality was critical to the study. It provided insight into how other scholars would perceive the research in international education, intercultural communication, culturally responsive pedagogy, and diversity and inclusion. Deliberation with the external auditor occurred throughout the research study upon data collection to discuss, support, and workshop the analyses and interpretation of my results. These intentional measures were implemented to yield reliable results.

Data Analysis

Quantitative Strand. Privitera (2017) highlights that the utilization of descriptive statistics directs quantified measured behaviors, which aids this study in comprehending the leader group. The quantitative strand of this study was conducted using the SPSS statistical package. An independent t-test was also run to determine if there was a statistical significance between male

and female participants regarding their intercultural competence. The quantitative data analysis provided direction for exploration into the qualitative strand of this study.

Qualitative Strand. The analysis for the qualitative strand of this study involved using Saldaña's cyclical coding process to interpret both interviews and participants' session plans, which resulted in two codebooks (see Appendix L). Saldaña (2009) recommends completing initial coding to honor the voices and perspectives of SI leaders' worldviews represented in interview transcriptions, followed by focused coding for extended analysis. Session plan data was analyzed using *a priori* codes, the CRT pillars for progress, and were organized in a codebook.

The qualitative analysis also included Braun and Clark's (2006) thematic analysis, which involved the following steps: a) becoming familiar with the data and marking initial thoughts, b) forming initial codes across the data set, c) discerning themes, d) assessing themes, e) refining themes and attaching definitions, and f) searching for noteworthy examples that connect to my research questions and background literature. To ensure data trustworthiness, Lincoln and Guba's (1985) evaluative criteria were implemented to establish credibility, transferability, dependability, and confirmability. This study included triangulation of data (mixed methods), using multiple data sources (IDI scores, interviews, and session plans), maintaining an audit trail and a reflective diary to note my experiences and biases, and including an external auditor to note any inconsistencies to provide more perspective for reliable results. These measures further promoted the reliability of this study's results.

Method Integration. Since this study uses mixed methods, integrating the quantitative and qualitative strands is analyzed using joint displays. Guetterman et al. (2021) emphasize the integration of joint displays and side-by-side visual representations of quantitative and qualitative data for further analysis and interpretation. In Brown and Feters' (2021) mixed-methods study on secondary educators' technology integration, the authors integrated joint displays to analyze teachers' technology integration scores using bar graphs compared to written field notes from their observations. The authors caution researchers to intentionally compare quantitative and qualitative data and consider the research's theoretical framework.

In conclusion, the selected methods and procedures further promote the reliability of this study's results as aligned with its objectives. The next chapter (Chapter 4) thoroughly explains the gathered results and findings with its related research question. This chapter also includes the findings based on integrating the quantitative and qualitative strands.

CHAPTER 4. RESULTS

This study aimed to investigate Supplemental Instruction (SI) leaders' commitment to diversity and inclusion, emphasizing their intercultural competence and culturally responsive instructional practices. The following three research questions addressed the purpose of this study appropriately:

1. To what degree are SI leaders interculturally competent?
2. What experiences have served as influencers to SI leaders' intercultural competence?
3. How do SI leaders demonstrate the value of diversity and inclusion in their leadership position?

This chapter reports on the findings revolving around the collected and analyzed data using sequential explanatory mixed-methods research design procedures. This chapter consists of three main sections corresponding to the mentioned research questions. Section 1 details the quantitative strand of this research study, the aggregate data of intercultural competence scores. Section 2, comprised of three subsections, details the qualitative strand of this study to better comprehend the quantitative data. Each subsection examines the participants' lived experiences, intercultural competence, and examples that align or misalign their measured scores.

Section 3, comprised of two subsections, focuses on the SI leaders' commitment to diversity and inclusion in their leadership position and is divided into two subsections. Subsection 3.1 focuses on leaders' ability to identify attributes of interculturally competent SI leaders and barriers that can hinder their ability to be interculturally competent. Subsection 3.2 considers how this commitment to diversity and inclusion is identifiable in leaders' instructional planning. This section evaluates leaders' intrinsic integration of culturally responsive teaching practices.

Additionally, in Section 4, I conclude this chapter by examining and integrating the quantitative and qualitative strands' findings to appropriately answer my overarching question: To what extent SI leaders are committed to diversity and inclusion?

Section 1: Quantitative Strand Results

To what degree are SI leaders interculturally competent?

The purpose of this research question was to measure the intercultural competence of the SI leader group to understand their Developmental Orientation according to Hammer's et al. (2012) Intercultural Development Continuum (IDC) using the Intercultural Development Inventory (IDI®), a 50-item inventory.

The Braxton Achievement Center's Aggregate Data

The Braxton Achievement Center's student leader groups (the Peer Success Coaches, Supplemental Instruction (SI) leaders, and Student Office Ambassadors) completed the IDI® assessment prior to the Center's leadership training at the beginning of the semester (January 2021). Seventy-five student leaders across the three groups completed the IDI assessment, and this aggregate data serves as a reference point to better evaluate the Supplemental Instruction (SI) leaders.

According to the aggregate data from the IDI metric, the Center's student leaders collectively measured a Perceived Orientation (PO) of ($M=120.95$, $SD=6.02$) (*Acceptance*) and a Developmental Orientation (DO) of ($M=91.13$, $SD=15.17$) (*Minimization*). This data signifies that the Center's student leaders overestimated their intercultural competence by 29.82 points. Additionally, leaders were positioned across the Intercultural Development Continuum with 5.3% in *Denial*, 33.3% in *Polarization*, 54.7 % in *Minimization*, and 6.7% in *Acceptance*. Considering this information and the goals of this research, I have detailed the findings regarding the Supplemental Instruction Program in this context.

Supplemental Instruction Program

Using the aggregate data from the Center's IDI assessment, descriptive statistics were run on the 54 leaders. As indicated in Table 3, the SI Program had a measured PO of ($M=120.65$, $SD=5.44$) *Acceptance* and a DO of ($M=90.36$, $SD=13.72$) *Minimization*. Like the Center's aggregate data, the SI Program also overestimated their intercultural competence and assessed their abilities much higher than their skills. The OG, the difference between the PO and the DO, resulted in an ($M=30.3$, $SD=8.7$).

Table 3

Leaders' Intercultural Development Inventory Descriptive Statistics

Item	N	Minimum	Maximum	Mean	Standard Deviation
PO	54	106.65	133.19	120.6	5.44
DO	54	67.64	121.69	90.3	13.72
OG	54	11.31	44.66	30.3	8.7

More specifically, the SI leaders overestimated their intercultural competence by 30.29 points. Leaders were positioned across the Intercultural Development Continuum with 3.7% in *Denial*, 35.2% in *Polarization*, 55.6 % in *Minimization*, and 5.6% in *Acceptance*.

In addition, an independent t-test compared the Orientation Gap in female and male gender identities. This study found that there was not a significant difference in the intercultural competence scores for females ($M=30.78$, $SD=8.98$) and males ($M=29.59$, $SD=8.85$) conditions; $t(.474) = .475$, $p = .751$. These results suggest that gender identity does not influence this context's intercultural competence Orientation Gap.

Table 4

Participants' Intercultural Development as Reported by the Intercultural Development Inventory

Participant	Citizenship	PO			
		Score	DO Score	Orientation Gap	DO Classification
*Aaron	U.S.A.	115.22	73.28	41.94	<i>Polarization (reversal-like)</i>
*Amira	U.S.A.	128.20	111.53	16.67	<i>Minimization (high)</i>
*Ayesha	U.S.A.	122.20	90.08	32.12	<i>Minimization (low)</i>
*Hailey	U.S.A.	121.39	86.63	34.76	<i>Minimization (low)</i>
P5	U.S.A.	119.57	84.30	34.76	<i>Polarization (reversal-like)</i>
P6	China	115.89	72.15	43.74	<i>Polarization (reversal-like)</i>
P7	U.S.A.	116.33	76.08	40.25	<i>Polarization (reversal-like)</i>
P8	U.S.A.	122.61	93.67	28.94	<i>Minimization (low)</i>
P9	U.S.A.	124.21	95.49	28.72	<i>Minimization (low)</i>
P10	U.S.A.	123.73	102.89	20.84	<i>Minimization (high)</i>
P11	U.S.A.	118.54	90.44	28.10	<i>Minimization (low)</i>
P12	U.S.A.	129.43	105.84	23.59	<i>Minimization (high)</i>

Table 3 continued

P13	U.S.A.	123.44	96.77	26.67	<i>Minimization (low)</i>
P14	U.S.A.	124.23	98.48	25.75	<i>Minimization (low)</i>
P15	China	116.15	76.41	39.74	<i>Polarization (defense-like)</i>
P16	U.S.A.	120.52	88.76	31.76	<i>Minimization (low)</i>
P17	India	122.49	97.40	25.09	<i>Minimization (low)</i>
P18	Canada	125.79	100.70	25.09	<i>Minimization (high)</i>
P19	U.S.A.	125.30	101.90	23.40	<i>Minimization (high)</i>
P20	U.S.A.	106.65	67.64	39.01	<i>Denial</i>
P21	U.S.A.	114.80	74.55	40.25	<i>Polarization (reversal-like)</i>
P22	S. Korea	114.31	69.65	44.66	<i>Denial</i>
P23	U.S.A.	117.69	84.98	32.71	<i>Polarization (reversal-like)</i>
P24	China	121.73	92.14	29.59	<i>Minimization (low)</i>
P25	U.S.A.	119.14	85.11	34.03	<i>Minimization (low)</i>
P26	U.S.A.	115.11	75.81	39.30	<i>Polarization (reversal-like)</i>
P27	U.S.A.	122.14	96.75	25.39	<i>Minimization (low)</i>

Table 3 continued

P28	U.S.A.	118	82.91	35.09	<i>Polarization (reversal-like)</i>
P29	India	133.19	121.69	11.50	<i>Acceptance</i>
P30	U.S.A.	125.32	108.22	17.10	<i>Minimization (high)</i>
P31	Egypt	117.80	84.36	33.44	<i>Polarization (reversal-like)</i>
P32	U.S.A.	117.47	79.56	37.91	<i>Polarization (reversal-like)</i>
P33	India	123.11	98.71	24.40	<i>Minimization (low)</i>
P34	U.S.A.	113.69	74.20	39.49	<i>Polarization (reversal-like)</i>
P35	Guatemala	125.30	95.15	30.15	<i>Minimization (low)</i>
P36	U.S.A.	113.98	82.95	31.03	<i>Polarization (reversal-like)</i>
P37	U.A.E.	129.95	113.32	16.63	<i>Minimization (high)</i>
P38	U.S.A.	132.84	121.53	11.31	<i>Acceptance</i>
P39	S. Korea	123.63	94.92	28.71	<i>Minimization (low)</i>
P40	U.S.A.	121.04	87.67	33.37	<i>Minimization (low)</i>
P41	India	122.91	103.50	19.41	<i>Minimization (high)</i>
P42	India	131.11	118.29	12.82	<i>Acceptance</i>

Table 3 continued

P43	U.S.A.	117.52	83.94	33.58	<i>Polarization (reversal-like)</i>
P44	U.S.A.	116.65	75.74	40.91	<i>Polarization (reversal-like)</i>
P45	India	116.79	74.12	42.67	<i>Polarization (defense-like)</i>
P46	U.S.A.	123.34	108.32	15.02	<i>Minimization (high)</i>
P47	U.S.A.	119.69	86.28	33.41	<i>Minimization (low)</i>
P48	U.S.A.	121.77	93.12	28.65	<i>Minimization (low)</i>
P49	U.S.A.	111.45	71.71	39.74	<i>Polarization (reversal-like)</i>
P50	U.S.A.	121.06	91.76	29.30	<i>Minimization (low)</i>
P51	U.S.A.	111.96	70.32	41.64	<i>Polarization (reversal-like)</i>
P52	U.S.A.	123.04	96.66	26.38	<i>Minimization (low)</i>
P53	U.S.A.	116.14	83.32	32.82	<i>Polarization (defense-like)</i>
P54	U.S.A.	119.65	87.53	32.12	<i>Minimization (low)</i>
Average		121.75	90.38	31.37	<i>Minimization</i>

*Pseudonyms were used for all participants.

In conjunction with the IDI metric quantitative scores, I delved deeper into the participants' intercultural competence through analyses of their responses in Interview 1, seeking moments within their responses that closely aligned with their measured Developmental Orientation. Using the IDI Qualified Administrator training materials, I considered typical belief statements that

individuals would have from each participant's Developmental Orientation. In the next section, I provide a background of the participants and examples of their aligned and misaligned responses.

Section 2: SI Leaders' Lived Experiences

What experiences have influenced SI leaders' intercultural competence?

Valuable to this research study is assessing and understanding SI leaders' intercultural competence. Leaders engaged in two interviews to better understand SI leaders' intercultural competence. The findings below delve into the leaders' upbringing, their subscribed salient sociocultural values, and cultural experiences. Additionally, leaders were encouraged to be transparent in their responses. Still, they were also welcomed to use their discretion regarding how much they would like to share with the researcher.

Participant 1—Aaron

Background. Aaron is an aerospace engineering SI leader identified as a Caucasian, American, heterosexual male from the Northeast. He viewed culture as many separate branches coming together, surrounding an individual, and believed these branches might vary according to the person's unique lived experiences. Aaron reflected on his hometown to provide perspective on his upbringing.

Aaron's town of Bakersfield (pseudonym) focused on preserving the town to the 19th century. He believed this preservation is evident in their shortage of big businesses, few traffic lights, and nature-focused activities (e.g., water reservoirs and berry picking). Raised in a middle-class, Protestant household, Aaron recalled attending schools with students from a neighboring town, Marksville (pseudonym). Marksville was a more remote town but had more development than Bakersville. Although Aaron did not address the demographics of his schooling, he recognized that the cultural diversity represented at the University was not present in his schools in Bakersville, which he found interesting.

As a junior in aerospace and aeronautical engineering, Aaron engaged in the University's Global Engineering Certificate Program, known for its global competency curricula and immersive experiences through study abroad. Given the nature of this study, Aaron shared his three salient sociocultural values and experiences that have compromised these values. In no order, Aaron

selected nationality, race, and gender identity. He has had an opportunity to reflect upon these sociocultural values as he engages more in the Global Engineering Certificate Program. His perception of his selected, salient sociocultural values is made evident in his examples below.

Nationality. I would say, [I] do value it, because I do want to learn, like how to understand, like the impact of nationality more and also like appreciate it in others, because I'm still learning about myself, I admit, but I guess it could help me unpack maybe where somebody is coming from.

When asked why nationality is important to Aaron, he mentioned that nationality could tell someone's story. He provided the following example,

Let's say you're in Canada, like Quebec, and you might find some people who identify as Canadians, but some of them might identify as like Québécois like because that's how they identify with like that's their nationality to them. Or that's not all of them, of course. But that might be quite a few who reviewed it in a different way or find it different. They define their nationality in different ways. So it kind of tells a story in that way.

Race. Aaron discussed the importance of race to him by continuing his example of Québécois people stating,

I would say race and nationality can be. I feel like these all can be tied together in some ways, but they're also different too like, let's say, somebody who is Québécois and you know White might have a different experience than somebody who's Québécois and Black or Québécois and Native American. And it kind of plays a different story along with that nationality and I feel like that's just something really important to value and consider, especially when it comes to learning or understanding the experiences of others and where they're coming from because that can also play a significant role on their life and their views, beliefs and where they're coming from.

Gender Identity. For this identity, Aaron discussed gender identity playing a significant role in one's upbringing and a person's culture.

Gender identity plays a significant role in like both how you're brought up and maybe what your culture is, and I know that can change a lot depending on where you are and how you are. Even like within the country or even within specific regions of the country locally. Like, there's a lot of different...a lot of different stories coupled together with gender identity.

Moments of Offense. Aaron was asked to share about a time when he was intentionally or unintentionally offended by someone based on his salient sociocultural identities, and he detailed two experiences. First, he recalled others' assuming his nationality because of his attire. First, Aaron had recently helped his sister move from her college dorm in Canada and purchased a Canadian sweatshirt as a souvenir. While in the States, Aaron received multiple comments from

others, assuming he was from Canada. He was surprised at this commentary and periodically corrected others about his nationality.

Secondly, while in his learning environment, Aaron encountered negative comments about his geographical roots, New England. He stated, "...I had that happen to me yesterday where, you know, they're just ripping on New York for being bad and disgusting." However, in both scenarios, Aaron acknowledged not finding these comments offensive since they were not directly targeting him. Though Aaron had an opportunity to share moments where he intentionally or unintentionally offended someone based on their sociocultural identities, he could not recall a time when this occurred. This exemption may call to question if Aaron has had opportunities to unpack his experiences with diverse others in meaningful ways.

Intercultural Competence

Aaron's IDI assessment report indicated that he perceived he is in *Acceptance* with a score of 115.22. However, his DO was 73.28, which represents *Polarization*. Considering Aaron's Orientation Gap of 41.94 points, the difference between the PO and the DO, it is evident that he overestimated his intercultural competence. Additionally, according to the Intercultural Developmental Continuum (IDC), individuals in *Polarization* tend to have a judgmental stance on cultural differences, an "us vs. them" mindset. Individuals in this Developmental Orientation are known to adopt a defense or reversal stance when engaging with diverse others. Aaron measured in *Polarization-reversal*, meaning he identified as inferior to other cultural groups.

Examples of Alignment. Given Aaron's quantitative results, it was critical to explore his intercultural competence qualitatively. Throughout his interviews, I sought examples of his intercultural competence and have included these examples that best align with his measured Developmental Orientation of *Polarization*.

While discussing his culture, Aaron reflected on his upbringing and community that helped shape who he is today. He expressed being time conscious and having a high sense of urgency. He stated, "Because you don't want to go slow on things, you want to go faster, you've got to move quick. And if they [other people] don't move quick, like what's wrong with them?" His statement evoked a polarized or judgmental stance because it categorized individuals based on their differences, promoting a more monocultural mindset. In the following section, more examples showcase a misalignment between Aaron's responses and his measured Developmental Orientation.

Examples of Misalignment. While evaluating Aaron's interview responses, it was evident

that his statements were misaligned with his measured Developmental Orientation of *Polarization*. Misaligned statements could occur in one of two ways: trailing orientation (remnants of prior Developmental Orientations) or a leading orientation (indication of a matured Developmental Orientation). Aaron did not express any comments aligned with his trailing DO, *Denial*. Nevertheless, he made multiple statements aligned with his leading DO, *Acceptance*, which is 41.72 points from his current DO, *Polarization*-reversal.

Aaron reflected on the significance of his racial identity by raising awareness of the Québécois people in Canada. He identified that race and nationality could be interconnected, but the experiences of individuals may differ. He approached this discussion by noting diverse lived experiences as he stated

...let's say, somebody who is Québécois and you know White might have a different experience than somebody who's Québécois and Black or Québécois and Native American. And it kind of plays a different story along with that nationality and I feel like that's just something really important to value and consider, especially when it comes to learning or understanding the experiences of others and where they're coming from because that can also play a significant role on their life and their views, beliefs and where they're coming from.

To summarize, Aaron selected three sociocultural identities that were salient to his culture. These identities include race, nationality, and gender. His responses reflected *Polarized* (aligned with DO) and *Acceptance* (misaligned with DO) orientations.

Participant 2—Ayesha

Background. Ayesha is a first-generation Asian Indian who has served as an SI leader in chemistry for four semesters. Ayesha acknowledged how inspired she is by her parents' emigration story from West Bengal, India, to the US. Their determination, as teenagers, played a critical role in her parents' education and career pursuits as they were the first in their family to move from India to America. As one living in two cultures, Ayesha was eager to discuss her experiences of being a first-generation Asian Indian and her experiences growing up as a Brown girl in a predominantly White community.

Acknowledging the individualistic nature of America, Ayesha preferred upholding the values of India, which are family and togetherness. She described growing up in a loving and supportive family. Ayesha identified that her parents emphasized her and her brother's education,

which she mentioned has positively and negatively impacted her academic success. Positively, Ayesha displayed determination in achieving her educational goals. Negatively, this determination or, for better words, the work-hard mentality impacted her mental health, such as sleep deprivation to complete deadlines. Still, she indicated that her experiences were comparable to her friends, who are also first-generation Americans.

Growing up in Jollyville, Florida (pseudonym), a predominantly White community, Ayesha was one of two students of Indian descent in her school, where she frequently experienced microaggressions. While in the second grade, Ayesha experienced a microaggression because her parents were immigrants, resulting in her placement in a remedial English class. Though she and her mother contested this placement and worked diligently to prove that she was competent in her English, she remained in remedial English class for some time. She recalled her experiences,

[sic] For me to be in a remedial course was like, what's going on? Like, why is this happening? And so, like, I passed all my English like. Elementary exams, I guess, and like I was doing fine in all my classes, I was excelling, but they still put me in this class and like, they changed me out like within like a month or two. I remember this because my mom really got upset with them, like spoke to like the teachers and stuff. And it's like what's happening. And so, they finally, like, gave me some more test and I got out of it. And right around there, like, they just put me in gifted [and talented classes]. And I'm just like I...you went from zero to 100. Like, I don't know if they were assuming that like, oh, like I'm Indian, therefore I'm smart type of thing. And I never really thought much of it until I came to high school, and I realized that happened to a lot of my friends actually. Like they were put into a remedial English class, very young in elementary school. And a lot of them were like quickly like taken out and put into, like, gifted. I didn't realize that was a thing that happened until like recently.

Despite other forms of microaggressions, Ayesha was able to excel in her academics. Later, she attended another school's International Baccalaureate program, known for its high-achieving scholars. Her new school was 40 minutes away from her hometown and had a more diverse student body. She recalled her exposure to other people groups as incredible and stated

[sic] My exposure to different culture is my exposure to the reality of like the structure of this country, a lot of it is attributed to them. I have met so many different people. We had an exchange student from Mexico. We had another student transfer from Zimbabwe. Like half, most of my friends were Muslim. And it was just like my ex-boyfriend was Colombian. And like, just knowing like all these things, it was just incredible. Like, I'm really grateful for everything that I was exposed to, to all the different cultures, the different like socio-economic stuff being I was a part of 24 clubs. So, like every single club, I was introduced to a new group of people...

Ayesha, a junior in Neurobiology and Physiology, has had many occasions where she has had to reflect upon her sociocultural identities. In no order, her three salient sociocultural values are ethnicity, family background, and sexual orientation. In the following section, I detailed how her selected sociocultural identities played pivotal roles in her life and influenced her leadership style.

Ethnicity. Ayesha's ethnicity played a significant role in her character as she often thought about her ethnicity and acknowledged that she was Brown. She stated, "...like, if you look at me, I look foreign. I know that, like, I am not American, I am not White. I know that. And I always knew that I looked different. I always knew that." Her awareness of her ethnicity forced her to consider how others viewed her, especially as she navigated social settings. She identified that society established and affirmed standards that overlook her diversity. For instance, Ayesha acknowledged how society dictated the standards of beauty, which she listed are women that are White, blonde, and have blue eyes. Ayesha firmly believes that since she is Brown and 'looks foreign,' she does not fit the societal standard of beauty or the 'cookie cutter' woman as she called it. Her girlfriend, on the other hand, does fit this standard.

Ayesha deemed it an internal struggle to believe that "society just has bad taste" and that she is not the one with the issue. She acknowledged that, based on these societal standards, these internal struggles continue to weigh on her self-confidence and self-consciousness since she is overlooked or heavily scrutinized for her ethnic features. To her, it is evident when she is overlooked, especially when she attends social gatherings, such as nightclubs, with her White friends, who tend to receive more compliments and attention. However, these forms of biased thinking are unrestricted to dating preferences; Ayesha admitted these experiences frequently occur in her life.

Ayesha addressed how people hold stereotypes and biases toward her based on her ethnicity, resulting in her having to compromise in other ways. For instance, she and her family often needed to budget more time in their flight travel plans because they knew they would be flagged and searched by security because of their ethnicity. She stated

I have been patted down so many times. My brother, his whole bag has been searched so many times to the point where he just takes everything out. Now he's just like, here's everything in my bag. Don't even dare pat me down and embarrass me in front of everyone, because it's like our ethnicity. Like the way we look already has the stereotypes of danger attached to them, my brother has a whole beard and he's a Brown man and so like he already has the stereotype of terrorists attached to him and it's really frustrating.

Ayesha also mentioned how her ethnicity played a role in her leadership role as she served as a Teacher Intern, a different but similar position to the SI Program. She recalled recognizing that she had far fewer students attend her office hours than a White male student with the same hours.

It wasn't something I noticed at first, but I slowly noticed that, like, oh, my gosh, like [he] is getting more people to come to him. And we're both equally educated and we both equally have the same amount of experience with being a TI. And it was kind of frustrating seeing that. And like, I don't know, I guess people like see my name, they're like, oh, she's going to be an international student from India. Like which again, there's nothing even wrong from being an international student from India, I guess with a lot of students that would think, OK, if I go to her sessions, she's going to have an accent. I'm not even going to understand her like stuff like that, which again, is not a problem. It shouldn't be a problem in the first place. But I think people like see my name and have that assumption, which can be very frustrating. And like, I guess that's one thing that is kind of similar to my home experience and not like people see my name and they have these assumptions. They see me and they have these assumptions. Like, I don't know. I guess like on a cultural level, that's something that really kind of upsets me.

Family Background. Despite the mentioned challenges Ayesha has faced, her parents significantly influenced her reasons to persevere. She remains proud of her parents' success despite the plights (e.g., discrimination) they faced transitioning to the US. After completing his studies, her father became a mechanical and aeronautical engineering professor, which Ayesha deemed a testament to his and his family's hard work. Ayesha acknowledged that her parents were 'othered' because they were immigrants and how hearing about those experiences has shaped her respect for her culture and her family. She detailed how her understanding of her parents' experiences developed as she matured, stating

I used to think growing up, oh, my gosh, my mom is just terrible with talking to cashiers. She always causes problems. I hated that. I used to think that but when I got older I realized she's not being difficult, she just has a thick accent and they refuse to, like, understand it.

Such experiences where individuals disregard diverse others have made Ayesha feel uncomfortable living in the States. Because of the increased social injustice in 2020, she acknowledged that she was not the proudest American. Ayesha expressed disappointment and was enraged by the state's racial and social injustice. She finds it difficult to appreciate her family's immigration while expressing her distaste for social injustices, specifically racism. Ayesha's resolution for her and the nation's issues is that everyone needs therapy to unpack the trauma they

have experienced. She believed her parents' trauma has positively resulted in their hardworking nature, which are habits that she has also adopted. She hopes to contribute such forms of diligence to her family's legacy.

Sexual Orientation. Critical to Ayesha's sociocultural dimension is her sexual orientation, which she mentioned has been a point of contention since she was ten years old. Considering her parents' educational priorities, this has remained a private part of Ayesha's life since she is unsure how her parents would react to her sexuality. Before coming to college, Ayesha acknowledged that she lived a sheltered life, so her collegiate experience enabled her to learn more about herself and live in her authenticity.

She acknowledged how others perceived her sexuality and how their viewpoints have not been favorable. For Ayesha, talking about her sexuality with men is incredibly uncomfortable, given the stereotypes often placed on lesbians and bisexuals. She mentioned that men tend to have stereotypes that women are confused, attention-seeking, and cannot make up their minds. She is generally unsure how others would respond to her sexuality and her relationship with her girlfriend.

Ayesha recalled being excited to discuss her relationship with her new girlfriend with her close companions. However, upon accidentally revealing her romantic relationship to her roommate, she began sensing a change in their friendship. Though the roommate indicated being receptive to her relationship, Ayesha felt their interactions became uncomfortable, making her feel uncomfortable being herself. She acknowledged that, even though the roommate was not intentionally trying to be homophobic, the tension created felt homophobic. Since this occasion, she has remained cautious of sharing this side of her life with others unless they are well-trusted.

Moments of Offense. Ayesha's background illustrated multiple moments of offense based on her salient cultural identity as a Queer Person of Color. Outside of her learning environment, Ayesha has had experiences condemning her sexual orientation. On one occasion, she recalled attending a dinner with her ex-girlfriend and their family, who are also Catholic. The parents made derogatory statements about the LGBTQIA+ community without knowing Ayesha and her partner's relationship or sexuality. Ayesha expressed being offended and uncomfortable with their comments but also unable to voice her feelings because they were unaware of their sexual orientation.

In another instance, Ayesha recalled being offended based on her culture in elementary school. In this example, it is identifiable that Ayesha conceptualized the comment by stating

...on my birthday, I would always wear this traditional Indian outfit, like Salwar Cumi, like that's the word for green outfit. And I remember one of my friends, they made it—like it wasn't like a bad comment—like I just remember it because I always like told my mom like, 'Oh I don't want to wear that outfit.' But like she was like, oh my gosh, you look like a cute piece of seaweed or something like that. And you know, like that, that kind of like, you know. It's not offensive, like it's not like rude, like it was kind of a compliment, but it's kind of like a backhanded compliment.

Additionally, in a third example, Ayesha questioned her exam experience and whether she had deducted points because she is Brown, and her professor is White and allegedly sexist. Upon reflecting on the exam with friends, she noticed that her male friend received credit for a question she was marked low on despite having a similar answer. She stated,

And he got a higher grade than me on the exam for like a question than I did. And it happened not just for one question, it happened for two questions. And then I asked my other friend I was like OK, and she identifies as a female. She was telling me like, 'Oh yeah. I got around the same grade as you.' [I asked], 'Did you miss this question?' She was like, 'Yeah.' We put very similar, like supporting answers and you got points taken off for it. And so, I always have this thought in the back of my mind like Ayesha you shouldn't be thinking this, but like, what if it was because we're female, just whatever. And I hate that. Like, I use that as like a safety net, like, oh my gosh, I got a bad grade on this just because I'm a Brown female. Like, I know I shouldn't be using that as a thing, but it's always something in the back of my mind that's very, very possible because of how often it happens.

Evident to Ayesha are moments when she intentionally or unintentionally offended someone based on their cultural identities. Ayesha described a recent example, one she was not proud of, that offended her friend, who is Catholic. Admittedly, Ayesha disliked that she has made stereotypes of groups of people based on her interactions, such as her experience with her ex-girlfriend's family comments at dinner. Because of these offenses, she acknowledged her distaste and negative energy towards the Catholic church, which transferred to her friend during their study time.

Ayesha joked about her friend, whom she considers a 'faithful Catholic.' She often told her, "Oh, you're a good Catholic girl. You're good and innocent. A pure-hearted girl." One day, she told her friend, "If these [jokes] ever do bother you, I'm sorry about that." With sadness, her friend responded that the jokes were offensive since she struggled with her faith. Over the school break, she had become closer to God, and Ayesha's comments about her faith affected her negatively. Ayesha was devastated that she had made her friend feel that way for a long time. Upon her reflection on the instance, she stated,

...people who claim to be Christian, but obviously they're not like if they have hatred towards others, any one part of the faith. If they have hatred, then are they really part of that faith and I think that for the longest time, separating those people and separating them from the religion they speak on behalf of was something that I struggled with and I'm still struggling with. And for her to sit me down, I'm really grateful that she sat me down and saw me as someone who can handle that.

This experience has been one that has been a learning opportunity for Ayesha. She recognized that her jokes could sometimes cross the line and be offensive. In these instances, she focused on apologizing because it was not her intention. Ayesha's cultural experiences provide perspective as I considered her intercultural competence.

Intercultural Competence

Ayesha's assessment responses indicated that she perceived she is in *Acceptance* with a score of 122.20. However, her DO was 90.08, which represents *Minimization*. Considering the *Minimization* orientation has two standard deviations, I divided the orientation into two parts low *Minimization* and high *Minimization*. Ayesha measured in low *Minimization* and overestimated her DO by 32.12 points. Commonly, individuals in *Minimization* tend to overemphasize commonalities in other cultural groups while minimizing cultural differences that are authentic to others' lived experiences. This information was beneficial as I considered the statements and their alignment with her Developmental Orientation.

Examples of Alignment. In Ayesha's interviews, she expressed some commentary connected to her measured Developmental Orientation *Minimization*. Consider her childhood memory,

...on my birthday, I would always wear this traditional Indian outfit, like Salwar Cumi, like that's the word for green outfit. And I remember one of my friends, they made it—like it wasn't like a bad comment—like I just remember it because I always like told my mom like, 'Oh I don't want to wear that outfit.' But like she was like, oh my gosh, you look like a cute piece of seaweed or something like that. And you know, like that, that kind of like, you know. It's not offensive, like it's not like rude, like it was kind of a compliment, but it's kind of like a backhanded compliment.

Critical to this comment is the differing experiences minoritized populations may have in a *Minimization* Developmental Orientation. Minoritized populations tend to 'go along to get along', a survival tactic while being in a context where they are the minority. In this case, the dominant group represents White students and school staff lacking cultural understanding. In this comment,

Ayesha displayed that she does not deem her classmate's comment offensive, overlooking her cultural diversity.

Examples of Misalignment. Throughout Ayesha's responses, she made several responses that indicated a misalignment with her DO of *Minimization*. Ayesha tended to make polarizing comments for her trailing responses, which is evident in her jokes toward her Catholic friend. Ayesha took a judgmental stance toward religious groups, Catholicism. In another instance, Ayesha displayed polarized views in her offensive jokes with her girlfriend. She stated

We were driving the other day and like it was blinding and my girlfriend was in the car with me. I was like, 'Oh, my God. It's so like white outside and so like snowy. It's almost as white as privilege.'

In response to that comment, her girlfriend rolled her eyes, and Ayesha recognized that what she said was insensitive. She apologized and acknowledged, in her interview, that "no one wants to be born already in a classification." In both instances, Ayesha tended to utilize jokes to express her frustration with topics she deemed unjust.

For her leading orientations, taking a step toward a more interculturally competent mindset, Ayesha makes comments that signal *Acceptance*. For instance, while discussing her observations in her leadership position, she indicated her disappointment in seeing international students being mistreated, especially in their learning environment. While serving in another leadership capacity, Ayesha recalled witnessing an international student being ostracized and talked over. Not only was it disappointing to observe, but Ayesha was also more disappointed that she did not address the situation. She mentioned that the student did not return to use their academic services.

To summarize, it was found that Ayesha's sociocultural identity of ethnicity, family background, and sexual orientation play significant roles in how Ayesha views herself and interacts with others. Her responses reflected both Polarized (misaligned with DO) and *Acceptance* (misaligned with DO) orientations.

Participant 3—Hailey

Background. Hailey is a Latina woman who has served as an SI leader for introductory mathematics for the past five semesters. Hailey appreciates her culture and acknowledges that her Puerto Rican culture is somewhat different from the Latino culture in South America and the Caribbean. Though she highlighted that there is much diversity in Puerto Rico, she expressed that

she finds it challenging to define her race and ethnicity since, to her, "Puerto Ricans have a mix of everything."

As a Latina, Hailey embraces her culture and even distinguishes it as different from American culture. For instance, she mentioned that Latinos enjoy demonstrating their emotions through physical touch in simple gestures such as hugging. Hailey identified that hugging is not a norm for Americans. However, she reflected on her appreciation for a professor that identified her love language while she was experiencing a difficult time preparing for her MCAT exam. "She was like, I want to give you a hug but covid, and I just thought it was so cool because she's American, but she was like she wanted to give me a hug."

Growing up, Hailey attended a small Catholic, all-girls private school and felt the environment provided a great support system. Hailey admitted not expecting a supportive experience at Purdue because of her prior experiences in other states. Contrary to her beliefs, she found Purdue welcoming, friendly, and diverse. Hailey has found this friendly atmosphere even in her lab space.

Hailey has interacted with people from different countries and backgrounds as a junior in Neurobiology and Physiology. She interacts with Teaching Interns from India, China, Indonesia, and Puerto Rico in her lab. She has thoroughly enjoyed learning more about their culture through fun activities, such as making a dish together from another country. From this experience, she has had more exposure to people in other religions as some of her lab mates are Muslim, which is different from her hometown, which has a majority of Catholic or Protestant religious groups. Her three salient sociocultural values are ethnicity, family background, and educational background. In the next section, I detailed how her selected sociocultural identities have played a role throughout her life.

Ethnicity. Critical to Hailey's identity is her ethnicity. Conversations on her race and ethnicity come up frequently since people often verbalize that she does not look like a Latina—she is biracial and has a Black father and White mother. Consequently, she often finds herself having to educate others on the diversity of races in Puerto Rico, acknowledging that Puerto Ricans do not have a general look. Along with her ethnic features, Hailey's citizenship status, on multiple occasions, is questioned. Throughout this interview, Hailey displayed frustration with Americans that often consider her an international student because they are unaware that Puerto Rico is a U.S.

territory. Even at Purdue, she is disappointed about the frequent occurrence of people associating Puerto Ricans with international students and considering Latinos as Mexicans.

Family Background. Since Hailey's parents divorced while she was young, she perceived her blended household as atypical of other American families. Still, Hailey values and prioritizes family, stating

[sic] I see family in a different perspective, but also how, like my closest nucleus of my family, it's my aunt, like my uncle, my grandmama and me and my mom. So, it has always been the four of us, which for some people it's like weird the fact like I called my mom every day. But just that's just the way we are. And I feel that's something American cul[ture] like...I have friends that [find it] a little weird. So that's something I identify with, like how it makes me diverse, how my family interacts with each other, how we talk to each other every day and we don't get tired of each other.

Such forms of togetherness with her family have helped Hailey feel supported while at a distance from home.

Educational Background. Another salient sociocultural identity for Hailey is her educational experiences. Hailey overcame many academic challenges as the first person in her family to study outside Puerto Rico. She acknowledged that for most Puerto Ricans, leaving and living on their own at 18 is atypical. It was a big step in her adulthood since she is determined to achieve goals that her family has yet to accomplish. For instance, Hailey described how her Puerto Rico education had fewer resources than American schools.

[sic] Oh, so my first [biology] class of college, for many people was the same thing as BIO AP. So, I didn't take BIO AP. I took another piece, but I didn't take bio. So, for me it was really hard. I got like a B on the class, which I think it's fine. But my friend got a C, and they were making him feel bad because she got an A. It was like it was like time since we took the class. But I feel like that's when you get, like, the educational background, like I didn't take the same classes or I realized that even in Puerto Rico, it doesn't matter if you go to the most expensive school ever. Like I had scholarship to [the] school I went to but even [still] you don't get the same preparation that you get even in a public school here.

These types of experiences have helped challenge and shape Hailey to persevere while at her institution. Through her persistence, she has had to find ways to convey her rationale for her academic goals to her family. For instance, she is determined to get an MD-PhD, which was challenging for her family to grasp fully. Though they question her reasons for wanting to pursue two degrees, she is focused on completing her goals and can often place more pressure on herself, stating,

I think I put all my pressure on my own because I feel my parents are more like, ‘You should relax.’ Yeah, they don't get why it's hard. For my mom, it's [hard to] keep track of everything I do because I get involved in so much stuff. So, I feel the pressure sometimes on my dad. There was a moment I thought of only doing a PhD and he was like, ‘OK, you're not going to study medicine anymore?’ And I'm like, ‘That's not what I'm saying. I want to evaluate all my possibilities because I don't want to do something that I don't like.’

Hailey continues to persevere in achieving her academic goals despite a lack of support from others in her life. Before attending her institution, she received negative messages that she would not last a semester. Hailey acknowledged that the rigor and academic difficulty are present. However, despite fewer educational resources and doubt from others, Hailey is amazed at how much she has progressed.

Moments of Offense. Hailey's background displayed moments of offense based on her salient sociocultural identities. Specifically, Hailey has found her educational experience as one that has been offended. Considering her private school's limited resources, especially in terms of advanced placement classes, Hailey found a comment another student made to be offensive. After completing an exam, Hailey recalled a student bragging about the easiness of the exam and compared their grades to Hailey and another student. Initially, she ignored the comment, but after the student began offending Hailey's friend, Hailey mentioned she reacted by being passive-aggressive and verbally questioned if what she was doing was appropriate. Similarly, as I considered moments where Hailey's sociocultural identity was offended, I also considered whether she recognized her offense towards others.

Hailey struggled to recall when she offended someone's culture but recognized that she may have been at fault. Specifically, she mentioned that she probably had made offensive comments to her friend as she expressed frustration with Americans.

...maybe at some point I have made a comment of like American culture to my friend. It wasn't the best and I say sorry, and I apologize to her and everything, but I think that's maybe the only time I remember doing something like that. I try to be really cautious of all the others because like it, I feel I understand maybe a little more how they might feel.

Intercultural Competence

Hailey's assessment responses indicated that she perceived she is in *Acceptance* with a score of 121.39. However, her DO was 86.63, which represents *Minimization*. Hailey measured in low *Minimization* and overestimated her DO by 34.76 points. Individuals in *Minimization* tend to

overemphasize commonalities in other cultural groups while minimizing cultural differences that are authentic to others' lived experiences. Based on Hailey's interview statements and analyses, Hailey did not make statements connected to her aligned DO. However, there were example statements that were misaligned with her DO.

Examples of Alignment and Misalignment. There are a few instances where Hailey's responses misalign with her DO of *Minimization*. Like Aaron and Ayesha, she also had trailing and leading interview responses. For her trailing responses, Hailey repeatedly made comments about Americans that were polarizing. According to the IDI training materials, one belief statement typical of individuals in *Polarization* is that they "recognize and appreciate patterns of cultural difference and commonality in one's own and other cultures." Simply recognizing differences is not enough; there must be an appreciation. This belief statement is evident in Hailey's generalizations of American culture as she discusses American school resources and their expression of affection (e.g., hugging). Hailey has taken a judgmental and generalizable stance towards Americans based on her prior experiences.

Despite Hailey making polarizing statements, she displayed connections to *Acceptance*. According to the IDI training materials, individuals that represent attitudes of *Acceptance* may recognize "some differences between one's own culture and other groups." This Developmental Orientation is made evident in her statements on meeting diverse others

[sic] ...some people find it weird, but I don't like to assume where people are from. So, someone found it really weird that I asked her where she was from just because I didn't want to assume. And she was from India, and she was like, 'Don't I look Indian?' I'm like, you can look like you're from India and be raised in the US. So, some people don't even like that. I'm like, OK, so what am I supposed to do? Like, I'm just trying to be respectful because we were just talking and someone was like, oh, I'm from here.

[sic] Like, for example, when people from different sexual orientation...like maybe I don't know. So I have two of my roommates that like to be called "they." And the first time I didn't know then my other roommate, she explained it to me. So I feel like being willing to be open to understand that new things.

To summarize, Hailey self-identified that her salient sociocultural identity of educational background, ethnicity, and family background play significant roles in how Hailey views herself. Based on the IDI assessment and interviews, Hailey perceives she is in *Acceptance*, yet she makes statements that reflect a Polarized Developmental Orientation.

Participant 4—Amira

Background. Amira is a White female studying microbiology and has led biology sessions for two semesters. As she reflected upon the demographics of the University, Amira believed her high school comprised a more significant percentage of students on free and reduced lunch, African Americans, and Hispanic students than her institution. Amira identified that such a learning environment with a large population of racially and ethnically diverse others might not be the typical experience that the University's students have since many are initially exposed to different cultures while in college. However, she views her peers as open-minded, considering her three salient sociocultural values: family background, home geographic roots, and religion. It is important to note that in comparison to other participants, Amira's responses were more concise even while prompted for elaboration.

Home Geographic Roots. Amira's responses were concise and limited, but she conveyed that her upbringing in the Midwest significantly influenced her life. Her family and community taught her values, such as the importance of working hard, humility, and hospitality towards others. Given the limited responses, Amira's responses indicate that more self-exploration of her upbringing is necessary to convey the impact this has had on Amira's identity and cultural understanding.

Family Background. Amira expressed a sincere appreciation for her upbringing. Much of Amira's perspectives of her family background focused on her perceptions of her being a twin and the work values instituted by her parents. She does believe that her parents' college education played a role in her family's experiences. Vividly, Amira recalled her mother's teachings that workers from all backgrounds are to be appreciated. Her parents encouraged her and her twin sister to work diligently in school and instilled in them a joy for reading as they read to them often when they were younger.

Amira showed admiration for her mother's dual role of being a mom and working in healthcare, stating, "Seeing my mom taking on the role of working, too, helped me further appreciate that simultaneously working and raising a family is a possible pathway for me." Additionally, Amira's parents emphasized the importance of prioritizing family by caring for their grandparents, stating, "While there are sometimes fears and biases in society surrounding aging, my parents strongly emphasized the importance of respecting my grandparents and the elderly."

Religion. Amira identified as a Christian, which she signals as an important influencer in her life. Her family shared the same beliefs, which has helped shape her religious identity. Amira's limited responses conveyed some concerns about her cultural self-awareness, but her faith played an instrumental role in her narrative. She stated,

My faith plays a really important role in my life. Being a Christian has helped me find a deeper level of love, compassion, and resilience and has been a really important part of my walk through various trials.

Intercultural Competence

Considering Amira's cultural identity, her assessment responses indicated that she perceived she is in *Acceptance* with a score of 128.20. However, her DO was 111.53, which represents *Minimization*. Amira measured in low *Minimization* and overestimated her DO by 16.67 points. As mentioned, individuals in *Minimization* tend to overemphasize commonalities in other cultural groups while minimizing cultural differences that are authentic to others' lived experiences. Based on Amira's interview statements and analyses, Amira did not make statements connected to her aligned DO. However, there were example statements that were misaligned with her DO.

Examples of Misalignment. Amira's misalignment connects to the *Acceptance* Developmental Orientation. According to the IDI training materials, individuals that represent attitudes of *Acceptance* may recognize "some differences between one's own culture and other groups." This Developmental Orientation is made evident in her statements on her having some reference to the diverse forms of culture. For instance, she highlights some culture-specific knowledge of the plights faced by Black healthcare workers. She mentioned that she was aware that Black healthcare workers felt they had to wear their white coats to make it apparent they were health professionals instead of being stereotyped as food service employees. Amira's alignment provides more perspective on her experiences and attempts to understand power struggles for Black healthcare workers.

Across Participants

As I considered the rich background and experiences of the participants, it became apparent that two themes were influencers on the participants' intercultural competence, educational impact, and knowledge and comprehension.

Theme I - Educational Impact

As the participants discussed their cultural background and experiences interacting with diverse others, it was apparent that participants engaged in these experiences because of their educational experiences in K-12 schooling, university curricula, and co-curricular programming. These educational connectors were prominent codes as participants seemed to have multiple connections to these experiences that encouraged them to understand, apply, or evaluate their cultural interactions.

K-12 Schooling. In this study, the code K-12 schooling referred to the participants' acknowledgment of their K-12 demographics. Participants indicated varying levels of diversity in their school environments. Interestingly, Aaron does not discuss the diversity of his schooling, which may imply that his Northeastern school was more homogenous to his cultural experiences as a White student or overlooked his peers' racial and ethnic differences. In Amira's experience, she recalled her schooling having a large percentage of African Americans, Hispanics, and students on free lunch. At the same time, Ayesha had two experiences where she was initially a minority in her elementary school as one of two Indian students. Her experiences in her new school allowed her to connect with diverse others from other countries as she engaged in her International Baccalaureate Program. Lastly, Hailey did not discuss the demographics of her Catholic all-girls school. However, she did mention that most students in Puerto Rico were Catholic. It is not assumed that her school is homogenous because Puerto Rico is comprised of many racially and ethnically diverse individuals. I considered this data concerning other educational connectors that might have impacted participants' intercultural competence.

University Curricula. In this study, the code *university curricula* referred to experiences connected to official learning experiences for which participants received course credit. These courses focused on diversity, equity, and inclusion and included required and course electives for the participants. The impact of these experiences was considered as I continued to comprehend the influences of the participants' intercultural competence.

For instance, Aaron enrolled in the University's Global Engineering Certificate Program, which focuses on providing students with global interactions to promote global competence. Within the Global Engineering Certificate Program, students engage in learning experiences that help develop global skills to consider while contributing to society. The critical components of this program are to develop cultural skills, complete a study abroad opportunity, and complete a capstone course project. Unfortunately, Aaron's study abroad to France was canceled due to the height of the COVID-19 pandemic. Instead, his program provided an alternative experience for students unable to attend their study abroad experience and involved him completing an engineering project with students from Mexico. Though Aaron was disappointed that he could not participate in his study abroad experience in France, he did appreciate the collaborative engineering projects with his peers. He acknowledged that these experiences made him consider diverse engineering approaches to global issues. As he explained

I remember I was watching a video recently and like a lecture, it was engineering-based. But it's about like how different cultures around the world can you know, they have these different solutions to like everyday problems. Like sometimes it's like electricity. Sometimes it's like a fan, sometimes it's like other things like that. And it's all around the world. And I guess the main takeaway from that is like, they have different solutions to problems that are different than yours, like look like kind of like a MacGyver episode, but, you know, all these different countries and it's kind of like, you know, these differences are like good. And like maybe if these people had different experiences and like, it's kind of like they explained it like integrating like some I guess like traditional engineering practices, you know, to be safe sometimes, but also like integrating that with like what they bring to the table.

Amira also engaged in university curricula that engaged her in diversity, equity, and inclusion conversation. As an honors student, she enrolled in her Honors Program's diversity, equity, and inclusion 1-credit distance learning course, Images of Racial Violence. Based on the course description, the course revolved unpacking the racial and colonial images of violence domestically and in India. The course description included

Our attention will turn to photographs, graphic novels, videos, music (Billy Holiday's "Strange Fruit"), virtual tours of anti-racist museums and monuments in the US, and of visual archives in India. Our conversations will engage important questions: what do these images of racial violence tell us about the age that produced them? What are the aesthetic formulae of representing racial violence, and how do these vary across different media formats? How have artists, musicians, photographers, critical race theorists interrupted and challenged the circulation of a racist visual vocabulary? How do we 'consume' such images, despite the horrors they represent, and without participating in a culture that feeds on

images of violence against racial minorities? And finally, what lessons can we learn from the global and temporal continuities of such images?

Such experiences in the course influenced Amira, and she identified that the course was beneficial and encouraged her to reflect on her experiences. She stated

I guess here, one of the things that I think was really helpful for me was there was like a professor who did a really good class called Images of Racial Violence. And we went into a lot of topics, like more in depth there. So, I don't know that just like definitely influenced the way that I think about culture, like a lot or like racism. We really talked about that as an issue. So, I don't know, I took that last fall and it was just really like interesting. And like, we went into a lot of depth, so I don't know how that could translate to SI training, but that was just something I really liked probably like one of my best experiences in terms of engaging with these topics.

Aside from language development courses, it is noticeable that the White participants, Aaron and Amira, were the only participants that discussed such university curricula as influencers in their cultural understanding. They both expressed an appreciation for engaging with diverse others and conversations that helped them consider their personal experiences and those of diverse others.

Co-curricular Programming. In this study, the code *co-curricular programming* referred to learning opportunities that were connected to the collegiate experience but not necessarily attached to course credit. Examples of this would be a student's engagement in a student organization, a sorority or fraternity, or a community-focused program. Like the code *university curricula*, the focus of this section is participants' connections to co-curricular programming that engaged them in diversity, equity, and inclusion matters.

In Ayesha's case, she highlighted how her friendships with other Muslim students made her consider the diverse experiences of others. From these close connections, she developed an urge to advocate for social justice issues in predominately Muslim nations. She acknowledged her involvement in a student organization focused on social justice issues in Palestine, stating,

[sic] Yeah, so my anthropology professor last year kind of like introduced me to the group, and it is the Students for Justice in Palestine Organization. I haven't really done much on it because I just got into it like this semester. But Justice for Palestine has always been something that is very, very, very important to me. Like it's something like I said, a lot of my friends back in high school, a lot of them were Muslim. A lot of them, their parents came from those regions that have been affected by the gruesome war that Israel has kind of projected. And some of them even come from Palestine. Like I have a friend who is from Palestine and has told me about all of the sacrifices that he and his family have made and the fact that he didn't even make it this far. He didn't even think he could live to

this day. So those things have had such an emotional toll on me. And that kind of drove me to like, OK, maybe I'm going to join this organization.

It is identifiable that Ayesha's understanding of her friends' experiences motivated her to be concerned about the political issues of others and their nations. She is open to learning and advocating for social justice.

Amira engaged in her College's Global Science Partners Program, a global science partnership connecting domestic and international University students as they engage in global leadership. Critical components of this program include having a learning community, peer mentorship, and participating in dialogue circles. Specifically, the dialogue circles focus on developing students' global competence through engaging in conversations on cultural awareness. She discussed how these experiences had encouraged her to consider her own culture as a White woman stating,

[sic] I actually feel like I feel it honestly. The thing that comes to mind a lot for me with that is I'm in an activity called Global Science Partners, and that's really helped me identify more about my own culture and other cultures. I feel like maybe in the past there's sometimes a conception that, like if you're like White or from the United States and like not an international student, like you don't have a culture or at least I've definitely heard others around me also expressed that. So, I feel like that really...when we started identifying like elements of our own culture, like religion and like we just expanded it in a broader sense or even like geographic identity, I think that that really helps because you're able to, like, celebrate your culture a lot more.

It is identifiable that Amira questioned her place in society as a White woman and, by engaging in these curricular experiences, has been able to reflect and communicate her viewpoints.

Additionally, Hailey mentioned the academic support she has received through her involvement in an academic support program, the Louis Stokes Alliance Minority Participation (LSAMP). The program seeks to develop the research skills of minority students for completion of their bachelor's degree in STEM to prepare them for graduate studies. Students involved in the program receive professional development, faculty and minority graduate student mentorship, and service-learning opportunities. Hailey expressed her appreciation for her involvement in the program and the affordances of other connected opportunities, such as her research and teaching assistant experience in the program, stating,

[sic] It was nice. I could say from a different perspective, I love being able to do stuff that I can see it from both sides like. And that one, I would see it as the scholar perspective. But then I was like, oh, I see it as an assistant perspective or but now like, now as a TA I see it

from the student perspective. And I can see it also from the professor side. And I feel like in life, you don't always have that opportunity. But even if you don't, I try to put on the other side's shoes.

It is identifiable that Hailey's involvement in the LSAMP Program was to develop her academic pursuits and connect with other initiatives that assist minority students in pursuing their academic pursuits. Specifically, this resource has connected her to other opportunities, such as teaching and research assistant positions, and helped her establish rapport with faculty.

As I considered participants' experiences, identifiable about these programming connections is that they encourage participants to engage actively in conversation and action-oriented ways. It is assumed that participants in these co-curricular programs were encouraged and challenged to invest in diversity and inclusion efforts. Aside from his involvement in the Global Engineering Certificate Program, Aaron did not mention participation in co-curricular programming connected to diversity, equity, and inclusion initiatives.

Theme II - Knowledge and Comprehension

As the participants discussed their cultural background and experiences interacting with diverse others, it was apparent that participants' knowledge and comprehension of culture revolved around their cultural self-awareness and culture-specific knowledge. These two mentioned codes served as connectors in comprehending the participants' intercultural competence.

Cultural Self-awareness. The code of *cultural self-awareness* refers to participants' recognition and appreciation of their own culture. This code was more prominent and mentioned for each participant as I considered their three salient sociocultural identities (e.g., ethnicity, gender, and race). The participants' lived experiences elicited diverse salient sociocultural identities and provided rich background into their world perspectives. Such world perspectives influenced their personal learning experiences, leadership styles, and interactions with diverse others.

Ayesha's bicultural experiences as an Asian Indian influenced her academic pursuits as she considered the narrative of her family's immigration to the United States. She mentioned that her experience and self-identification as a Brown, Queer woman have caused her to be more skeptical of others' intentions because of the trauma she has experienced. Yet, because of her *cultural self-awareness*, she feels prompted to engage in advocacy for others, such as international students in their learning environments.

Similarly, this code informed when participants did not demonstrate a strong *cultural self-awareness*. For instance, though Aaron made comments indicating his Perceived Orientation of *Acceptance*, Aaron did not appear to have had much experience reflecting on his own culture. This limited reflexivity was evident in his inability to speak from his cultural perspectives when asked questions about his experiences. After noticing the participant's deflection in response to the questions, I provided more direction to help him draw upon his own experiences. I included an example of his deflection to the question based on his cultural self-awareness even after my prompting in Interview I

Marquetta (Interviewer) [00:18:59] Yeah, what's the second one [sociocultural identity] that is the most important to you about *you*?

Aaron (Interviewee) [00:19:08] I would say second will probably be race.

Marquetta (Interviewer) [00:19:13] How so?

Aaron (Interviewee) [00:19:15] I would just say that because...I would say race and nationality can be. I feel like these all can be tied together in some ways, but they're also different too like, let's say, somebody who is Québécois and you know White might have a different experience than somebody who's Québécois and Black or Québécois and Native American. And it kind of plays a different story along with that nationality and I feel like that's just something important to value and consider, especially when it comes to learning or understanding the experiences of others and where they're coming from because that can also play a significant role on their life and their views, beliefs and where they're coming from.

As I considered the participants' *cultural self-awareness*, it is identifiable that they all want to express confidence in being culturally self-aware. Though the White participants indicated a limited knowledge of their White culture, as mentioned in Amira's earlier section (co-curricular programming), it is evident that White students can be positioned and scaffolded to recognize their limited cultural self-awareness. Such recognition along with development can help cultivate cultural self-awareness.

Culture-specific Knowledge. The code of *culture-specific knowledge* refers to participants' demonstrated understanding of culture in its many variations (e.g., ethnicity, religion, and sexual orientation). It includes acknowledging historical injustices that have served as obstacles, further dehumanizing cultural groups (e.g., Black Indigenous and People of Color, women, and LGBTIQ+).

While considering the prior code of *cultural self-awareness*, it is evident that some codes are double-coded, highlighting the participants as multifaceted and the ongoing process of intercultural development. Returning to Aaron's response to Québécois people, it is noticeable that Aaron has some culture-specific knowledge. He stated

I feel like these all can be tied together in some ways, but they're also different too like, let's say, somebody who is Québécois and you know White might have a different experience than somebody who's Québécois and Black or Québécois and Native American... I feel like that's just something really important to value and consider, especially when it comes to learning or understanding the experiences of others and where they're coming from because that can also play a significant role on their life and their views, beliefs and where they're coming from.

Here, it is identifiable that Aaron expressed some comprehension of race relations and equity, especially as it concerns Black, White, and Indigenous experiences. Though accurate, what is noticeable about Aaron's explanation is that these differences between the Québécois and White, Québécois and Black, or Québécois and Native American are left to be assumed since he does not elaborate on these differences. Because this information was not expressed, it may indicate that Aaron is aware of privilege and race relations. However, he may need more culture-specific knowledge and opportunities to reflect upon his culture and perspectives that may be biased because of his race and nationality.

Hailey expressed culture-specific knowledge as she met her roommates, who happen to be in the LGBTQIA+ community. She mentioned that she lacked knowledge of identifying individuals by their preferred pronouns until her roommate explained it. She stated, "So, I have two of my roommates that like to be called "they." And the first time I didn't know then. My other roommate had to explain it to me." From what Hailey shared, it is unclear if she was knowledgeable about the significance of the pronouns, especially for the LGBTQIA+ community. However, she did indicate an openness to adapting her language to be inclusive in their living situation.

Amira also expressed culture-specific knowledge as she considered the plights faced against Black Indigenous and People of Colors (BIPOC) and marginalized groups in healthcare roles. She recalled her mother, who is a physician, facing gender bias when others assumed she was a nurse. She recognized that the reverse could happen for men that are nurses, who are often stereotyped as doctors. Additionally, Amira emphasized the perceptions of race in healthcare, stating

Like if I'm interested in healthcare, I feel like for individuals, who are like Black, like a lot of times...I've heard doctors say before that they need to wear like their white coat, because otherwise patients will think that they are like working in transport or food services. So, like, it's kind of interesting. Cause I feel like I always used to think like, 'Oh, a lot of it's about how the provider views their patients,' but it works like with patients viewing the providers certain ways too.

Amira's response connects to the double-edged bias Black individuals face in healthcare. It also expressed the difficulties marginalized individuals have lived as a minority in the United States. Amira also demonstrated introspection as she considered the gap in her instructional role in being equipped to meet the needs of students with disabilities. She admits to not being as familiar with the experiences of students with disabilities but desiring to become more informed for better practices. She recalled her childhood friend's experience stating,

...I also have a friend who has a learning like disability, well, not a learning disability. She has trouble with her eyesight. So, she needs like all of her papers enlarged and everything. And I remember that there was a time when we were in like sixth grade and like, I used to work with her a lot, like just because we're friends and the teachers said something like you don't have to feel like you have to help her. Like basically, you know, kind of implying that the only reason that I would want to work with her would be to like, cause I felt sorry for her or like, I felt like I had to. And like she heard that and she was telling me like recently, like a week ago that like, that still has impacted her like today. Like she just really internalized that comment and thought about it for like a long time. So, like, again, that kind of puts it in perspective for me that like, I don't know that I have like a disability, but like that really put it in perspective for me for sure. Was like how like subtle things can really like stick with people, I guess.

As I considered participants' knowledge and comprehension of culture, I used this background to support the rationale of their commitment to diversity and inclusion as it relates to their leadership roles.

Section 3: SI Leaders' Value to Diversity and Inclusion in Leadership

In what ways do SI leaders value diversity and inclusion in their leadership roles?

This research question focuses on understanding how SI leaders value diversity and inclusion in their leadership roles. To appropriately answer this question, I analyzed participants' interview responses and session plans based on their perceptions. In subsection 3.1, I have included the findings of the participants' expectations of interculturally competent SI leaders.

Section 3.1

Participants' Perceived Intercultural Skills

During the second interview, the four participants described the traits of an interculturally competent individual and SI leader. These questions aimed to understand whether the leaders could envision themselves as interculturally competent leaders. Additionally, their responses reflected whether they perceived interculturally competent behaviors as possible or out of reach in this unique learning environment. Below, I detail the significant themes found.

Theme I - Establishing an Inclusive and Respectful Environment

The four participants indicated that interculturally competent SI leaders were recognizable by their intentional actions that ensured SI sessions were inclusive for student attendees. The inclusive and respectful learning environment became a theme based on the participants' responses.

Participants indicated that leaders play a pivotal role in creating a safe space for learning by conveying student attendees as assets to their learning experience. For instance, Aaron highlighted that one must recognize and appreciate cultural differences to be more informed of students' unique backgrounds, strengths, and struggles. He acknowledged that it is the responsibility of the leader to create an environment that appreciates and applies those strengths and struggles to effective learning. His perception is that leaders should not view individuals' cultural differences as 'good or bad' but focus on seeing how the student is an asset to the learning environment. Additionally, Aaron challenges the leader to question how they can be more intentional in constructively bridging gaps to enable effective learning given the student's unique background and culture.

Similarly, Amira reinforces the importance of students' culture by her perception that interculturally competent SI leaders should make room for students' authenticity in their learning environment. One example discussed was encouraging students to share their pronouns, which could be communicated verbally or included in their videoconference names on the Zoom platform, stating

I always try to include pronouns. I think that's a good thing just because it sort of sets the tone so it's like a welcoming environment right off the bat. And so, I want students, or I

think it's good to let students know that like the minute they enter the session that like they can feel comfortable sharing different parts of their identities and stuff.

Even considering the use of the modality of using the video conferencing tool to connect to student attendees, Amira cautioned SI leaders to evaluate the accessibility of their sessions. She reflected on her missteps by detailing how she overlooked the needs of her international students, such as considering international students' time zones when selecting her weekly SI sessions. Ayesha also cautioned leaders to be considerate of the experiences of international students. She discussed this concerning a leadership capacity she held outside of the SI Program, stating

So that was another thing that I have witnessed a lot of time for these international students would be like talked over a lot. They would have their assigned, like, work, like, oh, like number two, like assigned to them, the other people in the group would kind of like talk over him or her at times, and it was really upsetting. I didn't know what to do in that situation. I think it was like my first semester. And I never saw that international student ever again, and I always wonder, like if I did something that didn't feel comfortable to come back and I like I still think about that a lot. Like, I really, really wish I said something, did something, and I think those type of situations would really help.

As shown in Ayesha's example, her caution begs SI leaders to be cautious about the inclusiveness of the SI sessions. Her example conveys that learning environments that lack respect and cause such a negative impact on a student, especially an international student, could result in reduced frequency with the peer-learning program. Similar to Ayesha, Hailey also contended interculturally competent SI leaders should remain vigilant in their sessions to intervene as necessary when individuals are disrespectful to other students. Hailey mentioned that this is more likely to occur in group settings as individuals may ignore students with cultural differences. Given the results, it is evident that the participants are concerned about the inclusiveness of the learning environment for their student attendees.

Theme II - Reflective Practitioner

Throughout this data analysis and process, a second theme became more prevalent in the participants' responses to an interculturally competent SI leader, continuing to be a reflective practitioner. Given the nature of the participants' leadership responsibilities and the purpose of this study, this theme was likely to appear because leaders' instructional planning included questions about their prior learning sessions. Based on the participants' responses, the following

codes were more prominent and resulted in the mentioned theme: a) intentional grouping, b) continuing to adapt, and c) uncertainty.

Intentional Grouping. For this code, participants indicated that leaders play a vital role in how students engage with one another in their SI sessions. Given the nature of the peer-peer, collaborative experiences in SI sessions, this code was most likely to appear. In this regard, Hailey acknowledged that an interculturally competent SI leader recognizes the cultural diversity present but also sees how student attendees may be hesitant to bridge cultural differences. She indicated that students tend to cling to those who are familiar or share similar traits, often excluding students with cultural differences. An example of this exclusion could resemble ignoring a student's perspectives during group work. Thus, Hailey recommended that SI leaders take a more proactive approach to mixing students by assigning groups to allow students to connect with other students.

While students engage in group work, Hailey cautioned SI leaders to observe the group dynamics to ensure that groups interact appropriately. She mentioned that she would take the following measures in her session to be interculturally competent

[sic] I would try to pay a little more attention to that group to make sure nobody's being [dis]respectful or treating him wrong. And you could...I don't know how...you could talk to them and try to see if something like that happens. Then, at the end of the session, like talk to the student that treated someone bad and then also talk to the student affected because I don't know, you don't know if they say something bad to him, how that made him feel.

Based on Hailey's viewpoints on intentional grouping, an identifiable cause can impact students' experiences. Hailey's concerns connect to Ayesha's earlier statements in Theme 1 on the experiences of international students involved in groups.

Continuing to Adapt. A second skill set that the participants deemed expressive of an interculturally competent leader is their commitment to developing as a facilitator, which is an admirable quality of a reflective practitioner. Although the participants alluded to the need to adapt to consider their student attendees' cultural differences and similarities, Amira verbalized this point more. She explained that it should be the responsibility of interculturally competent SI leaders to recognize the limitations of their perspectives, further promoting that solely resting on one's perspective is shortsighted.

In contrast to other participants, Amira's displayed more introspection about how she could become more competent in her intercultural skills. She reflected on her selected online SI session timeframe and how this may risk excluding international students that may have to rise early to

participate in the peer-learning sessions (e.g., connecting to a 5:00 PM (EST) SI session at 6:00 AM (GMT+9) in South Korea). Additionally, Amira pinpointed that interculturally competent leaders must prioritize the accessibility of their learning sessions, further emphasizing the need to consider students with learning disabilities, such as attention-deficit/hyperactivity disorder (ADHD). Her recommendation for SI leaders desiring to develop their intercultural competence is to continue to adapt

So, I think that a big part of it would just be to like kind of acknowledge that your perspective is very limited. You know what I mean? And to acknowledge there are a lot of different perspectives and to be really open to that and continuing to adapt, I guess, a lot to that and to continue to like commit to learning about ways to bridge those areas would be one thing that would come to mind.

Uncertainty. Across the participants, it was noticeable that the participants recognized appropriate actions interculturally competent SI leaders should take to promote a welcoming, inclusive online learning environment. However, the participants expressed reluctance in their capability to address intercultural insensitivity if it were to occur. For instance, Aaron expressed his hesitation, stating

Yeah, I know there's differences and I know people are different, but what do I do about that? Like, I feel like that is a really big step to make. I don't understand that fully either. I try. But where...where do we go next from knowing that everybody's different and there's all these different identities and what can we do about it?

Considering Aaron's comment, he expressed concerns about overemphasizing cultural differences. Though he understands intercultural competence through the Intercultural Development Inventory in his Global Engineering Program and the SI Summit Training, he remains unsure about what steps he should take after understanding cultural differences. Given Aaron's earlier statements that SI leaders should consider how they can use these cultural differences constructively for more effective learning, it is evident that his hesitancy may hinder the implementation of his stated expectation.

As I analyzed the participants' responses to this code, this data shows their tendency to acknowledge their cultural understanding while reflecting on growth opportunities. In Hailey's case, she admitted her limited knowledge of culture while also noting her desire to learn more about other cultures stating

[sic] I feel it's the fact of not knowing enough people or maybe not knowing like the customs that you have and others, which it's something I don't know. But I honestly want to work on, like just knowing like the basic custom on different cultures.

In Amira's case, she acknowledged her missteps in overlooking the needs of international students participating in online SI sessions. She expressed worry that her limited knowledge of others' experiences may influence her tendency to neglect the needs of students in her instructional planning, stating

Sometimes it's easier for me to forget about that when I'm planning my session. So, like, I don't know. I definitely feel like sometimes I'm like worried that I'm like not thinking through everything because sometimes I just like don't understand what other people are going through, like language barriers. I actually had an international student who like reached out to me because they had trouble watching the video because of the breakout rooms, like obscuring it and their time zone almost didn't match with when my session was. So, I feel like, I knew that could be a problem. Like I maybe didn't realize the extent to which people would be like impacted by that, especially with the time zone difference.

Also, Hailey acknowledged that cultural insensitivity should be addressed because it harms the student, but she does highlight that she is unsure how to resolve such issues. Here, it is evident that Hailey expects interculturally competent SI leaders to be intentional and observant. However, she is unsure how to address insensitive cultural statements when these situations arise appropriately.

Similarly, Ayesha also expressed not knowing how to intervene even while witnessing intercultural insensitivity. Her mentioned example involved witnessing an international student being talked over and left out of the group's conversation. In comparison to the other participants, Ayesha's example is a first-person account of her experiences. She expressed a form of regret witnessing the international student being ignored and talked over in her group setting. She also expressed remorse for not intervening on the student's behalf. Here, it is identifiable that Ayesha may find this incident more gripping as she considered her parents' experiences of being in a new country and facing discrimination.

In summary, the four participants' prominent codes resulted in Themes I and II. Both themes indicate their expectation that interculturally competent SI leaders should embody characteristics that promote a welcoming and inclusive online learning spaces and positions them as reflective practitioners. Additionally, the participants were transparent about their intercultural skills. In particular, the data from this subsection revealed that participants expressed hesitancy in

being action-oriented as interculturally competent SI leaders, expressing a lack of knowledge or skills that would enable them to respond appropriately. The following subsection explores the degree to which the participants integrate culturally responsive teaching in their instructional planning.

Section 3.2

Culturally Responsive Teaching Practices

Considering the purpose of the third research question, which explores the leaders' commitment to diversity and inclusion, this subsection examined leaders' integration of culturally responsive teaching in their instructional planning. In particular, this examination focuses on the leaders' integration of culturally responsive teaching while not being previously trained on the pedagogy.

In Interview II, participants were provided an overview of the CRT practices and instructed to select practices (pillars) that were evident in their instructional planning. Six of 18 of the pillars, as highlighted in Figure 5, were chosen among interview participants. The following sections describe the pillar, provide an example of how the pillar could be evident in the leaders' instructional planning, and includes a figure showing potential connections to the Center's leadership competencies (with a focus on reflective problem-solving, effective communication, and inclusion) have with the CRT practices. Each section also includes examples of how the participants' (within and across) included the pillars in their instructional planning.

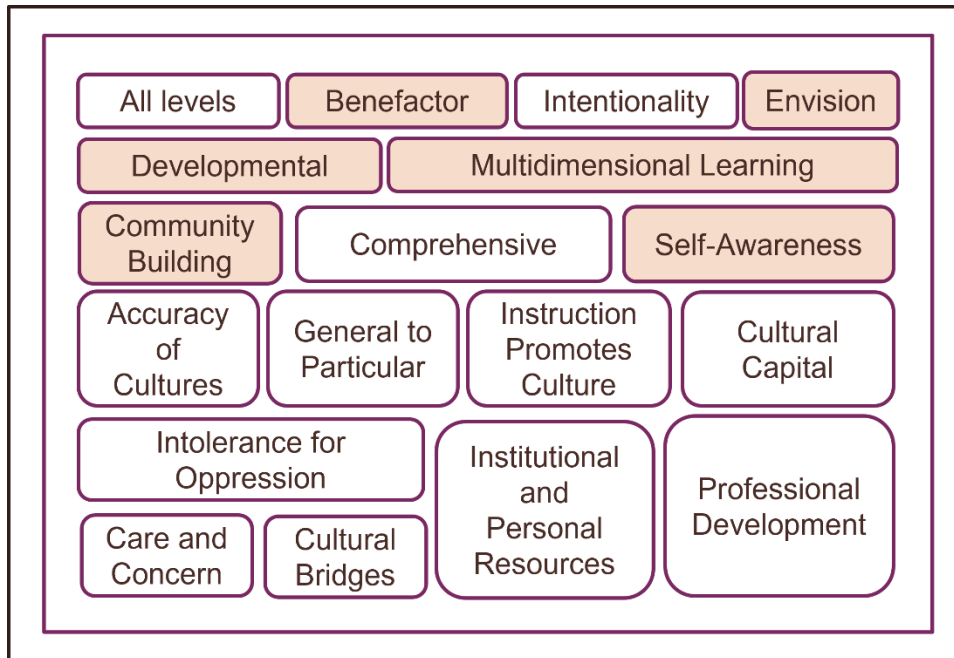


Figure 5

Culturally Responsive Teaching Practices—Pillars for Progress (Gay, 2018) *Note: This was used to analyze participants' (SI leaders) session plans using Gay's pillars for progress. Highlighted cells indicate pillars discussed in this study.*

Benefactor Pillar

Background. According to Gay's (2018), integration of the benefactor pillar represents instructors' consideration of making the learning experience beneficial for all learners. Table 5 detailed the leadership competency subunits matched by the researcher and external auditor to the benefactor pillar considering the goals of the pillar and the subunit.

Given the connections that the pillar and the Center's leadership competencies share, three of the participants' session plans were examined and coded based on the description of the *benefactor* pillar.

Benefactor Results. Each data source included varying levels of the *benefactor* pillar. For a frame of reference, an example of the *benefactor* pillar is a leader's evident use of providing opportunities for all student attendees to verbalize their needs in the SI session.

Table 5

Benefactor Pillar Connections

Benefactor Pillar Connections	
Description: It has multiple benefits for all students. Of all the curricular programs, instructional practices, and research projects discussed in the preceding chapters, there was no instance in which improvements occurred for some ethnic groups or area of academic functioning but not for others.	
Connected Leadership Competency	Subunit Description
Effective Communication (EC1)	Learn to successfully utilize the four facets of communication (verbal, non-verbal, listening, and written)
Effective Communication (EC2)	Establish rapport with students, peers, and supervisors to provide a welcoming, collaborative, and positive environment
Effective Communication (EC4)	Adapt messaging to ensure clarity for the intended audience and context
Inclusion (IC1)	Understand how diverse perspectives, backgrounds, beliefs, cultures, and experiences can influence individuals and enhance a group's effectiveness
Inclusion (IC2)	Embrace opportunities to increase awareness of diversity and inclusion issues
Inclusion (IC4)	Interact and learn with diverse students, faculty, and staff
Inclusion (IC5)	Foster an environment in which people feel welcomed, values and sense of belonging
*Adapted from Gay's (2018) Pillars for Progress and the Academic Success Center's Leadership Competencies	

Aaron. Within Aaron's session plans, he indicated that his student attendees, who are enrolled in an aeronautical and aerospace engineering class, struggled with the following course concepts: identifying substructures for analysis of force (Session I), understanding mechanical properties of materials (Session II), and deconstructing a structure for further analysis of unknown variables (Session III). Evident in Aaron's session plans is his integration of instructional practices that demonstrates opportunities for students' academic needs to be heard.

Compared to the other participants, Aaron was more explanatory in his session plans, thoroughly explaining his rationale for his planning. Within Session I (see Appendix M for session examples), Aaron prioritized students' academic concerns by polling which course concepts they would like to discuss in more detail, such as concepts on displacement. His instructional goals were for students to feel comfortable handling complex concepts such as truss structures. As I considered his perceptions of students as learning assets, it is identifiable that Aaron translates this to his instructional practice by allowing students to contribute their knowledge or inquiries to concepts before engaging in related learning activities. In other ways, Aaron prepared for the

various needs of the diverse group of students. Within Session III, Aaron included additional problem types in case students' needs varied. He also gave students opportunities to brainstorm critical course content necessary to complete problems to reduce students being overwhelmed by the problem's tedious process.

Throughout Sessions I, II, and III, Aaron included goal-setting opportunities for students, promoting student assessment of their course progress. For instance, Aaron had students reflect on their second exam, their exam preparation, and their efforts. As students reflected, he provided opportunities for students to reassess their goals and plans to determine their progress and what adjustments needed to be made before their third exam.

Amira. Amira indicated that her student attendees, enrolled in a chemistry class, struggled with the following course concepts: nuclear chemistry (Session I), calculations of lattice energy (session II), and intermolecular forces (Session III). Amira's session plans include her integration of instructional practices that allow students to contribute their knowledge to their learning.

Within Session I and II ((see Appendix M for session examples), Amira prioritized providing students with learning opportunities post-session by creating summary sheets in preparation for their upcoming quiz. Students were encouraged to include definitions, diagrams, and pictures in their summary sheets for future use. She also integrated collaborative learning with the inclusion of group roles so that students rotated their tasks. In other ways, Amira also emphasized students as assets in their learning sessions for Sessions II and III. For example, she had her students share their study strategies for drawing Lewis Structures and preparation strategies for the final exam. The goal for both learning activities was for students to increase their study skills through resource sharing.

Ayesha. Ayesha indicated that her student attendees, enrolled in a chemistry class, struggled with the following course concepts: ionic bonds (Session I), computing ICE tables (Session II), and visualizing rate law graphs (Session III). Compared to other participants, Ayesha's integration of the benefactor pillar seemed supportive but minimal.

Evident in Ayesha's session plans was her integration of instructional practices that allowed students to contribute their knowledge and reflect upon their comprehension of course concepts. Within Sessions I and II (see Appendix M for session examples), Ayesha prioritized having students reflect on their struggles, identify their competency, and rate their comfort level

with course concepts. Students were encouraged to contribute their chemistry knowledge of buffers and pKa as they created an extensive list in groups.

Hailey. Lastly, Hailey indicated that her student attendees, enrolled in a mathematics class, struggled with the course concept of chain rule Session III (see Appendix M for session examples). In her Session II plan, Hailey demonstrated her integration of the benefactor pillar in her instructional planning by encouraging students to share topics they would like to prioritize in their learning sessions. This plan also provides students multiple problems to solve according to their academic concerns. These strategies connect to the benefactor pillar as students can contribute and prioritize their needs in the learning session.

Across Participants. Based on their instructional planning, it was evident that participants' integration of the benefactor pillar connected firmly to their use of instructional strategies that encouraged learners to voice their academic concerns and contribute their knowledge to their learning sessions. One prominent strategy in the leaders' practice involved students' assessment of their skills, such as Ayesha's Session II, which enabled students to rate their competency of course concepts on a scale from one to 10. Additionally, participants integrated opportunities for exam reflection and peer-to-peer resource sharing, such as Amira's Session III, which enabled students to share study strategies. Both strategies benefit all students since students can reflect on their competency in the course material and exchange studying strategies that may provide diverse perspectives to the larger group of students.

Some participants positioned students as creators in their learning experiences. This strategy was more prominent in Amira and Hailey's instructional planning, as students had opportunities to demonstrate their knowledge through creative approaches. For instance, in Session I of Amira's chemistry session, she had her students create summary sheets that allowed students to consider pertinent information (i.e., topics, pictures, diagrams, formulas, and definitions) for their upcoming class quiz. This strategy benefits all students since students can be autonomous in customizing their summary sheets and prioritizing course material that would help their quiz preparation. The participants' use of this pillar emphasized the consideration of all students in instructional planning. More importantly, students are considered assets to their learning, capable and contributing members of the learning environment.

Developmental Pillar

Background. According to Gay's (2018), integration of the developmental pillar represents the acknowledgment of instructors' development of students' "academic, psychological, emotional, social, moral, political, and cultural skills" (p. 291). Table 6 details the developmental pillar's leadership competencies and CRT practices.

Developmental Results. Each data source included varying levels of the *developmental* pillar. For a frame of reference, an example of the *developmental* pillar is providing students an opportunity to feel empowered in their learning, which could connect to the varying dimensions of "academic, psychological, emotional, social, moral, political, and social skills" in the SI session (p. 291).

Aaron. Evident in Aaron's session plans is his integration of instructional practices that demonstrates concern for students' development of academic skills. For instance, in Session I, Aaron emphasized wanting to help students be efficacious in their knowledge and application of truss structure concepts, further promoting students' comfortability in solving truss structures. Within Session I, Aaron stated

The focus of this activity will be for enable students to witness and understand how the Method Sections applies to solving this specific problem and then to ultimately apply this understanding to how this solution process can connect with solving any generalized truss. I really want students to feel comfortable with this solution process to solve a truss because depending on the truss structure of interest, certain methods may be easier to use than others, which can make the solution process easier or harder depending on the method used.

Based on Aaron's session plans, his special attention to his students' academic development encourages students to enhance their application of course concepts in a low-stakes learning environment. In Session I, Aaron also displayed this pillar by providing opportunities for students to compare the Method of Sections and Joints to formulate their perceptions of each method. More importantly, Aaron indicated that this integration was intentional to enable students to critique the methods they utilize in their homework and examinations.

Table 6

Developmental Pillar Connections

Developmental Pillar Connections	
Pillar Description: It has multiple emphases, features, and effects. It simultaneously addresses development of academic, psychological, emotional, social, moral, political, and cultural skills; it cultivates school success without compromising or constraining students' ethnic identity and cultural affiliation. In fact, it develops competence, confidence, and efficacy.	
Connected Leadership Competency	Subunit Description
Effective Communication (EC1)	Learn to successfully utilize the four facets of communication (verbal, non-verbal, listening, and written)
Effective Communication (EC2)	Establish rapport with students, peers, and supervisors to provide a welcoming, collaborative, and positive environment
Effective Communication (EC3)	Assess the situation, process the information, and respond appropriately
Effective Communication (EC4)	Adapt messaging to ensure clarity for the intended audience and context
Inclusion (IC1)	Understand how diverse perspectives, backgrounds, beliefs, cultures, and experiences can influence individuals and enhance a group's effectiveness
Inclusion (IC2)	Embrace opportunities to increase awareness of diversity and inclusion issues
Inclusion (IC3)	Recognize biases and reflect on how these biases impact behavior
Inclusion (IC4)	Interact and learn with diverse students, faculty, and staff
Inclusion (IC5)	Foster an environment in which people feel welcomed, values and sense of belonging
Reflective Problem-Solving (RPS1)	Engage in ongoing self-reflection to identify problems, challenges, and/or areas of growth
Reflective Problem-Solving (RPS2)	Develop awareness of how values and ethics influence decision-making
Reflective Problem-Solving (RPS3)	Employ critical, practical, and creative thinking skills to generate possible solutions or strategies for improvement
Reflective Problem-Solving (RPS4)	Use feedback to strengthen problem-solving skills
*Adapted from Gay's (2018) Pillars for Progress and the Academic Success Center's Leadership Competencies	

Amira. Evident in Amira's session plans is her integration of instructional practices that demonstrates concern for students' development of academic skills. Along with students' creation of summary sheets in Session I, Amira provided opportunities for students to work collaboratively while serving group roles. In particular, the group roles enabled students to rotate in demonstrating their skills in chemistry problem-solving. For instance, one role involved the group member connecting problems to the course material found in their homework, lectures, or the textbook, which Amira hoped to be supportive of in their upcoming open note exam. A second role involved checking in with peers to ensure group members felt comfortable with the material. Lastly, the third role involved the group members listing the remaining questions the group had and the concepts they wanted to explore. These roles connect to the developmental pillar as Amira plans to support students to become conquerors in their learning.

Ayesha. In Ayesha's session plans, it is evident that she utilized instructional practices that demonstrated concern for students' development of academic skills across Sessions I, II, and III. For instance, in Session I, Ayesha tasked students with ranking a molecule set according to the number of particles per mole and assessing other groups' problem-solving. In Session III, students are instructed to list the rules for the collision theory and include examples and exceptions to the

theory. Both planned learning activities connect to the developmental pillar because students' skillsets are enhanced to approach more complex tasks.

Hailey. Hailey's Session plans also demonstrate her concern for students' development of academic skills. Such activities as having students create their instantaneous rates of change problems (Session I) show that Hailey wanted her students to enhance their study skills in developing their problems. In Session II, she also provided students with a buffet of problem types to be autonomous and choose their paths.

Across Participants. Based on their instructional planning, participants' integration of the developmental pillar was evident and connected firmly to their use of instructional strategies that encouraged learners to become empowered in their learning. All participants encouraged students to reflect on their overall course or recent assessment progress. Though the participants focused more on the academic dimension of the developmental pillar, it is identifiable that other dimensions connect to their use of instructional strategies, such as psychological, emotional, and social skills. For instance, Aaron's strategy of having students reflect on their course goals and return to these goals throughout the semester demonstrated his concern for students' well-being. Because of the collaborative nature of the SI Program, it was also identifiable that, across participants, the developmental pillar was reinforced by social skills as students worked in pairs or groups throughout learning sessions. The participants' use of this pillar emphasized the importance of considering students' needs. This pillar acknowledged that students have multiple needs and tend to overlap even in their learning experience.

Community Building Pillar

Background. According to Gay's (2018), integration of the community building pillar represents the acknowledgment of instructors' establishment of a learning environment that promotes a connecting bond and a sense of togetherness for students in their learning process. Table 7 detailed the community building pillar's leadership competencies and CRT practices.

Table 7

Community Building Pillar Connections

Community Building Pillar Connections	
Pillar Description: It cultivates an ethos of academic success as well as a sense of community, camaraderie, kindredness, and reciprocity among students who work collaboratively for their mutual personal wellbeing and academic achievement.	
Connected Leadership Competency	Subunit Description
Effective Communication (EC1)	Learn to successfully utilize the four facets of communication (verbal, non-verbal, listening, and written)
Effective Communication (EC2)	Establish rapport with students, peers, and supervisors to provide a welcoming, collaborative, and positive environment
Effective Communication (EC3)	Assess the situation, process the information, and respond appropriately
Effective Communication (EC4)	Adapt messaging to ensure clarity for the intended audience and context
Inclusion (IC1)	Understand how diverse perspectives, backgrounds, beliefs, cultures, and experiences can influence individuals and enhance a group's effectiveness
Inclusion (IC2)	Embrace opportunities to increase awareness of diversity and inclusion issues
Inclusion (IC3)	Recognize biases and reflect on how these biases impact behavior
Inclusion (IC4)	Interact and learn with diverse students, faculty, and staff
Inclusion (IC5)	Foster an environment in which people feel welcomed, values and sense of belonging
Reflective Problem-Solving (RPS1)	Engage in ongoing self-reflection to identify problems, challenges, and/or areas of growth
Reflective Problem-Solving (RPS3)	Employ critical, practical, and creative thinking skills to generate possible solutions or strategies for improvement
Reflective Problem-Solving (RPS4)	Use feedback to strengthen problem-solving skills
*Adapted from Gay's (2018) Pillars for Progress and the Academic Success Center's Leadership Competencies	

Community Building Results. Each data source included varying levels of the developmental pillar. For a frame of reference, an example of the community building pillar is promoting collaborative and cooperative learning in the SI learning session.

Aaron. Evident in Aaron's session plans is his integration of instructional practices that demonstrates community building as students engage in challenging course concepts. Aaron integrated course goal reflection throughout his session plans and encouraged students to share beneficial study strategies. Another way that Aaron integrates community building is through collaboration, in which it is planned for students to work together as a group to solve an example revolving around pressure vessel stress. These strategies are connected to community building as they both focus on the collaborative nature of learning.

Amira. Evident in Amira's session plans is her integration of instructional practices that demonstrates community building as students engage in challenging course concepts. For instance, in Session I, it is planned for students to engage in small groups to create problems to quiz other small groups collaboratively. In this learning activity, it is identifiable that community building connects to the developmental pillar of encouraging students to feel empowered in their learning. In other ways, Amira utilized think-pair-share strategies in Session III, further promoting opportunities for students to share their ideas for electrolyte and non-electrolyte solutions.

Ayesha. Ayesha's session plans identify her integrating instructional practices that demonstrate community building within her chemistry learning sessions. One strategy that she emphasized is having students serve as group members and representatives of a team. For instance, in Session II, Ayesha had students complete practice problems in small groups. Upon completion of the practice problems, one student from each group would serve as the group representative to convey the group's rationale to the whole group. In another way, in Session III, Ayesha had students work collaboratively to analyze the graphical form of rate laws. Students planned to alternate completing parts of this learning activity with their group members to resemble a relay race.

Hailey. Throughout Hailey's session plans, she utilized instructional practices demonstrating community building for her mathematics learning sessions. She used pair and small group, collaborative approaches for her learning activities. For instance, her Session I main learning activity allowed small groups to determine which problems they would prefer to prioritize for that session time. Hailey's rationale was for students to assess their individual and group's comfort with problem types and prioritize enhancing their knowledge and application of the selected problems. Similarly, Hailey also facilitated a clear and muddy closing activity, in which students discussed in their small group topics that were comprehensible and topics of concern and presented the topics on a Zoom whiteboard.

Across Participants. Given the collaborative nature of the SI program, it is identifiable that all participants integrated instructional practices that reinforced the community-building pillar. Participants encouraged and positioned students to be transparent and capable in their knowledge and application levels were made apparent in the instructional planning and were facilitated in small groups in Zoom breakout rooms. Cases also tended to incorporate digital tools, such as the Zoom whiteboard feature, polling tools (i.e., Mentimeter), and real-time collaborative webpages (i.e., Padlet) to continue to make their learning sessions interactive in an online learning space. For instance, Aaron and Ayesha utilized Padlet, a web 2.0 tool, as an interactive way to engage the students and document their learning in a central location. Figure 6 shows how Aaron used Padlet in his Session I on trusses.

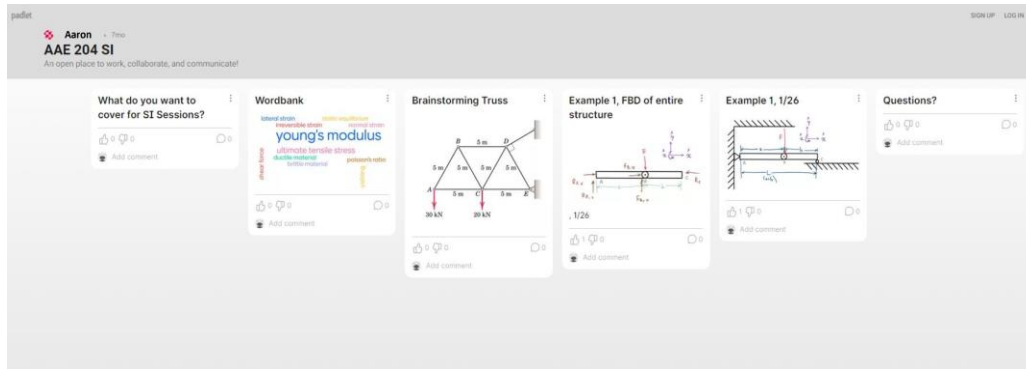


Figure 6

Digital Tool Integration Example

The participants' use of this pillar emphasized the importance of providing students with opportunities to connect and learn from fellow students as conduits of their learning experience in historically challenging courses.

Multidimensional Pillar

Background. According to Gay's (2018), integration of the *multidimensional* pillar represents the instructor's consideration of "achievement to be multidimensional and uses multifocal indicators in assessing the levels of accomplishment for students" (p.292). In particular, the achievement of ethnically diverse students includes their "preferred learning, performance, participation, and communication styles" (p.292). Table 8 details the multidimensional pillar's leadership competencies and CRT practices.

Multidimensional Results. Each data source included varying levels of the developmental pillar. For a frame of reference, an example of the multidimensional pillar is leaders' recognition that there are multiple ways to assess students. Therefore, they may utilize various assessment strategies to increase students' confidence and demonstrate the course material.

Aaron. Evident in Aaron's session plans is his integration of instructional practices that demonstrates multiple ways to assess his students. In more straightforward ways, Aaron assesses his learners' comprehension of course concepts in Session I by having students contribute to their learning by sharing information on or making inquiries about flight operation support (FOS) problems. He also utilized a similar strategy in Session III by allowing students to brainstorm what

components they feel are necessary to solve a beam deflection problem. These planned strategies help guide his next steps because he checks for understanding. In Session II, Aaron demonstrated the multidimensional pillar by having students complete a centroid and moment problem while acknowledging that this problem is appropriate since students should be familiar with such problems. However, he extended this problem type to introduce triangle distribution. Session III utilized an analysis approach to assess students' development in analyzing a modeled aircraft propeller while considering the stresses. Both approaches highlight Aaron's varied approach to evaluating students' knowledge and application.

Table 8

Multidimensional Pillar Connections

Multidimensional Pillar Connections	
Pillar Description: It considers achievement to be multidimensional and uses multifocal indicators in assessing the levels of accomplishment for students. Both the acquisition and demonstration of the various dimensions of achievements are synchronized with different ethnic groups' preferred learning, performance, participation, and communication styles.	
Connected Leadership Competency	Subunit Description
Effective Communication (EC1)	Learn to successfully utilize the four facets of communication (verbal, non-verbal, listening, and written)
Effective Communication (EC2)	Establish rapport with students, peers, and supervisors to provide a welcoming, collaborative, and positive environment
Effective Communication (EC3)	Assess the situation, process the information, and respond appropriately
Effective Communication (EC4)	Adapt messaging to ensure clarity for the intended audience and context
Inclusion (IC1)	Understand how diverse perspectives, backgrounds, beliefs, cultures, and experiences can influence individuals and enhance a group's effectiveness
Inclusion (IC2)	Embrace opportunities to increase awareness of diversity and inclusion issues
Inclusion (IC4)	Interact and learn with diverse students, faculty, and staff
Inclusion (IC5)	Foster an environment in which people feel welcomed, values and sense of belonging
Reflective Problem-Solving (RPS1)	Engage in ongoing self-reflection to identify problems, challenges, and/or areas of growth
Reflective Problem-Solving (RPS3)	Employ critical, practical, and creative thinking skills to generate possible solutions or strategies for improvement
Reflective Problem-Solving (RPS4)	Use feedback to strengthen problem-solving skills
*Adapted from Gay's (2018) Pillars for Progress and the Academic Success Center's Leadership Competencies	

Amira. Throughout Amira's session plans, she utilized characteristics from the multidimensional pillar. For instance, in Session I, students are instructed to work in small groups and given roles, which they alternate. One of the roles involves the student assessing the work of their fellow group members and their comfortability with the topic. Another role in this learning activity involves listing the group's remaining questions about the concepts. Both tasks encourage students to demonstrate their knowledge of concepts and analyze the completed work for more refinement. Another way Amira demonstrated this pillar is by having groups draw Lewis structures

and one exception together in Zoom breakout rooms, followed by sharing their explanation with the whole group. It is identifiable that Amira encouraged assessments to be completed by fellow students to strengthen their knowledge and application.

Ayesha. Signaling multidimensional pillar characteristics, Ayesha integrates multiple assessment forms for students in her chemistry learning sessions. For instance, in Session I, Ayesha planned for students to distinguish between acids and bases through a small group activity that characterizes a list of common acids and bases. Groups discussed the common acids and bases, patterns they noticed, and typical characteristics of acids and bases. This approach demonstrates this pillar because students are encouraged to pull from their knowledge of the course material and their ability to correctly associate aspects of acids and bases. Aside from practice problems, Ayesha sought to gamify the learning activity. Her Session III included a relay race for students to conduct an analysis and demonstrate comprehension of the graphical form of rate laws as the group members alternated between completing the given problems. Ayesha planned for students to label a given set of reactions with the activation energy, intermediate, and catalyst.

Hailey. Hailey had her students demonstrate their knowledge and comprehension through problem-solving in her mathematics learning sessions. For instance, she had them draw upon their prior knowledge of instantaneous rates of change to create their problems in groups for other groups to complete. The multidimensional pillar characteristics were also visible in Hailey's integration of having students explain their rationale in their problem-solving.

Across Participants. Given the difficulty of the courses associated with the SI program, it is noticeable that all cases integrated instructional practices that reinforced the multidimensional pillar. All participants included a sense of responsibility on the student in a collaborative way, further communicating their knowledge and application of the course material. For instance, in Hailey's Session I, she has small groups solve their instantaneous rate of change problem and explain their rationale to the whole group. Similarly, Ayesha instructed students to communicate their understanding of the acid and base theories to the whole group. Aaron integrated this form of responsibility in his Session II plan by having a student serve as a scribe as other group members instruct the scribe on how to solve shear force and bending moment problems. Amira's version of responsibility enabled students in Session III to engage in individual thought, followed by grouping with a partner (think-pair-share) to discuss their ideas for electrolyte and non-electrolyte. This process also included having students discuss solutions, molarity calculations, and partial

pressures using Raolut's formula applications. Essentially, these instructional strategies assess students' learning and support students in gaining confidence in discussing the course material. The participants' use of this pillar emphasized the importance of providing diverse assessment forms to strengthen their knowledge and application of course concepts.

Self-awareness Pillar

Background. According to Gay's (2018), integration of the *self-awareness* pillar represents the instructor's support in encouraging students to become self-aware and assess their learning process. Table 9 details the self-awareness pillar's leadership competencies and CRT practices.

Table 9

Self-awareness Pillar Connections

Self-awareness Pillar Connections	
Pillar Description: It engages students perpetually in processes of self-knowing and self-assessment.	
Connected Leadership Competency	Subunit Description
Inclusion (IC2)	Embrace opportunities to increase awareness of diversity and inclusion issues
Inclusion (IC3)	Recognize biases and reflect on how these biases impact behavior
Reflective Problem-Solving (RPS1)	Engage in ongoing self-reflection to identify problems, challenges, and/or areas of growth
Reflective Problem-Solving (RPS4)	Use feedback to strengthen problem-solving skills
*Adapted from Gay's (2018) Pillars for Progress and the Academic Success Center's Leadership Competencies	

Self-awareness Results. Each data source included varying levels of the self-awareness pillar. For a frame of reference, an example of the self-awareness pillar is providing students an opportunity to evaluate their knowledge and application and assess aspects they need to strengthen.

Aaron. Evident in Aaron's session plans is his integration of instructional practices that demonstrates prompting students to become experts in their learning. For instance, in Session I, Aaron provides students with an opportunity to develop their perceptions of the Method of Sections and the Method of Joints. He wanted students to determine the most advantageous method for completing homework and examinations. In this approach, Aaron demonstrated the self-awareness pillar because he wants students to consider their knowledge of both practices and assess their application of the methods that will appropriately answer the given problems.

Compared to other participants, Aaron's integration of goal setting for the course closely aligns with this pillar as students can assess their progress and refine their approach to the course demands as necessary.

Amira. Amira's session plans integrate self-awareness to encourage students to be active in their learning process. For instance, in Session I, students are prompted to share their main takeaways from the learning session and convey these concepts to the larger group. Session III also allowed students to be self-aware of content critical to their upcoming exams. Such self-awareness strategies positioned students to be sensitive to their academic strengths and opportunities for growth.

Ayesha. Within Ayesha's session plans, she maintained providing opportunities for students to be transparent about their comfortability with the course material. For instance, in Session I, she has students rank the concepts on a scale (1-10) to reflect their comfortability on the discussed topics, like having students anonymously write challenging topics using the Mentimeter tool. Essentially, Ayesha places her students in a position to acknowledge their academic concerns, and she utilizes this as data for her instructional planning.

Hailey. Hailey's session plans encouraged students to be self-aware in their learning. For instance, in Session II, Hailey provided students with various math problems most likely on their upcoming examination. Students, in groups, are instructed to select problems to solve. This strategy encourages self-awareness since students have the autonomy to decide their path and prioritize their remaining academic needs. In Session III, she allowed students to express their feelings about their exam results and discuss improvements they could make. Additionally, like Ayesha, she encouraged students to write down their remaining concerning topics on the Zoom whiteboard as a closing activity.

Across Participants. Given the nature of the SI model, there was an expectation that the leaders would intentionally include opportunities for students to assess their knowledge. Across participants, participants had multiple opportunities for students to become more confident in their understanding and application, further promoting the utilization of self-assessment skills in their studying sessions. Most identifiable were the participants' use of vulnerability or transparency on an individual and group level to better acknowledge their academic needs. This transparency is evident in Hailey's Session II plan, where she instructed students to write their desired exam grades

and then list helpful strategies to achieve such goals. This strategy allows students to consider their progress in their coursework and how they need to refine their studying strategies.

Additionally, it could also serve as a form of inspiration to encourage students to establish goals necessary to strive towards their goals. It was also evident that the participants tended to use such strategies for opening and closing learning activities as they were short segments to promote action plans. The participants' use of this pillar emphasized the importance of students being aware of their knowledge and application in historically challenging courses.

Envision Pillar

Background. According to Gay's (2018), integration of the *envision* pillar represents instructors' development of students' skills to help them imagine and "construct more desirable futures and to be integral, active, participants in these creations" (p.292). This pillar connected to the BAC's leadership competencies, which focused on reflective problem-solving, effective communication, and inclusion. Table 10 detailed the leadership competency subunits matched by the researcher and external auditor to the envision pillar considering the goals of the pillar and the subunit.

Table 10

Envision Pillar Connections

<i>Envision Pillar Connections</i>	
Pillar Description: It teaches students to imagine and develop the skills needed to construct more desirable futures and to be integral, active participants in these creations.	
Connected Leadership Competency	Subunit Description
Effective Communication (EC1)	Learn to successfully utilize the four facets of communication (verbal, non-verbal, listening, and written)
Effective Communication (EC4)	Adapt messaging to ensure clarity for the intended audience and context
Inclusion (IC1)	Understand how diverse perspectives, backgrounds, beliefs, cultures, and experiences can influence individuals and enhance a group's effectiveness
Inclusion (IC2)	Embrace opportunities to increase awareness of diversity and inclusion issues
Inclusion (IC3)	Recognize biases and reflect on how these biases impact behavior
Inclusion (IC5)	Foster an environment in which people feel welcomed, values and sense of belonging
Reflective Problem-Solving (RPS2)	Develop awareness of how values and ethics influence decision-making
Reflective Problem-Solving (RPS3)	Employ critical, practical, and creative thinking skills to generate possible solutions or strategies for improvement
*Adapted from Gay's (2018) Pillars for Progress and the Academic Success Center's Leadership Competencies	

Envision Results. Each data source included varying levels of the envision pillar. For a frame of reference, an example of the envision pillar is providing students with opportunities to become an expert in their learning experience.

Aaron. Aaron's integration of the envision pillar comprised students being considered an expert in their course material. In Session I, Aaron acknowledged that students requested challenging problems that would be difficult or unfamiliar as they prepared for their upcoming examination. In this regard, Aaron had students complete a problem on 3D truss and displacements to increase the level of complexity for students' academic needs and intrinsic motivation. As mentioned, Aaron perceived students would need appropriate decision-making in the methods they used on the examination problem. Hence, he supported students' abilities by allowing them to comprehend the Methods of Sections and the Method of Joints and determining which is better for the given problems. In other ways, his use of refinement of course goals also demonstrated his integration of the envision pillar to see themselves as capable of growing in their skills.

Amira. Noticeable in Amira's instructional planning is her integration of the envision pillar, supporting students in becoming efficacious in their course material. Her Session I plan demonstrated her desire to have students have a self-made study guide to appropriately prepare for their upcoming examinations. This session plan also involved students alternating roles that promoted their expertise in the course material. For instance, role one maintains students being resourceful in connecting the given problems to course materials, such as homework, lecture notes, and textbook readings. Role two encouraged students to become experts in the material by using their knowledge to assess their group member's work. Additionally, role three positions students to question potential obstacles in their group's work. Amira's planned strategies encourage students to envision themselves as capable of succeeding in the course material.

Ayesha. Ayesha's integration of the envision pillar demonstrated her desire for students to become experts in their knowledge and application. Her Session I plan for involved chemistry students ranking the number of particles per mole and submitting their work to other groups for peer review. Upon reviewing a group's work, the group explained their group's rationale. Though it was unclear if the group explaining their reasoning was the group that initially completed the work or assessed the work, this strategy connects to the envision pillar, helping students view themselves as conquerors of this course material.

Hailey. Hailey's integration of the envision pillar demonstrated her desire for students to become creators in their learning process. For instance, in Session I, she provided students opportunities to consider their knowledge and develop their instantaneous rate of change problems. Other small groups later solved these problems. Additionally, in Session II, she had the students write down their desired exam grade and strategies they could implement to achieve that exam grade goal. These strategies encourage students to view themselves as one capable of setting a goal and creating an action plan to inspire academic success.

Across Participants. Identifiable across participants was their attention to supporting the students in and through academic obstacles related to the envision pillar. Participants were more willing to integrate instructional strategies that allowed students to become more proactive in their learning experience, such as taking on the role of an expert. For instance, in Session III, Aaron cautiously considered the students' academic well-being by having students brainstorm intermediate steps for beam deflection problems. His instructional concern was to support students in avoiding being overwhelmed with multistep problems. This planned strategy benefits students' learning and can support their rationale for their homework and examinations. In another way, Amira helps students envision chemistry's connections to their daily life using analogies. Noticeable about this strategy is its applicability in many course subjects. Hence, the suitability of this strategy is a foundational course for students from diverse disciplines. The participants' use of this pillar emphasized the importance of students imagining their capabilities despite academic rigor.

Section 4: Integration and Interpretation of Data Strands

The investigation of this study was driven by the research goals of assessing and understanding SI leaders' intercultural competence as it relates to their commitment to diversity and inclusion within their leadership roles. The selected methodological approach of a sequential explanatory study supported the thoughtful inclusion and integration of both quantitative and qualitative strands (quan → QUAL). While prioritizing the qualitative data, the quantitative data (IDI scores) served as a precursor and navigation tool for exploring the qualitative data. More importantly, the interaction of these strands remains open for discussion to answer this study's objectives appropriately. Exploration of the findings is completed through the incorporation of joint displays, which highlight the analytic and interpretation process.

The first finding in this integration process is that the SI leaders measured intercultural competence and aligned the participants' lived experiences. Quantitatively, it is evident that the SI leaders overestimated their intercultural competence. The group perceived that they were in *Acceptance* when they instead had a measured Developmental Orientation of *Minimization*. Qualitatively, the data of participants' lived experiences provided more perspective on the participants' intercultural competence that would have been overlooked solely using the leaders' IDI scores. In Figures 7 and 8, the joint display provides an example of participants' patterns of alignment and misalignment to their measured IDI score. Vividly, participants spoke more from their Perceived Orientation (*Acceptance*) while discussing their instructional planning or leadership capacities. However, their personal experiences spoke more about their Developmental Orientation. On occasions, participants also spoke from their IDI's trailing orientation, as shown in Figure 6 and 7, which is a Developmental Orientation lower than their measured Developmental Orientation.

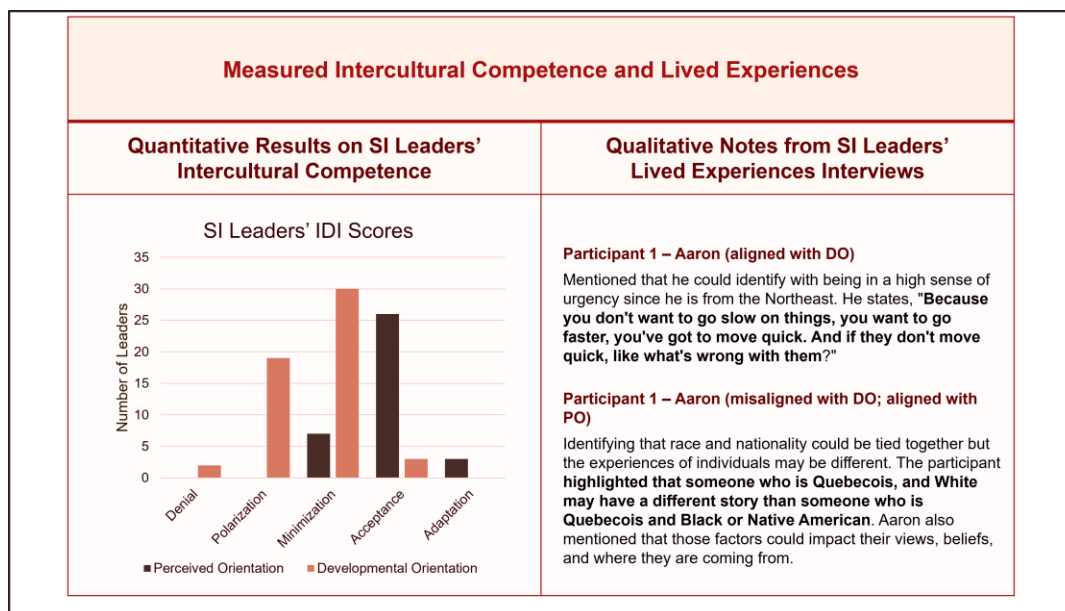


Figure 7

Measured Intercultural Competence and Lived Experiences

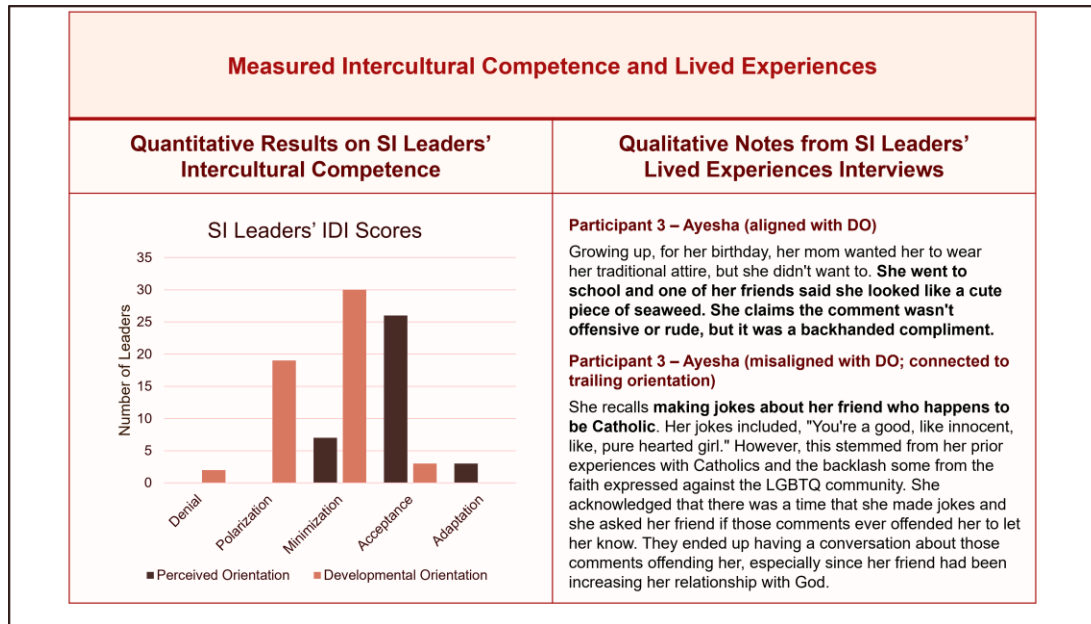


Figure 8
Measured Intercultural Competence and Lived Experiences

The second notable finding related to this mixed-methods process is the potential influence of educational impact on the participants' intercultural competence. In Figure 8, the joint display highlights the SI leaders' involvement in DEI-related or social justice student organizations. Sixty-five percent of leaders indicated they were not involved in an organization focused on DEI or social justice. Incorporated in this joint display are qualitative notes showing the potential impact the participants' experiences in co-curricular programming have had on their collegiate experiences.

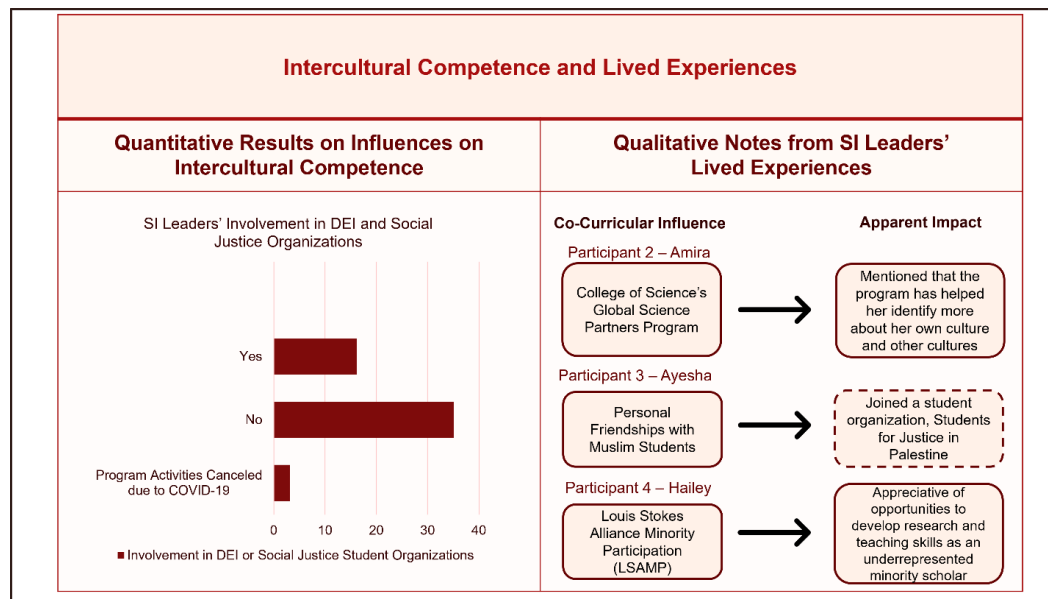


Figure 9

Influences on Intercultural Competence and Co-curricular Influences

Notice that Ayesha's experiences with Muslim students influenced her to engage in advocacy in a student organization. In contrast, other participants spoke more about the impact they received while in a co-curricular program. Figure 10 highlights the potential influence university curricula had on the participants' intercultural competence. Qualitatively, excerpts included takeaways both Aaron and Amira experienced while in their courses related to DEI or social justice.

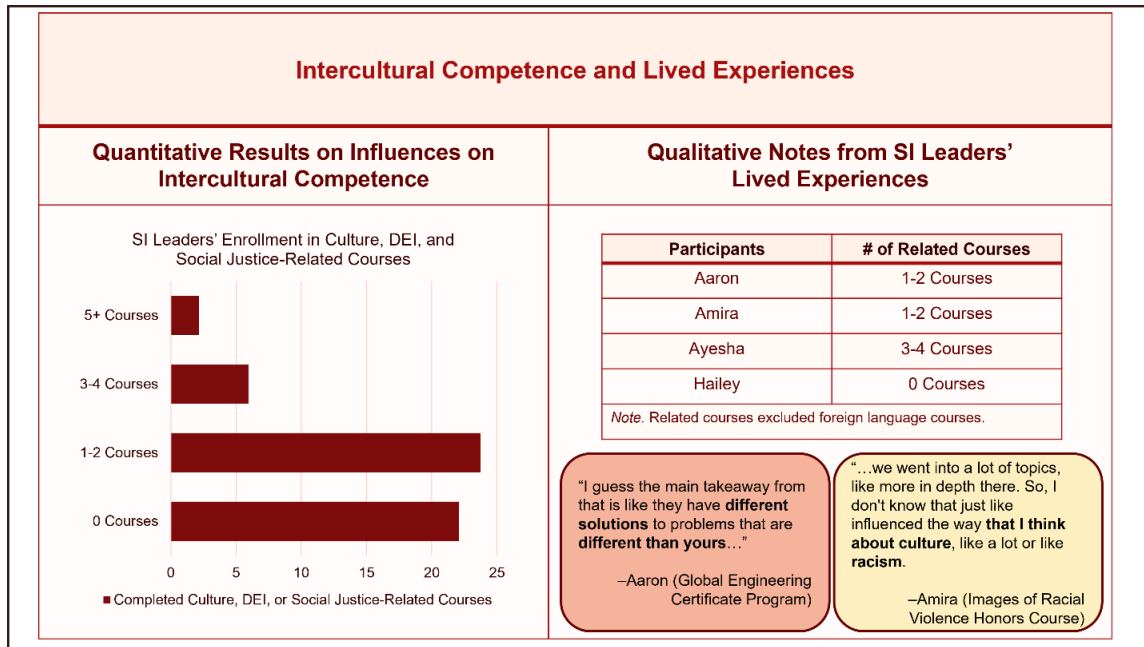


Figure 10
Influences on Intercultural Competence and Lived Experiences

The third finding connects the intercultural competence of SI leaders and their culturally responsive instructional practices. Based on participants' perceived integration of Gay's (2018) culturally responsive teaching pillars, it is evident that the participants reasonably integrate the six pillars (i.e., benefactor, community building, developmental, envision, multidimensional, and self-awareness) into their instructional planning. Even without training in culturally responsive teaching, the participants prominently focus on collaborative approaches that strengthen the academic success of student attendees. Figures 11 and 12 quantitatively display the IDI scores and acknowledge the strengths and developmental opportunities the SI leaders have with a measured DO of *Minimization*. Qualitatively, this joint display includes instructional strategies the participants incorporated into their instructional planning.

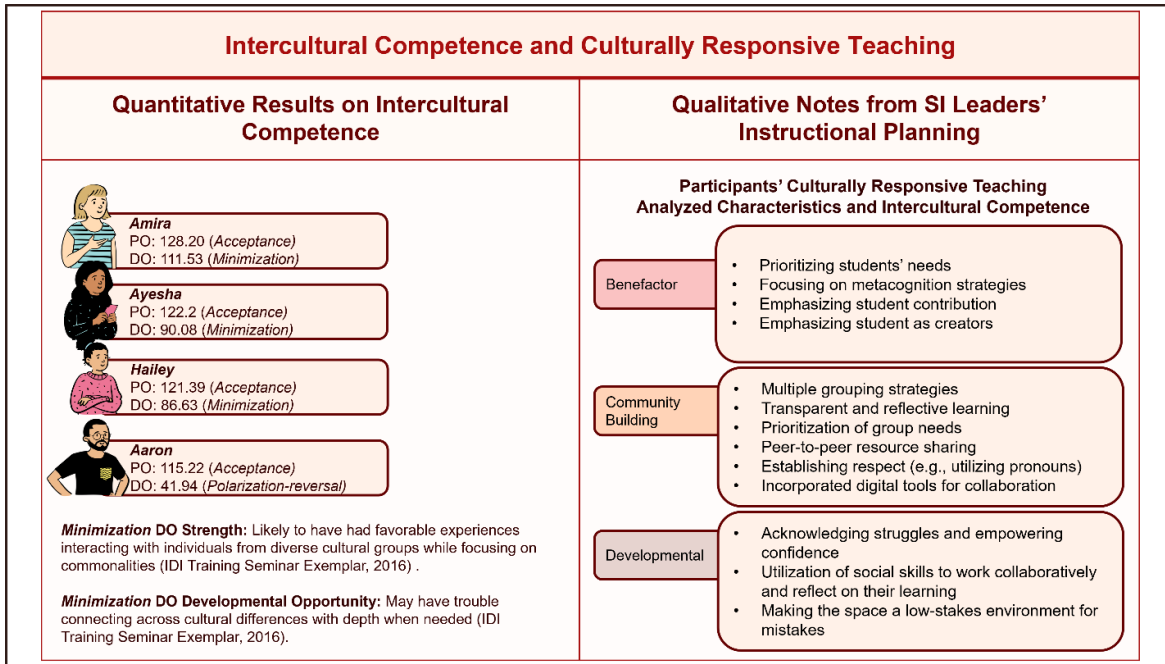


Figure 11
Measured Intercultural Competence and Culturally Responsive Teaching Instructional Planning

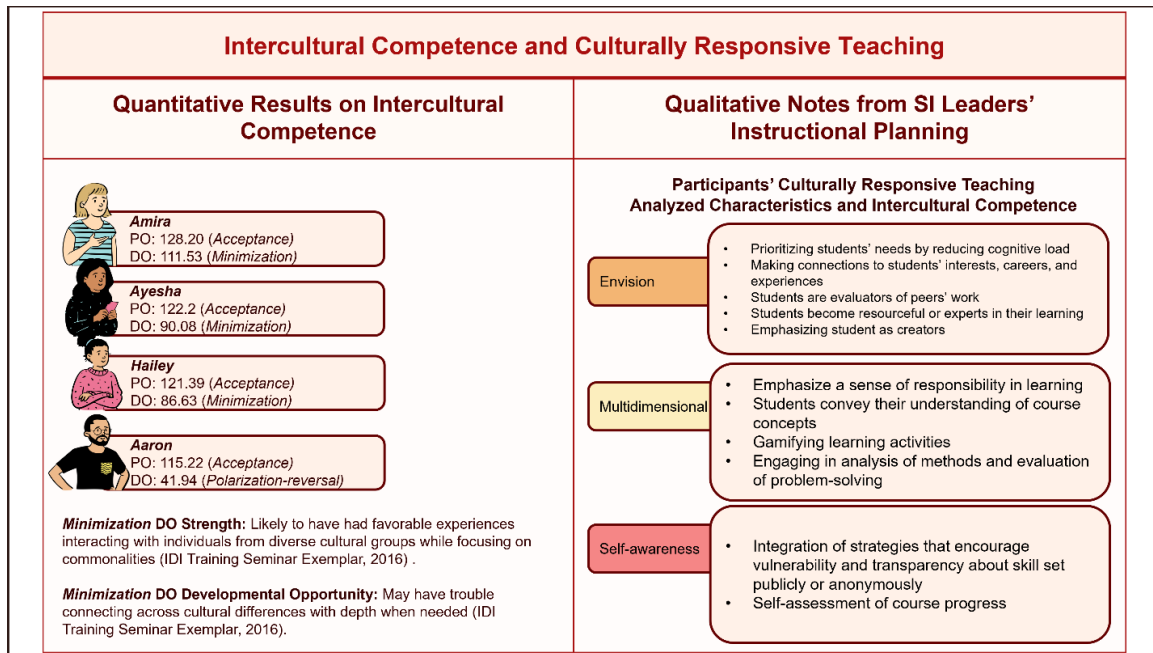


Figure 12
Measured Intercultural Competence and Culturally Responsive Teaching Instructional Planning

Overall, the mentioned joint displays were critical in analyzing and interpreting the data strands. Additionally, the results of this study highlighted the quantitative and qualitative objectives of this study. Further discussion of the results is presented in Chapter 5 as I considered the implications and future directions of this study based on the discovered results.

CHAPTER 5. DISCUSSION

This mixed-methods study aimed to assess the intercultural competence and culturally responsive instructional practices of undergraduate student leaders involved in the Supplemental Instruction (SI) Program. Quantitatively, an evaluation of leaders' intercultural competence was completed using the Intercultural Development Inventory (IDI). I also examined students' lived experiences and evaluated leaders' perceived integration of culturally responsive instructional practices. This chapter explores the most critical points highlighted in the results chapter and connects them to relevant literature.

RQ 1 - To what degree are SI leaders interculturally competent?

Given the IDI results, it is evident that the SI leaders overestimated their intercultural competence. The leaders had a Perceived Orientation of *Acceptance* and a Developmental Orientation of *Minimization*. According to the completed independent sample t-test to assess demographic variables (e.g., gender identity and nationality), there was no statistical significance which suggested that these variables are not determinants of participants' intercultural competence. Similarly, Bagwe and Haskollar (2020) found similar findings in their critical, systematic literature review that sought to assess literature that focused on demographic variables as influencers.

Individuals with a *Minimization* Developmental Orientation tended to focus on cultural similarities and overlook cultural differences. Other scholars have documented similar findings of overestimation among their undergraduate students (Karcher et al., 2013; Harder, 2018). Such empirical data is valuable to better understand participants' intercultural attitudes and worldviews. The following two sections explored potential influences connecting to participants' overestimating their intercultural attitudes and worldviews.

Overconfidence

Hammer (2021) indicated that individuals might falsely believe they are more competent in aspects with a lower competence level, the Dunning-Kruger effect. Metacognitive skills empower individuals to "know how well one is performing, when one is likely to be accurate in

judgment, and when one is likely to be in error" (Kruger & Dunning, 1999, p.1121; Cherry, 2021). The Dunning-Kruger effect maintains that without necessary metacognitive skills, individuals naturally tend to fall victim to believing they are more competent in areas because they may possess little understanding (Krueger & Dunning, 1999). In the field of intercultural intelligence, Ang et al. (2007) also promotes such metacognitive skills and refer to them as the "higher-order mental capability to think about personal thought processes, anticipate cultural preferences of others and adjust mental models during and after intercultural experiences" (p.341). Such skills are necessary as individuals must be able to shift from one context to the next while engaging appropriately.

Dunning (2011) elaborated that individuals' unawareness or ignorance about their incompetence can happen because they a) may fall prey to unrevealed unknowns, b) have misconceptions that may seem accurate, and c) may use prior knowledge that may be irrelevant to the topic at hand. It is plausible that undergraduate students may believe they are more interculturally competent because of varying levels of exposure, such as interacting with culturally diverse others, completing coursework on multicultural teams, engaging in dialogues, or completing research related to diversity and inclusion. Even so, students may lack the necessary knowledge, attitudes, and skills to develop their intercultural competence because they lack challenges past their comfort levels, and the timeframes of interacting with diverse others are fragmented. They have not acquired the prerequisite intercultural skills. However, Liang and Scharfner (2022) mentioned that presence with diverse others, such as sharing fragmented moments in multicultural teams, does not necessarily promote intercultural competence. If not facilitated well, multicultural teams can still breed stereotypical tendencies. Instead, Ceo-DiFrancesco et al. (2020) mentioned that one's intercultural competence development occurs through critical reflective opportunities as it can be transformative, "an expansion of mindset and the creation of new frames of reference" (p. 8). Such experiences can help develop students' intercultural competence to be global citizens.

The Nature of STEM

Another critical point in this discussion is that the interview participants (Aaron, Amira, Ayesha, and Hailey) represent a sample of the SI population in this context, specifically from STEM disciplines. As mentioned, the Supplemental Instruction Program, a globally used academic

support program, intentionally supports students in historically challenging courses specific to the partnering institution. In this context, the University emphasizes STEM-based fields (Science, Technology, Engineering, and Mathematics), meaning the SI courses are all STEM-based (e.g., biology, calculus, and chemistry). This emphasis on STEM-based fields aligns with the United States' initiatives to increase the number of STEM scholars to further compete with other countries (Desilver, 2017; Athanasia & Cota, 2022). Despite much research on improving the technical skillsets of STEM scholars, there is limited research on intercultural competence development, specifically in these fields as it pertains to higher education.

Acknowledging this limitation of intercultural competence in the body of research for STEM, Lucietto and Russell (2020) conducted a meta-analysis on STEM and non-STEM students enrolled at Purdue University. Essential to the researchers was capturing students' measured intercultural competence prior to their involvement in intervention programming (e.g., study abroad and curricular and co-curricular programming). While comparing their preliminary Purdue data to prior analyzed research, the authors found that STEM undergraduates were significantly lower in their intercultural competence compared to non-STEM students. The authors consider the following as potential inhibitors to the students' low intercultural competence scores: a) rigorous course schedule, b) STEM students' interest in course electives related to culture or such cultural experiences, c) STEM curricula that do not consider and intentionally integrate intercultural competence development, and the d) the background of the students. The authors' recent research aligns well with the present investigation as participants of this study also acknowledged whether they thought their STEM courses addressed cultural diversity in learning, stating

Do I think it should be represented and should play a fundamental role? Yeah, I do. But do I think it does? No, I don't. –Aaron, Aerospace and Aeronautical Engineering major

One thing I've noticed like in my STEM classes is sometimes it's a little hard because like outside of STEM, like in Spanish and stuff it's a lot easier. Like we talk about cultures and we talk about other people and we talk about relationships, but then I'll go through a STEM lecture and it's kind of like, we just do problems, you know what I mean? And so it could even be that way in my sessions a little bit. Like sometimes I feel like I need to focus more on getting to know my students as people too, and like offering that outlet because, you know, I mean, a lot of times you're just sort of doing math and like problems and you just, there just isn't like a space, definitely my STEM classes at Purdue, there just isn't as much of a space to talk about those ideas. –Amira, Microbiology major

I would say, no. Maybe one or two professors through all the ones I have taken. But in general, no. –Hailey

The statements indicated participants' views on the lack of cultural diversity integration in their learning experiences. It is possible that the leaders' STEM learning experiences, which are limited in cultural diversity, have impacted their instructional practice for the STEM-based sessions. Even outside of traditional classroom learning, Ayesha highlighted that the lack of intercultural competence in STEM could still threaten marginalized groups, such as women in STEM fields. The included statement reflected her conversation with her girlfriend after a team-based meeting for a STEM class assignment

Because sometimes she'll [Ayesha's girlfriend who is also in STEM] come home and she'll be like, Ayesha, you won't believe what just happened today. This man sat down with me for like 20 minutes and tried to mansplain this thing to me. And it's just it frustrates me because, like I'm hearing these experiences through her, I'm hearing the frustration that she has and like I see how this affects her and how it affects her belief in her intelligence, because she is a very, very intelligent, hard working person. And for a man to be talking to her like that just upsets me on so many different levels.—Ayesha, Neurobiology and Physiology major

Considering Ayesha's reflection of occurrences of mansplaining and other unmentioned forms of disregard calls attention to needed intercultural competence development on the collegiate level. The objectives of this development should be to help the learner ultimately unpack their sociocultural identity and empower them to grow in cultural self-awareness, culture-general, and culture-specific knowledge. Furthermore, such development should also support leaders in acquiring and transferring competent intercultural skills in their interactions and decision-making. Considering the nature of STEM, students' perceptions, and the growth opportunities, this provides perspective on why students remain uncertain in their leadership to enact interculturally competent behaviors.

RQ 2 - What experiences have influenced SI leaders' intercultural competence?

Programming

Meaningful to the participants' intercultural competence was their involvement in curricular and co-curricular programming related to diversity, equity, and inclusion (DEI). Such experiences supported understanding and engagement in dialogues and actions related to DEI. A prime example of these experiences' impact on students is Amira's acknowledgment of her limited

cultural self-awareness and recent development in understanding her White culture in her Global Science Partners Program.

As we consider the participants' perceived and Developmental Orientations, I found that participants often reflected on their Perceived Orientation, which was a higher intercultural competence level, to reflect a more culturally competent self. However, participants' attitudes, knowledge, and skills were not consistent with their Perceived Orientation, which connected to the occurrences of alignment and misalignment in the qualitative findings. This alignment suggested that participants have a gap in intercultural capabilities, which aligned with the emphasis on the Orientation Gap on the IDI assessment, indicating a value difference between one's perceived and Developmental Orientation. This discussion point is beneficial as it acknowledges the value and opportunities for growth in one's intercultural competence.

Scholars support the need to empower learners in their academic and professional goals through curricular and co-curricular programming (Dean, 2015; Pinto, 2018). Pinto (2018) conducted a study on higher education faculty perspectives of intercultural competence with findings that suggested undergraduate students need development in their intercultural competence to help address and uproot prejudice dispositions. The author stated that such opportunities could "...help them learn and reflect critically about their cultural positioning, beliefs, discourses, and values. So, academics believe that [ICC] enhances students' knowledge and understanding of other people and promotes self-knowledge and self-understanding" (p.143). Having faculty, administrators, and co-curricular programming that support students' growth in their ICC is an asset to ensuring students receive holistic support in their development in a collegiate context.

Knowledge and Comprehension

Participants' knowledge and comprehension of culture suggest a probable indicator of one's intercultural competence. Participants verbalized and expressed culture-specific knowledge in their appreciation for learning about other cultural groups. For some participants, it served as a motivator for their engagement in their curricular and co-curricular programming. An example of this motivation is Hailey's interactions with her multicultural lab mates as they gathered to share national dishes and experiences. Such forms of engagement benefit individuals because they learn and relearn cultural groups, especially since stereotypes about cultural groups are significantly perpetuated through mass media (Perception Institute, n.d.).

Another influencer of participants' intercultural competence was their cultural self-awareness. Cultural self-awareness plays a vital role in understanding self to understand others; valuing self to value others. Considering the participants' experiences, it is identifiable that their understanding of their culture impacts their motivation for engaging with diverse others. For instance, Ayesha expressed cultural self-awareness because of her bicultural experiences as an Asian Indian. She recalled acts of microaggression and stereotype threat as she engaged in external leadership responsibilities. The data suggested Ayesha struggled with stereotype threat, which Steele (1997) asserted is a harmful socio-psychological effect that can weigh on an individual because of society's stereotypical notions. For Ayesha, this stereotype threat extended to her self-identified sociocultural identity of being a Brown, Queer woman in STEM. Though the process of knowing one's culture is a continuous process, Ayesha's awareness is connected to her desire to advocate for others in her social justice organization. However, such a stereotype threat could affect her leadership role as an SI leader. At the same time, Aaron expressed more culture-specific knowledge through his experiences in his curricula programming. However, his inability to discuss his cultural experiences from his perspective demonstrated his limited cultural self-awareness.

Both cultural components are necessary to have a balanced understanding of culture and promote a depth in understanding of self and culturally diverse others. Engagement in opportunities that help challenge and foster culture-specific knowledge and cultural self-awareness empowers learners to see themselves and culturally diverse others as contributors. Student development theorist, Sanford (1996), conveyed the value and commitment higher education could have in supporting its scholars through balancing challenges and support. Harvey (2021) conveyed how challenges and supports are necessary for intercultural learning, stating

“...educators need to assess and be aware of the degree of challenge and anxiety that intercultural learning experiences (whether inside or outside the classroom) may produce for their students, and provide appropriate support and/or challenge to promote optimal learning.”

Such optimal learning in intercultural competence is necessary as students continue to engage in the interconnected world.

RQ 3 - How do SI leaders demonstrate the value of diversity and inclusion in their leadership practices?

Valuing diversity and inclusion is more than a conversation; it is also through action. However, one's engagement in diversity and inclusion could lack depth despite good intentions. Though the CRT was a newer concept to the participants, this evaluation revealed how participants valued diversity and inclusion through their image of an interculturally competent (ICC) SI leader and their intended instructional planning.

Image of an ICC SI Leader

Participants acknowledged the importance of SI learning sessions facilitated by an interculturally competent SI leader. They maintained that an interculturally competent SI leader's responsibility is to foster a welcoming and inclusive environment that affirms respect. A part of this aspect is considering the student attendees as assets to their learning environment. Participants deemed specific strategies beneficial in making the space more inclusive, such as including pronouns as name titles on the video conferencing platform, being considerate and welcoming to all students' voices, and being hyperaware of marginalized student populations (e.g., international students).

Additionally, participants indicated that an interculturally competent SI leader engages in reflexivity. Leaders should be strategic in their session activities and groupings to avoid student attendees overlooking diverse perspectives. Leaders should remain introspective to consider how they could better their professional practice in facilitation, such as acknowledging student populations that tend to be overlooked in online SI session scheduling (e.g., international students). Participants also indicated the importance of ICC SI leaders being capable of intervening to address intercultural sensitivity situations that may arise in learning sessions, which is discussed more in the leaders' prominent point of being uncertain in their leadership.

Uncertainty in Leadership

The results demonstrated that the participants desired to engage in interculturally appropriate decision-making. This desire is evident in their engagement in curricula and co-curricular programming, expression of reflexivity in professional and personal interactions, and

acknowledgment of cultural differences. However, participants' intercultural competence is an obstacle, limiting leaders' ability to enact interculturally competent decisions. Aaron's comment captures this point best as he stated

Yeah, I know there's differences and I know people are different, but what do I do about that? Like, I feel like that is a really big step to make. I don't understand that fully either. I try. But where...where do we go next from knowing that everybody's different and there's all these different identities and what can we do about it?

Aaron's statement raised concerns about leaders' current ability to integrate interculturally competent attitudes of *Acceptance* and *Adaptation*. These concerns are probable reasons why leaders may be hesitant in enacting ICC skills necessary to appropriately facilitate multicultural groups that engage in multicultural teams, such as intercultural conflict skills. Citing Ting-Toomey and Oetzel (2001), Ting-Toomey (2007) defined *intercultural conflict* as "the perceived or actual incompatibility of cultural values, norms, face orientations, goals, scarce resources, processes, and or outcomes in a face-to-face (or mediated) context" (p.7). As we grow into a more multicultural society, we will most likely encounter intercultural conflict with others. Ting-Toomey (2001) emphasized that intercultural communication skills are required, and competence is gauged by one's ability to be appropriate, effective, and adaptable in their interactions. s

Ting-Toomey (2007) highlighted that what is considered appropriate may be relative because it questions what is considered proper behaviors, which may vary according to the knowledge of norms and values. One's effectiveness indicates their capability to utilize collaborative skills that mutually benefit the parties involved (Ting-Toomey, 2012). One's adaptability suggests their ability to become a chameleon and shift behaviors suitable to their context or situation. As illustrated in Deardorff's (2011) ICC model, the process of intercultural competence involves attitude, knowledge, and skills that are critical to developing one's ICC. In particular, the author outlined deep knowledge as beneficial to the development of one's knowledge and comprehension process as they also learn more about self and develop skills that engage them in listening, observing, evaluating, analyzing, interpreting, and relating with others in cross-cultural interactions. Thus, leadership training must consider their capability to understand, analyze, and communicate against intercultural insensitivity.

Culturally Responsive Teaching (CRT)

Evaluating participants' culturally responsive teaching (CRT) practices were valuable in better understanding participants' values towards diversity and inclusion. The findings of the six CRT pillars showed that participants intrinsically subscribed to instructional strategies aligned with student-centered strategies. These pillars are briefly discussed, along with the participants' strategies connected to the pillars.

The *benefactor* pillar acknowledges the opportunities for all learners to benefit from their learning experience. Participants frequently used strategies encouraging student attendees to voice their academic concerns and actively contribute to their learning experience. Such skills included having students rate their competency of course concepts, serving as a peer-to-peer resource for studying skills, and positioning students to be creators in their learning. An instructor's integration of the *developmental* pillar demonstrates the various developmental opportunities necessary for student's growth in their "academic, psychological, emotional, social, moral, political, and cultural skills" (Gay, 2018, p. 291). Participants focused on strategies that empowered student attendees in their learning experience for the developmental pillar. Findings showed that participants prioritized the development of academic skills, which also had some integration of psychological, emotional, and social skills. These skills included having students establish and reflect on their course goals, engage in collaborative learning activities, and provide options for skill development. Though it is possible to integrate, both moral and political skills were not evident in their instructional planning but understandable given the context.

Integration of the *community building* pillar involves instructors promoting connecting opportunities and a sense of togetherness in the learning environment. Because of the collaborative nature of the SI Program, this was the most prominent and well-integrated pillar. The participants incorporated small groups and think-pair-share approaches to complete collaborative learning activities that involved problem-solving and analysis. Additionally, the participants embraced digital tools, such as Zoom's whiteboard feature, polling tools (e.g., Mentimeter), and real-time collaborative webpages (i.e., Padlet). The *multidimensional* pillar promotes multiple forms of assessment to encourage academic achievement. For this pillar, the participants' strategies focused on integrating a sense of responsibility in the student attendees' learning sessions to support attendees' confidence in discussing the course material. The participants' strategies included having students convey their understanding of course concepts to teammates and using gamified learning

approaches, such as conducting a chemistry-focused relay race. For online contexts, Woodley et al. (2017) also found strategies of debating, audio and video reflections, and engagement in collaborative groups with group member roles beneficial.

The *self-awareness* pillar prompts learners to evaluate their knowledge and assess where they could develop. The participants integrated this pillar as they promoted a learning community that was confident yet vulnerable and transparent about their academic concerns. Such strategies included having attendees rank course concepts by comfortability, share personal study strategies, and make exam grade goals along with an action plan that included strategies that would support them in achieving the written goals. The *envision* pillar empowers learners to become experts in their knowledge and application. Participants often positioned attendees to be proactive in their learning, such as supporting students to be well-informed of course content, conducting peer reviews for knowledge checks, and prompting students to have a rationale for their problem-solving. For example, Aaron's session on 3D trusses and displacements in aerospace engineering ensured that attendees understood the process for both Methods of Sections and the Method of Joints to assess better when to apply which method during their problem-solving.

The integration of CRT pillars in this study remains relevant as educators need to view students as assets and students to view themselves as an asset to their learning. For example, healthcare has continued to enhance its pedagogy within the STEM field to redefine quality training for healthcare professionals. This instructional intentionality is evident in Rockich-Winston et al.'s (2019) commentary that argued for integrating CRT in pharmacy curricula and intentional training for pharmacy faculty to benefit the health needs of the culturally diverse society. Such instructional movements only illustrate the significance of CRT in teaching and learning experiences.

Opportunities for Growth in CRT

Though the participants had no prior experience with CRT, the results revealed that, to some degree, they *are* integrating the six pillars for progress in their instructional planning. It also suggested that the connection between the Braxton Achievement Center's leadership competencies has helped influence the participants' prioritization of instructional planning that empowers learners to become efficacious in their course material that is considered historically challenging.

The exclusion of cultural diversity in STEM coursework and experiences negatively impacts the field (Rockich-Winston et al., 2018), which limits the STEM leaders' instructional planning since leaders reflect how they are taught. Understandably, participants' instructional planning focuses solely on problem-solving in STEM courses but lacks relatability to attendees. Though CRT is critical to students' learning, Santiago (2017) addresses misconceptions about CRT, stating,

“A common misconception about culturally responsive teaching is that educators must teach the “Latino way” or “Black way.” It is not about having to tie lessons’ content to Latino or African American students’ racial background. It is about improving the academic achievement of diverse students by considering students’ culture, prior knowledge, experiences, and perspectives to teach them in a familiar context; thus making the teaching more effective” (pp. 5-6).

Scholars like Davis et al. (2009) demonstrated how CRT could be integrated into college-level mathematics courses with real-world strategies, such as using real-world data sets in calculus courses to make course content relevant. Additionally, Barron et al. (2020) explored biology graduate teaching assistants' integration of culturally responsive teaching in undergraduate lab courses and acknowledged the integration of students' funds of knowledge. The authors' findings suggested the listed strategies:

1. Heightening student interaction (i.e., promoting multiple students’ voices and utilizing collaborative teams in solving challenging problems)
2. Reducing students’ anxiety (i.e., making learning low-stakes and increasing peer-to-peer interactions)
3. Differentiated forms of instruction (i.e., displaying content in multiple forms and establishing accomplishable learning goals)
4. Making learning relevant to students (i.e., having students integrate their prior knowledge and diverse experiences)
5. Scaffolding intentionally (i.e., utilize multiple examples and conduct small and large group communication)

Integrating such dynamic instruction recenters the learner as the nucleus of the learning sessions in SI. It can also be beneficial for increasing power in learning for marginalized student populations.

Additionally, as we consider the impact peer learning can have on students' learning in historical courses, Vacano et al. (2022) encouraged administrators to position peer instructors to

cultivate a welcoming learning environment through two exercises. The first exercise targeted establishing a pro-diversity standard by having student attendees share two reasons diversity is valuable. The second exercise promoted vulnerability and encouraged each student to reflect on a time they faced an obstacle during their collegiate experience and share how they overcame it. Both activities help support the diverse body of students by reducing learning barriers and promoting a sense of belonging.

ICC and CRT

Given this study's purpose, the joint display analysis results supported points of caution for SI leaders' instructional practices regarding CRT and ICC. Figures 12 and 13 illustrate and connect to potential considerations for leadership development training concerning ICC and CRT.

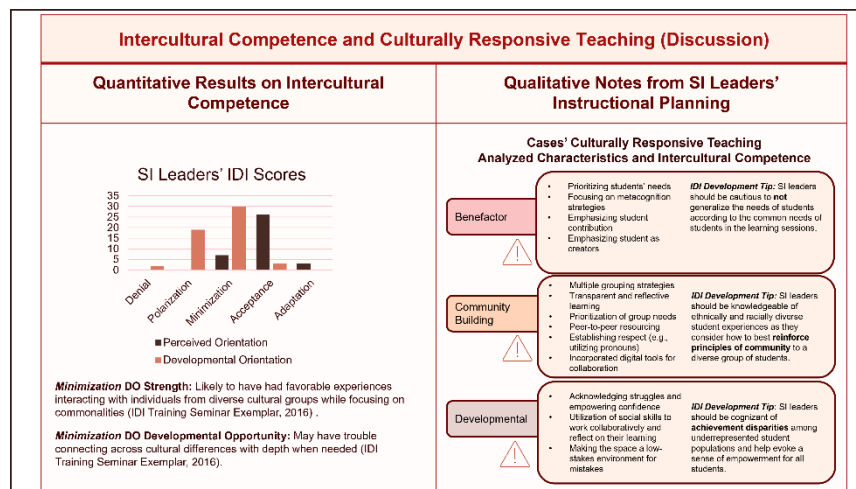


Figure 13
Measured Intercultural Competence, Instructional Planning, and Concerns

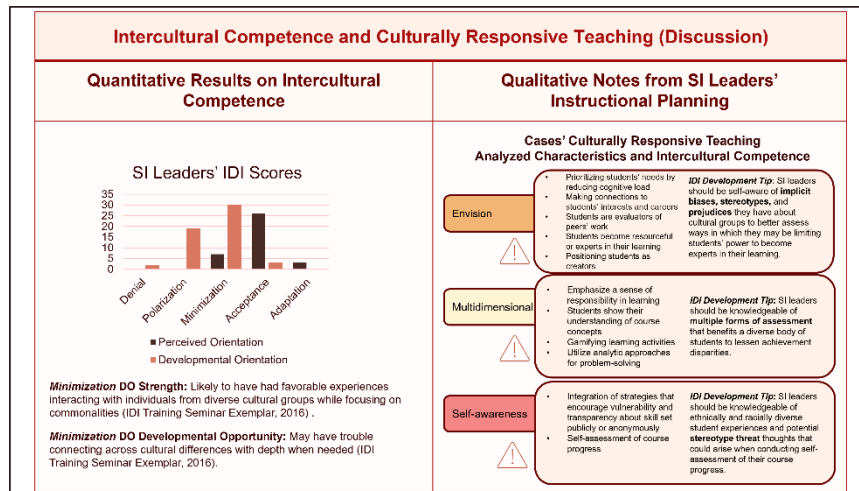


Figure 14

Measured Intercultural Competence, Instructional Planning, and Concerns

The joint displays' findings suggested that learning opportunities are present to increase the ICC and CRT that directly correspond to both dimensions. More importantly, IDI development tips concentrate on leaders' cultural self-awareness, culture-general knowledge, culture-specific knowledge, and threats to justice-oriented practices.

In summary, this present investigation demonstrated the connection between culturally responsive teaching and intercultural competence as the research has shown they complement each other. Furthermore, Santiago (2017) claimed that an increase in intercultural competence could lead to a "more interesting and motivating learning environment" (p. 7). This present investigation beckons for intentional training that cares for the leader and the students.

Limitations and Future Research

As with every study, there were some limitations. Critical measures were implemented to address potential limitations in preparing for this study, but some components were unavoidable given the context and access to the population.

First, this study evaluated the instructional planning of the participants, which provided a wealth of data. However, without observations of the participants' learning sessions, it remained a limitation as educators may plan their teaching and learning experience but make changes while enacting their instructional plans. The exclusion of observations in this present investigation was

based on the voluntary nature of the peer-learning program; meaning attendance can vary from session to session. Including observations of sessions would have contributed to the richness of the data, but it would have added a layer of complexity since attendance was not guaranteed. Hence, examining the participants' instructional planning was a more reliable method of collecting data because of the leaders' leadership responsibilities.

Secondly, the sample posed a limitation because it does not provide the experiences of international student leaders. At the time of the data collection (January 2021), there was a smaller percentage of international student leaders than expected due to the international travel policies because of COVID-19, a global pandemic. While recruiting participants, fewer international students met the sampling criteria and expressed interest in the study. In that regard, the study focused on the domestic student perspectives with future intentions of conducting a study to examine international student perspectives after more intentional recruitment. Though these missing elements may pose limitations, they also serve as opportunities for future research worth pursuing.

Future Directions

The present investigation followed Deardorff's (2014) recommendation to assess intercultural competence through multi-methods. However, the findings have presented additional opportunities for research to better prepare peer-assisted learning support programs in higher education and enhance the teaching and learning experiences in STEM fields. The following sections explore potential opportunities for further research.

International Students

As discussed above, the perspectives and lived experiences of international students remain unacknowledged in this study. Thus, additional research is needed to investigate this student population's transition to an American institution while leading multicultural groups in their role as SI leaders. A point of research interest is comprehending how international students' cultural values and norms influence their instructional practice. Scholars seeking to explore these concepts should consider investigating the following questions:

- In what ways do international SI leaders integrate patterns of cultural socialization, such as more individualistic and collectivist, in their instructional planning?
- What are their perceptions of power dynamics? How is power demonstrated in their instructional planning and facilitation of their sessions?
- In what ways have they navigated an imbalance of power as a student and as a leader?
- What concerns do international students have about engaging in diversity, equity, and inclusion initiatives in the U.S.? How have these concerns influenced their engagement?

Higher Education Administrators (Student Affairs)

Future directions for higher education administrators in student affairs must acknowledge intentional methods to increase the inclusiveness of their student-facing services. Scholars seeking to explore these concepts should consider investigating the following questions:

- Given Deardorff's (2009) intercultural assessment implementation protocol, what success have program leaders seen from these experiences?
 - What qualifications and experiences were considered in assembling a team or council focused on diversity, equity, and inclusion or specifically on intercultural competence?
 - What forms of negotiation were completed to progress towards the goals and objectives of the team?
- With the support of Gay's (2018) culturally responsive teaching practices, what instructional development considerations should be made in developing a sustainable e-learning training course for facilitators of peer-led learning experiences?
 - How do facilitators of peer-led learning experiences utilize creativity to promote culturally responsive teaching practices in STEM-based courses?
 - What measures are taken to assess facilitators' culturally responsive teaching practices in STEM learning sessions?
 - What impact do culturally responsive teaching practices have on attendees of such services?

Implications

As we consider how interculturally competent skills can benefit undergraduate student leaders in their facilitation and instructional responsibilities, it is critical that administrators intentionally position leaders to engage in such skills since this does not naturally occur. Leaders should be well-positioned to draw upon metacognitive skills that prompt them to question and appropriately respond to gaps in their knowledge, attitude, and skills. Additionally, this engagement can increase the awareness needed to enhance instructional planning that considers culturally responsive teaching. Administrators of peer-learning programs should consider completing the listed implications for intentional development.

Assessment

- Measurement should include multi-methods to triangulate data for more impactful measurement (Fantini, 2000). Simply assessing leaders' intercultural competence using a one-time metric does not satisfy the organization's developmental needs.
- It is recommended that Deardorff's (2008) assessment protocol be considered prior to the assessment to ensure that goals and objectives are stated and aligned.
- It is recommended that administrators consider how the developed AAC&U VALUE Rubric could be integrated or adapted for their ongoing staff training and routine leader evaluations.
- Quality culturally responsive STEM session plans should be archived in a session plan repository demonstrating the successful integration of CRT and serve as anchors for incoming SI leaders.

Training

- Administrators should become trained on culturally responsive teaching practices for higher education levels. Key takeaways should consider how CRT could align with the goals and instructional planning of the services provided by peer-learning programs. Additionally, administrators should focus on empowerment pedagogies that encourage the diverse body of college students to engage and see themselves as assets to their learning experiences.

- Because of the nature of peer-learning programs (e.g., hiring turnover), sustainable training should be created to set a foundation for student leaders. Training should include intercultural competence and culturally responsive teaching practices and integrate relevant scenarios and opportunities for student leaders to reflect. Additionally, training should consider additional pathways for returning leaders to continue developing their knowledge, attitudes, and skills.
- It is recommended that leaders engage in culturally responsive teaching strategies and learning activities as listed in Acquah and Szelei's (2020) study on effective culturally responsive teaching strategies for pre-service teachers enrolled in a multicultural education course. The authors include intentional teaching strategies that help support peer dialogue and self-reflection, such as students writing their personal cultural history with guided prompts.

Curricula and Development

- Undergraduate student leaders should be provided intentional learning opportunities that engage leaders in their cultural self-awareness. Learning experiences should heighten their depth of understanding through challenges and support while engaging leaders in both culture-specific and culture-general funds of knowledge.
- The development of intercultural competence should remain holistic and integrate both cognitive and experiences to reduce stereotyping and overlooked theories due to limited intercultural interactions (Irving, 2009). For instance, reflective exercises are beneficial for unpacking culture and exploring influencers. It is also suggested that student leaders reflect on how their sociocultural identities may influence their decision-making, interactions, and leadership.

Conclusion

Intercultural competence remains a valuable set of skills as our society becomes more multicultural and interconnected. More importantly, higher education has the most considerable advantage and sufficient resources to ultimately challenge and support college students'

knowledge, attitudes, and skills in ways that would be meaningful to the *glocalized* (global + localized) decision-making necessary for today and tomorrow's society. As Irving (2009) highlights, "global influence is now a local reality" (p.5). Developing students' intercultural competence will support students' sense of self and promote empathy for others that are culturally different. In conjunction with intercultural competence, culturally responsive teaching is necessary to continue challenging the norms of education that have historically positioned marginalized groups as having deficits in learning. Culturally responsive teaching instead elevates learning to be relevant to the student and empowers the learner, further increasing their capabilities. Administrators of peer-learning programs are recommended to utilize intercultural competence development and culturally responsive teaching practices to further empower attendees in their learning experiences and leaders in their transferrable professional skills.

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APPENDIX A. INSTRUCTIONAL PLANNING RESOURCE

Guided Reciprocal Peer Questioning

GOAL: Generate discussion, prompt deeper thinking on topic, and predict test questions

- Provide students with generic question stems and topic/content area to consider
- Students work individually to write questions using question stems and information
- Students do not have to be able to answer the questions they pose. This activity is designed to force students to think about ideas relevant to the content area.
- Students should use as many question stems as possible.
- Group into learning teams and have each student share out a question for discussion
- Groups can report out on a few questions (one that was most challenging or maybe they are stuck on; one that they think is most test-worthy; one that provided an “ah-ha” moment, etc.)

Sample Question Stems:

- What is the main idea of...?
- What if...?
- How does...affect...?
- What is a new example of...?
- Explain why...?
- Explain how...?
- How does this relate to what I've learned before?
- What conclusions can I draw about...?
- What is the difference between... and...?
- How are...and...similar?
- How would I use...to...?
- What are the strengths and weaknesses of...?
- What is the best...and why?

Stations

GOALS: Generate discussion among groups and between groups; exposure to multiple topics or perspective

- Have multiple stations set up for problems, topics, or case studies.
- Send a group to each station for a set amount of time.
- Have groups record their answer (or process).
- Rotate groups around the room. At their next station, they should review the previous group's response and add to it.
- Rotate until everyone is back to their original station.
- Report out or discuss together.

Grouping Strategy Cards

GOAL: Help students form groups that still allow for some choice

Hand out cards at tables or as students arrive. Prompt students to form groups that create something based on their card image/letter. This allows you to get people to move beyond groups of proximity or friends groups while also allowing for the groups to have some choice in their team placement.

Examples:

- Make an ice cream cone; group members: cone, ice cream scoop (or 2x), whipped topping with sprinkles, cherry
- Make a 3-letter (4-, 5-, 6-) word; group members: letters or letter clusters (choose most frequently used letters)
- Make a taco; group members: shell, meat, cheese, lettuce, pico (etc)
- Form a team; group members: various roles for next activity such as recorder, presenter/spokesperson, observer, illustrator, etc.
- Form a band; group members: singer, drummer, guitar, bass, keyboard
- Can use a deck of cards too

Three-Step Interview

GOAL: Reciprocal listening, summarizing, small group sharing; can also be a good ice breaker

- Provide students with a topic or content area to discuss through questions.
- Students pair up. Student A interviews student B for a set amount of time.
- At the signal, students switch roles and B interviews A for the same amount of time.
- At the next signal, each pair turns to another pair (forming a group of 4).
- Each member introduces their original partner and highlights points from that person's "interview."

Can also be modified to add in another merger of pairs (group of 8).

Round Robin

GOALS: Ensuring everyone can participate and engage, variety of material covered, and promote problem solving

- Generate ideas, the steps to solving a problem, or a full answer to a complex question as a group. Start with the prompt/problem/question and a group sitting in a circle (or defined order).
- One person starts then passes it on to the next student, moving in order.
- Someone can "pass" but you should establish the expectation that you'll return to them later.
- Variations: Can be done in large group or small groups; can also be done through writing; can be done with tossing a ball, bean bag, or crumpled paper (random vs. in order)

Concept Mapping

GOAL: Identifying important information, generate discussion, physical engagement, and recognizing connections.

- Have students brainstorm 10-15 most important terms from course material individually then come to a consensus of 12-18 terms for the group. Have the groups write each term on a notecard or piece of paper.
- As a group, students should physically lay out the terms on a table (or taped onto a whiteboard) to form a concept map.
- Have groups rotate to another group's concept map. Would they make any modifications?
- Alternative: provide students with the terms already on cards/paper.
- Alternative: have groups draw a card/paper at random to be the "starting point" of their concept map.
- Alternative: after the initial concept mapping, have the group return their cards to a pile and have the next group draw a new card/paper to be the starting point or center.

Send-A-Problem

GOAL: Generate group discussion, problem-solving, predicting test questions, and review

- Divide students into groups
- Every group member generates a problem/question and writes it on one side a notecard with the label "Q"
- The group reviews each question.
- If the question can be answered and all members of the group agree on the question, the answer is written on the back of the card with the label "A".
- If the question cannot be answered or there is no consensus on the answer, the question is revised so that an answer can be agreed upon (alternatively, they can "flag" the question to bring to the entire group).
- Each group sends its stack of question cards to another group.
- The group receiving the question cards goes through the cards one question at a time.
- After discussing the question and agreeing on an answer, the group will turn the card over to see if they agree with the first group's answer.
- If there is consensus, the group continues on to another question card.
- If they disagree with the original group's answer, the second group will write their answer on the back of the card as an alternative answer.
- Can repeat through multiple group reviews or just one round of reviews.
- The stack of cards are then returned to the original group to review.
- As a large group, discuss any questions that had multiple answers or were challenging for groups to find consensus when answering.

APPENDIX B. LEADERSHIP COMPETENCIES RESOURCE

The Braxton Achievement Center's Student Leader Competencies

Reflective Problem Solving

- Engage in ongoing self-reflection to identify problems, challenges, and/or areas of growth
- Develop awareness of how values and ethics influence decision-making
- Employ critical, practical, and creative thinking skills to generate possible solutions or strategies for improvement
- Use feedback to strengthen problem-solving skills

Effective Communication

- Learn to successfully utilize the four facets of communication (verbal, non-verbal, listening, written)
- Establish rapport with students, peers, and supervisors to provide a welcoming, collaborative, and positive environment
- Assess the situation, process the information, and respond appropriately
- Adapt messaging to ensure clarity for the intended audience and context

Professionalism

- Represent the Center and its values with integrity & authenticity
- Engage in respectful interactions with peers, students, staff, and faculty members
- Enthusiastically seek, embrace, and implement constructive feedback from peers, mentors, and supervisors
- Strive for continued personal and professional growth

Initiative

- Pursue new projects and proactively find areas to contribute to the department
- Take ownership of all responsibilities and timelines
- Use feedback and previous experience to anticipate needs and performance adjustments
- Exhibit resourcefulness, independent action, and professional judgment that are position appropriate

Inclusion

- Understand how diverse perspectives, backgrounds, beliefs, cultures, and experiences can influence individuals and enhance a group's effectiveness
- Embrace opportunities to increase awareness of diversity and inclusion issues
- Recognize biases and reflect on how these biases impact behavior
- Interact and learn with diverse students, faculty, and staff
- Foster an environment in which people feel welcomed, valued, & sense of belonging

APPENDIX C. SI SESSION OBSERVATION FORM

Q1. Observer's name

Q2. Observer's e-mail address

Q3. SI Leader's Name

Q6. SI Leader e-mail address

Q8. SI Course

Q22. Observation Date:

Q12. Please complete the following rubrics by clicking in the appropriate box for each area. Then, answer the open response questions. You may use your rubric answers to guide your responses. Make sure you provide thorough, thoughtful feedback. Professional Staff recommend taking notes during the session and completing the open response questions after the session is complete.

APPENDIX D. RESEARCH INTEREST FORM

Program Evaluation: Supplemental Instruction's Culturally Responsive Practices

Dear SI Leaders,

Thank you so much for voluntarily expressing interest to participate in our BAC's research study concerning intercultural competence and culturally responsiveness. Again, our goal is to enhance the BAC's instructional practices to become more inclusive to all students. **As mentioned at our training, we are conducting this research study to know more about our SI team, understand our strong points, and identify growth areas.**

We ask that you complete this short, **5-minute survey** to be more familiar with our participants. Don't worry--your data collected from this research study (IDI results, survey responses, interviews, and session plans) will be kept confidential and will not be shared with professional staff. If you are selected to participate in the remainder of this study, which involves two informal interviews, you will receive a \$25 Amazon gift card (odds 1:1).

To complete the 5-minute survey, please answer the next set of questions. Please email Marquetta Strait (lead researcher) at straitm@purdue.edu or Dr. Jennifer Richardson (Principal Investigator) at jennrich@purdue.edu if you have any questions.

First and Last Name

Email

Alternate Email

Major(s)

Are you of Hispanic, Latino or Spanish origin?

No, not of Hispanic, Latino, or Spanish origin

Yes, Mexican, Mexican American, or Chicano

Yes, Puerto Rican

Yes, Cuban

Yes, another Hispanic, Latino, or Spanish origin

What is your race? (check all that apply)

American Indian, Alaska Native, or non-U.S. indigenous

Asian Indian

Black or African American (includes Black, non-U.S.)

Chinese

Filipino

Guamanian or Chamorro

Japanese

Korean

Native American Indian or Alaska Native

Native Hawaiian

Samoan

Vietnamese

White

Other Asian

Other Pacific Islander

Other Race

Are you a(n)

Domestic Student

International Student

Gender Identity

Woman

Man

Trans Masculine

Trans Feminine

Non-binary

Not Listed

Prefer Not to Answer

Pronouns

she/her/hers

he/him/his

they/them/theirs

Not listed

Classification

Freshman

Sophomore

Junior

Senior

Professional Program Student

What's your SI position?

SI Leader

Team Leader

Senior Leader (leading SI sessions)

Senior Leader (not leading SI sessions)

Assistant Leader

How many semesters have you led SI sessions?

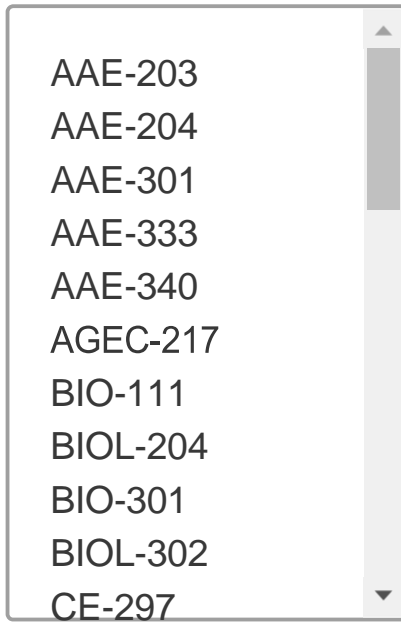
This is my first semester

1-2 semesters

3-4 semesters

5+ semesters

What's your current SI associated course?



AAE-203
AAE-204
AAE-301
AAE-333
AAE-340
AGEC-217
BIO-111
BIOL-204
BIO-301
BIOL-302
CE-297

Excluding language development courses (e.g., French and Spanish), how many courses have you taken that primarily focus on culture, diversity, inclusion, equity, and/or social justice? Example courses are, but not limited to, AGRY-Global Awareness, AMST-Gender, Science & Technology, ASAM-Social Issues in Immigration, ENGL-Black Drama, HDFS-Diversity in Individual and Family Life, POL-Race, Gender & Political Representation, WGSS-Gender and Multiculturalism, WGSS-Introduction to LGBT Studies, WGSS-Native American Women Writers, etc.

0 courses

1-2 courses

3-4 courses

5+ courses

How many courses have you taken that primarily focus on developing language skills different from your native language? Some examples may include, but are not limited to, Chinese, French, Japanese, Portuguese, Spanish, etc.

0 courses

1-2 courses

3-4 courses

5+ courses

Have you participated in a study abroad opportunity?

Yes

No

I was planning to attend, but it was canceled because of COVID-19

Are you actively involved in any cultural, diversity, inclusion, or social justice organizations?

Yes

No

I was engaged in an organization in Fall 2019 but because of COVID-19, the organization has been unable to host gatherings/meetings

Do you identify as a woman in a male-dominated field?

Yes

APPENDIX E. RESEARCH CONSENT FORM

Research Participant Consent Form **Assessing Supplemental Instruction Leaders' Culturally Responsive Practices in Non-Traditional Learning Environments** **Dr. Jennifer Richardson (Principal Investigator)** **Curriculum and Instruction**

Dear SI Leaders,

Thank you so much for participating in our BAC training's Intercultural Development Inventory (IDI) group debrief! In our training, we mentioned that we will be conducting a research study on our Supplemental Instruction (SI) Program. We really need your help in identifying our Program's strengths and opportunities for growth related to culturally responsive practices in your leadership position. We ask that our SI leaders please complete this short, **2-minute survey** to express your interest or non-interest in this voluntary study. Only SI leaders that are 18 years or older can participate in this study.

Key Information: Please take time to review this information carefully. This is a research study. Your participation in this study is voluntary which means that you may choose not to participate at any time without penalty or loss of benefits to which you are otherwise entitled. You may ask questions to the researchers about the study whenever you would like. If you decide to take part in the study, you will be asked to indicate your interest in this form, be sure you understand what you will do and any possible risks or benefits.

On the next page, you will see important information regarding our research study.

Research Purpose: As mentioned at our training, the purpose of our research study is to identify our Supplemental Instruction (SI) team's culturally responsive teaching practices. We recognize that this is a new direction of our program, and really desire to know our leaders' strengths, opportunities for growth, and areas for future professional development. We would like a true representation of our SI leader team to improve our SI program effectively. Therefore, we would like to have 15 SI leaders voluntarily participate in this research study.

Your Commitment: This research study will take place throughout the semester and will involve the following:

- Demographic Questionnaire (5 mins)
- Interview #1 (1 hr)
- Interview #2 (45 mins)
- 3 Session Plans (no additional work required from you)

Possible Risks, Discomforts, and Confidentiality: There are not any foreseeable risks in completing this research study and any risks associated with this study are no greater than what the participant would encounter in their daily life. It's important to note that breach of confidentiality is always a risk with data, but we will take precautions to minimize this risk as described in the confidentiality section. To minimize risks, data collected from this research study (IDI results, survey responses, interviews, and session plans) will be kept confidential and will not be shared with professional staff. Only the research team will have access to your data. Data will be kept on password-protected hard drives and identifiable information will be removed after the completion of the manuscript for confidentiality purposes. Additionally, participation in this research study will not negatively impact your leadership position, employment, or pay

Potential Benefits: As a participant of this study, you may develop your intercultural competence to not only increase your impact in your leadership position but to also interact with others in culturally competent appropriate ways.

Incentives: After completing this survey, you'll be entered into a drawing for a chance to win 1 of 5 \$10 Amazon gift cards (odds 1:5). Furthermore, there is an additional opportunity to receive a \$25 Amazon gift card if you are selected to participate in the remainder of this study.

Your Rights: You do not have to participate in this research study. If you agree to participate, you may withdraw your participation at any time without penalty. If you would like to withdraw from the study, please email Marquette Strait at straitm@purdue.edu explaining you would like to withdraw and detailing if you would like to remove your data from the research study. There are no consequences to withdrawing from the research study. However, you will be unable to terminate your participation after interview #2 of the research study.

Contact for More Information: If you have questions, comments, or concerns about this research project, you can talk to one of the researchers. Please contact the lead researcher, Marquette Strait, at straitm@purdue.edu or the Principal Investigator, Dr. Jennifer Richardson, at jennrich@purdue.edu.

On the next page, you will have the opportunity to indicate your interest or non-interest in our research study.

First and Last Name

Email

Would you be willing to participate in the research study, which includes 1) a 5-minute questionnaire, 2) two interviews (#1 interview 1-hr and #2 interview 45 mins), and 3) an evaluation of your session plans (no action required from you)? If selected for this portion of the study, you will receive a \$25 Amazon gift card.

Reminder: You are also able to include this time as professional development on your timecards (2 hours). However, you are being paid for your time and not for your responses. We want you to be as transparent as possible so that we can effectively address the needs for professional development.

Yes

No

Please include the last 5 digits of your ID.

APPENDIX F. INTERVIEW PROTOCOL #1

Interview Protocol #1

Interview Purpose: This interview provides a better understanding of the SI leader's upbringing and cultural awareness. Specifically, the leader provides more information on three diversity dimensions that are central to who they are, and how others in their learning environments intentionally or unintentionally offend their diversity dimensions. Additionally, we begin to understand more about how the leader views cultural diversity in their learning environments and within their leadership role.

Target Group: Consented participants

Timing: This interview will take place sometime around January 25th-February 5th.

Script: Thank you so much for coming for our first interview! As a reminder, this interview is for our research study focused on intercultural competence and culturally responsive practices of our SI program. Your responses will be kept confidential, including the Braxton Achievement Center's professional staff. Additionally, your responses will not negatively impact your employment, leadership position, work relationships, or salary. Therefore, I ask that you be transparent in your responses because it will truly allow us to see how our SI program can grow and indicate our strengths.

1. How would you describe your cultural/ethnic background? For this question, you may want to consider discussing your family background, nationality, race, ethnicity, education, ideals that you live by, languages spoken, and any other points you think best describes your cultural/ethnic background.
2. Describe the environment where you grew up. How does this relate or not relate to your cultural/ethnic background? How different or similar is the culture of the University from your home environment?
3. The chart below shows 15 dimensions of diversity. Which three dimensions do you value the most? Why are these so important to you?

Gender Identity	Nationality	Race	Ethnicity	Age	Family Background	Abilities/ disabilities	Other Diversity Dimensions?
Religion	Educational Background	Home/ geographic "roots"	Socio-economic status	Language	Sexual orientation	Work experiences	

4. How do you feel these values have influenced your learning?
5. How do you feel these values have influenced your SI leader role?
6. Based on your self-identified cultural background and diversity, can you describe a time when someone intentionally or unintentionally offended your culture/diversity in your learning environment? What was your reaction or thoughts to that situation?
7. Has there ever been a time when you offended someone else's culture or diversity?
8. Have you attended any study abroad opportunities? How has that impacted your view of culture and diversity?

SI Leadership Role

9. How would you describe someone that is culturally competent? What would that look like in an SI leadership role?
10. Do you believe there is a relationship between personal biases and how one facilitates one's SI session? Please explain.
11. What do you think are some common reasons someone may have challenges being culturally responsive as an SI leader?
12. What role, if any, do you believe culture and diversity play in learning environments? Do you believe these are different for STEM fields?
13. If our Braxton Achievement Center trained SI leaders how to become culturally competent, what would you prefer for that to look like? What topics would you want to be included?
14. Based on your IDI individual plan, how would you want to grow in your cultural competency? (*if applicable*)
15. What should I have asked you that I didn't think to ask?

Please email **Marquetta Strait** (researcher) at straitm@purdue.edu or Dr. Jennifer Richardson (Principal Investigator) at jennrich@purdue.edu if you have questions concerning the Assessing Supplemental Instruction Leaders' Culturally Responsive Practices in Non-Traditional Learning Environments research study (IRB-2020-1572).

APPENDIX G. INTERVIEW PROTOCOL #2

Interview Purpose: This interview focuses on the instructional planning of the SI leader and their use of intrinsic culturally responsive teaching practices. The researcher presents the leaders with two, randomly pulled session plans of the leaders. The leaders summarize the sessions and share the students' academic struggles at the time. The leaders then provide their viewpoint on a quote by Maya Angelou and then discuss possible CRT principles that were either included in their session plans or in their facilitation.

Target Group: Consented participants

Timing: This interview will take place sometime around March 29th-April 9th.

Script: Thank you so much for coming for our second interview! As a reminder, this interview is for our research study focused on intercultural competence and culturally responsive practices of our SI program. Your responses will be kept confidential from professional staff of the Braxton Achievement Center. Additionally, your responses will not negatively impact your employment, leadership position, work relationships, or salary. Therefore, I ask that you be transparent in your responses because it will truly allow us to see how our SI program can grow and indicate our strengths.

Potential Interview Questions:

1. I would like to share the following quote:
 - a. "We all should know that diversity makes for a rich tapestry, and we must understand that all the threads of the tapestry are equal in value no matter what their color."—Maya Angelou
 - b. What does this quote mean to you?
 - c. How does this relate to your SI session planning?
2. At this time, I would like us to discuss two of your session plans that I pulled randomly.
 - a. After you recall the purpose of these sessions, will you please step me through your plan for that day?
 - b. What academic challenges were students known to experience at these times?
 - c. What all has guided or encouraged your instructional decisions/facilitation?
3. I would like to take a moment to introduce the second component of this research study: culturally responsive teaching (CRT). When you hear the phrase culturally responsive teaching, what comes to mind?
 - a. I recognize that SI focuses on facilitation and you may not be aware of CRT, so I would like for us to discuss this more in-depth. CRT can be defined as, "using the cultural characteristics, experiences, and perspectives of ethnically diverse students as conduits for teaching them more effectively." The mission of CRT is to provide academic quality and equity for ethnically and racially marginalized students.
 - b. Do you have any questions about the purpose of CRT?

- c. On these PPT slides, I have included 14 practices of CRT along with their explanations. You may notice that some practices apply more to your SI context than others. Using the CRT practices and your session plans, please identify the CRT practices that you see in your session plans and explain where this is evident.
 - d. I understand that session planning provides you with a plan, but your facilitation may not be captured fully in this plan. Are there any CRT practices that you use consistently in your SI facilitation?
- 4. In what other ways would you like to develop your skills in becoming a culturally responsive SI leader?
 - 5. How do you feel being culturally competent would aid you as an individual?
 - 6. How do you feel cultural competency contributes to the Braxton Achievement Center?
 - 7. How do you feel cultural competency contributes to the University?
 - 8. How do you feel cultural competency contributes globally?
 - 9. What should I have asked you that I didn't think to ask?

Please email **Marquetta Strait** (researcher) at straitm@purdue.edu or Dr. Jennifer Richardson (Principal Investigator) at jennrich@purdue.edu if you have questions concerning the Assessing Supplemental Instruction Leaders' Culturally Responsive Practices in Non-Traditional Learning Environments research study (IRB-2020-1572).

APPENDIX H. INTERCULTURAL DEVELOPMENT CONTINUUM (IDC) DEVELOPMENTAL ORIENTATIONS

Intercultural Development Inventory (IDI) from Mitchell Hammer (2012, IDI Qualifying Seminar, p.4)		
Orientation (in ascending order)	Definitions	Some Common Orientation Characteristics
Denial	Recognizes more observable differences (e.g., food), but may not notice deeper cultural difference and may avoid or withdraw from such differences	<p>Strength: Likely to primarily interact with people from own cultural community and may have a clear sense of one's values and practices</p> <p>Concern: May avoid meaningful interaction with other cultures</p>
Polarization	Views cultural differences as "us" and "them." Individuals can either be a) uncritical toward one's own cultural values and practices (defense) OR b) have an overly critical view toward one's own cultural values and practices (reversal)	<p>Strength: Can deal head on with difficult international and multicultural issues and resist the temptation to ignore those concerns</p> <p>Concern: May mistrust cultural values and behavior that differs</p>
Minimization	Highlights cultural commonalities and universal values and principles that may also mask deeper recognition and appreciation of cultural differences	<p>Strength: Likely to find success interacting with people from diverse cultures when commonalities can be drawn</p> <p>Concern: Tends to assume people from other cultures are basically "like us" and applies one's own cultural views to other culture in ways that minimize the importance of cultural differences</p>
Acceptance	Recognizes and appreciates patterns of cultural difference and commonality in one's own and other cultures	Weakness: May be uncomfortable making judgements of right and wrong across cultures
Adaptation	Capability to shift cultural perspective and change behavior in culturally appropriate and authentic ways	<p>Strength: Capable of adapting and deeply understanding the values and practices of one or more diverse communities</p> <p>Concern: May be impatient or frustrated when other people do not perceive cultural differences as deeply as you do</p>

Note. The table data is from the *IDI Qualifying Seminar: Exemplars*, by Intercultural Development Inventory, (n.d)

APPENDIX I. INTERVIEW GLOSSARY RESOURCE

Interview Terminology	
Terminology	Definition
Bias	<p>Prejudice in favor of or against one thing, person, or group compared with another, usually in a way considered to be unfair.</p> <p><i>Explicit Bias</i>- Refers to the attitudes and beliefs we have about a person or group on a conscious level. (Perception Institute, n.d.)</p> <p><i>Implicit Bias</i>-refers to the attitudes or stereotypes that affect our understanding, actions, and decisions in an unconscious manner. (Kirwan Institute for the Study of Race and Ethnicity, n.d.)</p>
Culture	Culture can be complex, but it comprises “a set of values, beliefs, ideas, and behaviors that we share with others in a particular society.” These cultural components may promote a sense of belonging and identity. (Lebron, 2013)
Cultural/Intercultural Competent	The ability to "shift cultural perspective and appropriately adapt behavior to cultural differences and commonalities" (Hammer, 2012, p. 116)
Culturally Responsive	Cultural responsiveness is the ability to learn from and relate respectfully with people of your own culture as well as those from other cultures.
Diversity	The practice or quality of including or involving people from a range of different social and ethnic backgrounds and of different genders, sexual orientations, etc.
Ethnicity	A particular ethnic affiliation or group
Nationality	Membership in a particular nation
Race	Any one of the groups that humans are often divided into based on physical traits regarded as common among people of shared ancestry
Social Justice	Describes a movement that embraces the desire and urgency to promote change for individuals facing oppression and inequality
Values	“Basic and fundamental beliefs that guide or motivate attitudes or actions. They help us to determine what is important to us.”(Ethics Sage, 2018)

Please email **Marquetta Strait** (researcher) at straitm@purdue.edu or Dr. Jennifer Richardson (Principal Investigator) at jennrich@purdue.edu if you have questions concerning the Assessing Supplemental Instruction Leaders' Culturally Responsive Practices in Non-Traditional Learning Environments research study (IRB-2020-1572).

APPENDIX J. IDI PROFILE REPORT SAMPLE



Intercultural Development Inventory®

Individual Profile Report

ORGANIZATIONAL VERSION

STANDARD

Prepared for:

Carl M , Example Group

Prepared by:

IDI Qualified Administrator, IDI, LLC

Your IDI Individual Profile Report provides valuable information about your own mindset/skillset toward cultural difference and commonality. You can gain valuable insights about how you engage cultural differences by reflecting on both past and current cross-cultural events or situations you have been or are involved in. Your IDI profile results can help you increase your own cultural self- and other-understanding around such differences and commonalities.

The Intercultural Development Inventory® (IDI®) is a valid and reliable assessment of intercultural competence. It has been developed and tested using rigorous cross-culturally validated psychometric protocols with over 220,000 respondents from a wide range of cultural groups and countries. In addition, the IDI has been translated into several languages using rigorous “back translation” protocols.

As you reflect on your IDI profile results, consider:

✓ **Have you responded to each of the statements in the IDI honestly?**

If so, then the IDI profile will be an accurate indicator of your approach for dealing with cultural differences and commonalities.

✓ **Have you recently had or are currently experiencing a significant professional or personal transitional experience (e.g., moving to another country, traumatic event)?**

If so, you may wish to reflect on how this transitional situation may impact how you make sense of cultural differences and commonalities as identified by your IDI results.

Intercultural competence is ***the capability to shift perspective and adapt behavior to cultural difference and commonality***. Intercultural competence reflects the degree to which cultural differences and commonalities in values, expectations, beliefs, and practices are effectively bridged, an inclusive environment is achieved, and specific differences that exist in your organization or institution are addressed from a “mutual adaptation” perspective.

People are not alike in their capabilities to recognize and effectively respond to cultural differences and commonalities. The Intercultural Development Continuum® (IDC®) (modified from the Developmental Model of Intercultural Sensitivity originally proposed by Dr. Milton Bennett), identifies five orientations that range from the more monocultural orientations of Denial and Polarization to the transitional mindset of Minimization to the more intercultural or global mindsets of Acceptance and Adaptation. Your success in achieving your goals is better served when you can more deeply understand culturally-learned differences, recognize commonalities between yourself and others, and act on this increased insight in culturally appropriate ways that facilitate goal accomplishment among diverse individuals and groups.

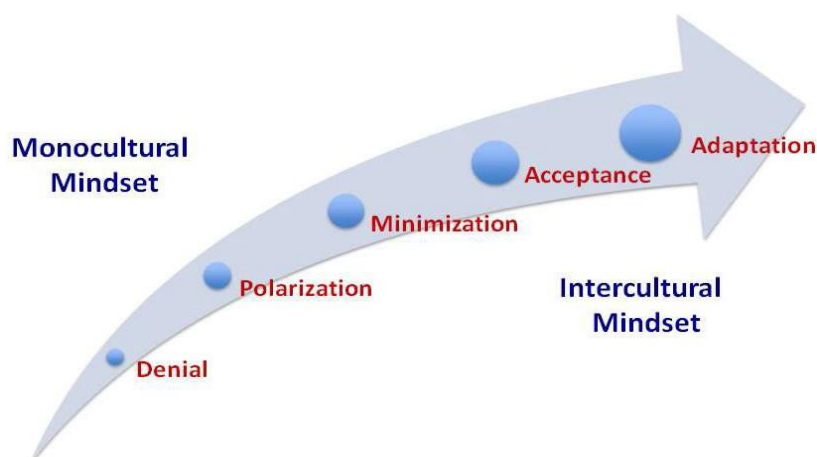
Monocultural Mindset

- Makes sense of cultural differences and commonalities based on one's own cultural values and practices
- Uses broad stereotypes to identify cultural difference
- Leads to less complex perceptions and experiences of cultural difference and commonality

Intercultural/Global Mindset

- Makes sense of cultural differences and commonalities based on one's own and other culture's values and practices
- Uses cultural generalizations to recognize cultural difference
- Leads to more complex perceptions and experiences of cultural difference and commonality

Intercultural Development Continuum



Denial *An orientation that recognizes more observable cultural differences (e.g., food), but may not notice deeper cultural difference (e.g., conflict resolution styles) and may avoid or withdraw from such differences.*

Polarization *A judgmental orientation that views cultural difference in terms of “us” and “them” This ranges from (1) a more uncritical view toward one’s own cultural values and practices coupled with an overly critical view toward other cultural values and practices (Defense) to (2) an overly critical orientation toward one’s own cultural values and practices and an uncritical view toward other cultural values and practices (Reversal).*

Minimization *An orientation that highlights cultural commonality and universal values and principles that may also mask deeper recognition and appreciation of cultural differences.*

Acceptance *An orientation that recognizes and appreciates patterns of cultural difference and commonality in one’s own and other cultures.*

Adaptation *An orientation that can shift cultural perspective and change behavior in culturally appropriate and authentic ways.*

How to Interpret the IDI Individual Profile Report

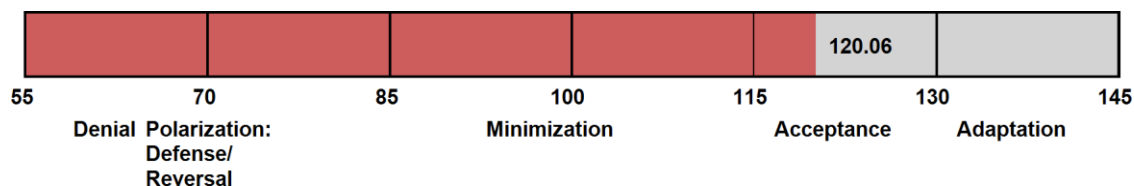
The IDI Individual Profile Report presents information about how you make sense of and respond to cultural differences and commonalities. This Report reviews the following information specifically focused on your approach to cultural differences and commonalities:

- **Perceived Orientation (PO)**: The Perceived Orientation (PO) reflects where you *place yourself* along the Intercultural Development Continuum. This reflects how you see yourself when you interact with culturally diverse individuals and groups. Your Perceived Orientation can be Denial, Polarization, Minimization, Acceptance, or Adaptation.

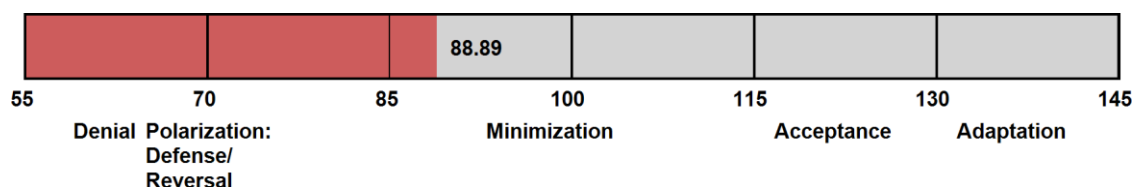
- **Developmental Orientation (DO)**: The Developmental Orientation (DO) indicates your primary orientation toward cultural differences and commonalities along the Continuum as *assessed by the IDI*. The DO is the perspective you most likely use in those situations where cultural differences and commonalities need to be bridged. Your Developmental Orientation can be Denial, Polarization, Minimization, Acceptance, or Adaptation.

- **Orientation Gap (OG)**: The Orientation Gap (OG) is the difference along the Intercultural Development Continuum between your Perceived Orientation and Developmental Orientation. The larger the gap, the more likely you may misread how effective you are in bridging across cultural differences. Also, the larger the Orientation Gap, the more likely you may be “surprised” by the discrepancy between your Perceived Orientation score and Developmental Orientation score.
 - A Perceived Orientation score that is higher than the Developmental Orientation score indicates an *overestimation* of your intercultural competence; that is, you may feel you are more adaptive than you likely are.
 - A Developmental Orientation score that is higher than the Perceived Orientation score indicates an *underestimation* of your intercultural competence; that is, you may believe you are less adaptive to cultural differences than you are.
 - A Perceived Orientation score that matches the Developmental Orientation score indicates you are generally accurate in your assessment of how you adapt to cultural differences.

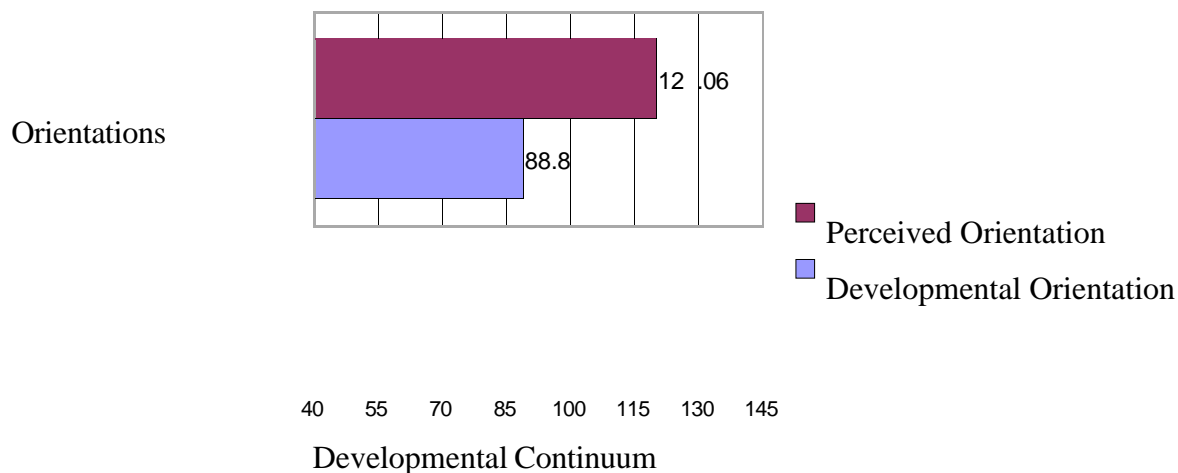
- **Leading Orientations (LO)**: Leading Orientations are the next steps to take in further development of intercultural competence. For example, if your Developmental Orientation is Minimization, then your Leading Orientations (LO) would be Acceptance and Adaptation.

*IDI Individual Profile**Perceived Orientation (PO)*

Your **Perceived Orientation Score** indicates that you rate your own capability in understanding and appropriately adapting to cultural differences within Acceptance, reflecting an orientation that recognizes and appreciates patterns of cultural difference in one's own and other cultures in values, perceptions and behaviors.

Developmental Orientation (DO)

Your **Developmental Orientation Score** indicates that your primary orientation toward cultural differences is within Minimization, reflecting a tendency to highlight commonalities across cultures that can mask important cultural differences in values, perceptions and behaviors. This can often take one of two forms: (1) highlighting commonality that masks equal recognition of cultural differences due to less cultural self-awareness, more commonly experienced among dominant group members within a cultural community, or (2) highlighting commonalities that masks recognition of cultural differences that functions as a strategy for navigating values and practices largely determined by the dominant culture group, more commonly experienced among non-dominant group members within a larger cultural community.

Orientation Gap (OG)

The **Orientation Gap** between your Perceived Orientation score and Developmental Orientation score is 31.17 points.

A Perceived Orientation (PO) score that is higher than the Developmental Orientation (DO) score indicates you have overestimated your level of intercultural competence. A DO score that is higher than the PO score indicates that you have underestimated your intercultural competence. A Perceived Orientation score that matches the Developmental Orientation score indicates you are generally accurate in your assessment of how you adapt to cultural differences. **You overestimate your level of intercultural competence and may be surprised your DO score is not higher.**

Starting your journey to increase intercultural competence begins by reflecting on the gap (if any) between your own self-rating (Perceived Orientation) and the IDI's assessment (Developmental Orientation) of your intercultural competence (i.e., the way you primarily engage cultural differences and commonalities).

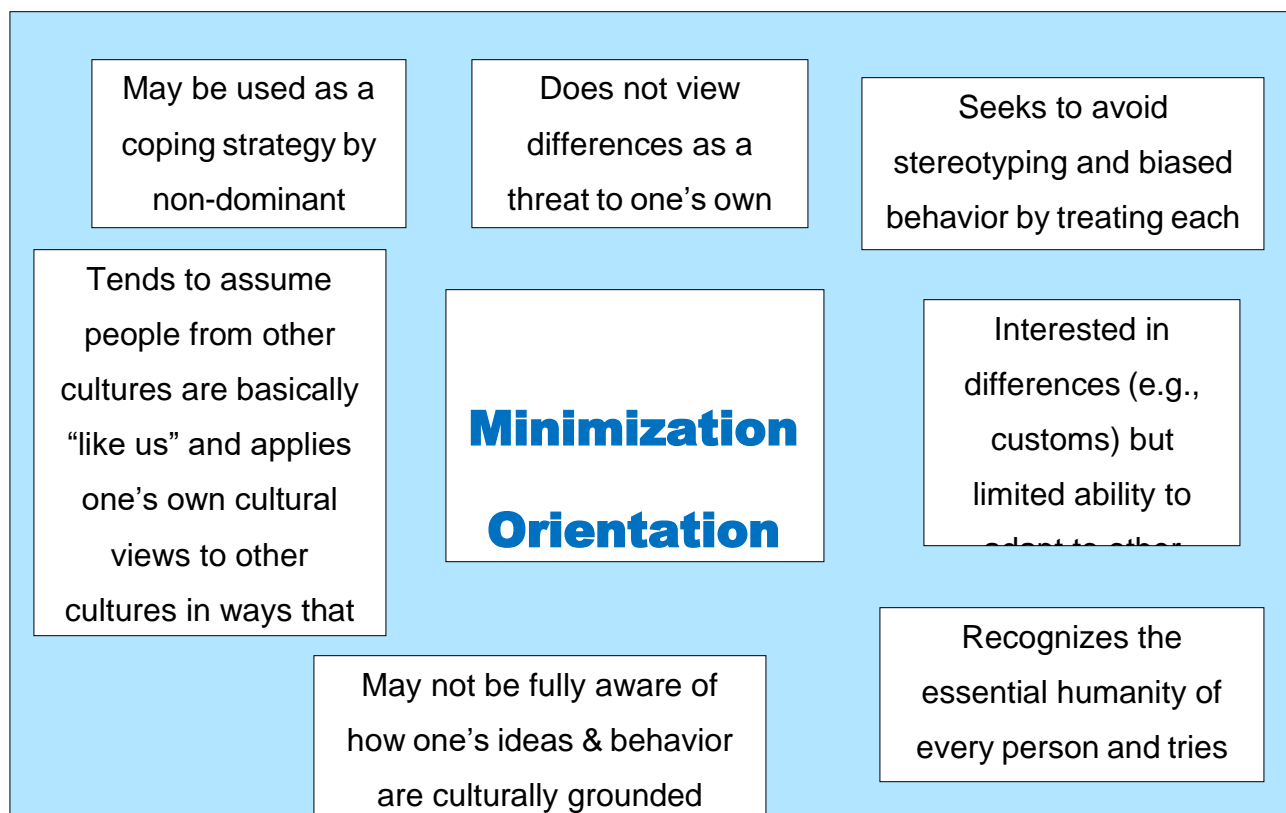
- If you **overestimated** your intercultural competence, this is not unusual. Research indicates that human beings often feel they are more effective in a variety of pursuits than they are. For example, people consistently rate themselves as using communication skills more effectively and frequently than they do.

You may also feel your IDI results are not really “accurate” when in fact, this reaction is often grounded in the gap between your Perceived Orientation and your Developmental Orientation. Being aware of your Orientation Gap can help you engage more fully in your own intercultural competence development.

- If you **underestimated** your intercultural competence, it indicates you use more culturally responsive strategies than you believe you do. This can arise from situations you have encountered where diversity challenges were substantial, and you may feel you responded less competently than you did.
- If you **accurately estimated** your intercultural competence, you likely are accurate about your own sense of how well you do when engaging cultural diversity. Your IDI results likely would not surprise you.

A Deeper Look at Your Developmental Orientation

A **Minimization** Orientation reflects a tendency to focus on commonalities across diverse communities that can mask deeper recognition of differences. Characteristics of a Minimization mindset are:



Minimization Orientation

- **Strength:** You likely have found some success interacting with people from diverse cultures when commonalities can be drawn upon.
- **Developmental Opportunity:** You may struggle to bridge across diverse communities when differences need to be more deeply understood and acted upon. Your task is to develop a deeper understanding of your own culture—cultural self-awareness—and increased understanding of culture general and culture specific frameworks for making sense of and more fully attending to cultural differences.

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APPENDIX K. INTERVIEW #2 CRT ACTIVITY RESOURCE

Gay’s 2018 CRT Practices

		In my session plan	In my facilitation
All levels	Culturally responsive teaching is a part of all subjects and skills [SI sessions]		
Accuracy of Cultures	Provides an accurate depiction of cultures, contributions of different ethnic groups, as well as moral and ethnic dilemmas about their treatment in the U.S.		
Benefactor	It has multiple benefits for all students, including students of color.	X	X
Care and Concern	Demonstrates genuine care and concern for students of color by demanding high levels of performance and encourages them to live up to those expectations.		X
Community Building	Encourages a spirit of academic success and a sense of community, camaraderie, kindredness, and reciprocity among students who work collaboratively for their mutual well-being and academic achievement.		X

Hailey’s Interview II CRT
Activity

Gay's 2018 CRT Practices

		In my session plan	In my facilitation
Institutional and Personal Resources	Using creative imagination to facilitate maximized achievement for students of color		
Intolerance for Oppression	Develops in students an intolerance for all kinds of oppression, discrimination, and exploitations, as well as the moral courage to act in promoting academic, social, cultural, and political justice among ethnic groups		
Multidimensional Learning	Assessing students' learning using multiple assessments. Acquisition and demonstration of knowledge cater to diverse learning styles, performance, participation, and communication styles.	X	X
Professional Development	Includes cultural knowledge and instructional skills concerning personal self-reflection and self-monitoring techniques for teaching to and about ethnic diversity		
Self-Awareness	Constantly engaging students to be self-knowing and self-assess	X	X

Aaron's Interview II CRT

Activity

APPENDIX L. INTERVIEW SAMPLE AND CODEBOOK

Name: Aaron Interview_1

Aaron's Interview 1.mp4

Marquetta (Interviewer) [00:01:00] Yes, I can. So thank you again, Aaron, for meeting with me today. And again, I really want to encourage you to be transparent in your responses. If there were any questions that you need more clarification on, please feel free to say that I don't mind helping in those ways. So first, I want to start off by asking, how would you describe your culture or your ethnic background? And I know that question can sometimes seem a little complex. So some things that you may want to consider is talking about your family background, your nationality, race, ethnicity, education, things that you live by or ideas that you live by, language spoken. So any of these things or something either other than those things to write.

Aaron (Interviewee) [00:01:54] Yeah, sure, I guess to kind of unpack my culture and background that I guess I kind of see in general this idea of culture and background with people as all these branches coming apart when a person's in the center as a culture is really about a lot of different things coming together. And it's different for each person based on their unique lived experiences and what they've been through, you know, through their life. I guess for me, I would identify in a couple different ways in terms of region. I might identify as an American for my nationality, as well as maybe a regional culture identity being from the east. I come from a family that's on the East Coast and I would say they're middle class and their religion was Protestant. And, you know, my family, I have I have a mom and dad and a sister. So that impacts my identity, too, and I'm trying to think of other things as well. I am also Caucasian, so that has an impact on my cultural identity. Male I am [inaudible], heterosexual. And I would say all these things come together to make or form, you know, my background or identity. Is that OK or do you need anything?

- RQ2 - Ethnic Influences Learning Environments
- RQ2 - Education Background Influences Learning Environments
- RQ2 - Age Influences Learning Environment
- RQ2 - Salient Sociocultural Values
- RQ2 - Disruptions to Learning Environment because of Discrimination
- RQ1 - Notable Polarization Responses
- RQ1 - Notable Misaligned Responses (Polarization)
- RQ1 - Notable Misaligned Responses (Minimization)
- RQ1 - Notable Misaligned Responses (Denial)
- RQ1 - Notable Misaligned Responses (Acceptance)
- RQ1 - Notable Minimization Responses
- NRQ3 - Value Diversity and Inclusion in Leadership
- University Curricula
- Traveling
- Sociocultural Identity
- Societal Influences
- Others' Experiences
- Language
- K-12 Schooling
- Interactions with Diverse Others
- Exposure in University
- Ethnicity
- Educational Background
- ASC Leadership Training
- NRQ2 - Influential Experiences
- Noteworthy Quotes

RQ2 - Ethnicity Influences Learning Environments	
RQ2 - Education Background Influences Learning Environments	
RQ2 - Age Influences Learning Environment	
RQ2 - Salient Sociocultural Values	
RQ2 - Disruptions to Learning Environment because of Discrimination	
RQ1 - Notable Polarization Responses	
RQ1 - Notable Misaligned Responses (Polarization)	
RQ1 - Notable Misaligned Responses (Denial)	
RQ1 - Notable Minimization Responses	
RQ3 - Value Diversity and Inclusion in Leadership University Curricula	
Traveling	
Societal Influences	Sociocultural Identity
Religion	
Race	
Others' Experiences	
Nationality	
Language	
K-12 Schooling	
Interactions with Diverse Others	
Home or Geographical Background	
Gender Identity	
Family Background	
Exposure in University	
Ethnicity	
Educational Background	
ASG Leadership Training	
RQ2 - Influential Experiences	
Noteworthy Quotes	

themselves or different culture, different ~~different~~ ways they view life. I feel like that's ingrained or strengthened with under like a nationality. So I guess it is...

Marquetta (Interviewer) [00:17:13] And is that like one of your values?

Aaron (Interviewee) [00:17:16] I would say, do you value it, because I do want to learn, like how to understand, like the impact of nationality more and also like appreciate it in others, because I'm still learning about myself, I admit, but. I guess it really unpacked or it could help me unpack maybe where somebody is coming from through, I guess viewing that section of how they define themselves with nationality.

Marquetta (Interviewer) [00:17:50] So just to clarify, what is nationality? Why is this so important to you?

Aaron (Interviewee) [00:17:58] It's really important to me because it really I also like really like nationality, because it can tell like a story about somebody especially like how they choose to identify with their nationality because, you know, for instance, like, I'll give | an example. Let's say you're in Canada, like Quebec, and you might find some people who identify as Canadians, but some of them might identify as like Québécois like because that's how they identify with like that's their nationality to them. Or that's not all of them, of course. But that might be quite a few who reviewed in a different way or find different. They define their nationality in different ways. So it kind of tells a story in that way.

Marquetta (Interviewer) [00:18:59] Yeah, what's the second one that is the most important to you about you?

Aaron (Interviewee) [00:19:08] I would say second will probably be race.

Marquetta (Interviewer) [00:19:13] How so?

Aaron (Interviewee) [00:19:15] I would just say that because. I would say race and nationality can be. I feel like these all can be tied together in some ways, but they're also different too like, let's say, somebody who is Québécois and you know White might have a

50: Main Activity #2 (optional)	
Time Allotted: As needed.	52: Grouping Strategy: Everyone together.
Content: FOS Problem, round-robin.	
<p>What will students be doing in this activity? Be as detailed as possible.</p> <p><u>Things to think about:</u></p> <p>How does this activity support your learning outcomes?</p> <p>How does this activity incorporate study skills?</p> <p>What instructions will you give to students?</p> <p>How will students share their ideas with each other?</p> <p>How will students know if they got the correct answer?</p> <p>Will students have fun or feel engaged by this activity?</p> <p>Would a sub be able to lead this activity based on how you've described it here?</p> <p>How do you plan to facilitate this activity and encourage collaboration in an online environment?</p> <ul style="list-style-type: none">Breakout roomsUsing whiteboard and/or annotation toolsUsing screen sharingUsing pollsUsing Web 2.0 tools	<p>This activity will mainly serve as a backup activity in the event additional students attend the session who wish to practice new material, or <u>the previous</u> activities are completed earlier than expected. This was the same factor of safety problem I included in my last two sessions but based on the needs of the students to cover different material, I was unable to cover this FOS problem. In the beginning of the problem, I will go around to <u>each student</u> and ask them to give either a question about the problem or something they know about the problem based on the given information. After going around the group, I will ask the students to all work together <u>to solve the problem.</u></p>

Developmental	Self-Awareness
Community Building	Multidimensional Learning
Benefactor	
Session Plan Evaluations (Focused Coding)	

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8
3

Focused Coding Codebook—Interviews

Interview 1 and 2 (Focused Coding)	Codebook Description
<i>RQ1 - Notable Minimization Responses</i>	This code represents notable responses by participants used that had the Developmental Orientation of minimization. These responses align with their Developmental Orientation
<i>RQ1 - Notable Misaligned Responses (Acceptance)</i>	This code represents notable misaligned response by participants used when they assessed to be in polarization or minimization.
<i>RQ1 - Notable Misaligned Responses (Denial)</i>	This code represents notable misaligned response by participants used when they assessed to be in polarization or minimization.
<i>RQ1 - Notable Misaligned Responses (Minimization)</i>	This code represents notable misaligned response by participants used when they assessed to be in polarization or minimization.
<i>RQ1 - Notable Misaligned Responses (Polarization)</i>	This code represents notable misaligned response by participants used when they assessed to be in polarization or minimization.
<i>RQ1 - Notable Polarization Responses</i>	This code represents notable responses by participants used that had the Developmental Orientation o polarization. These responses align with their Developmental Orientation.
<i>RQ2 - Disruptions to Learning Environment because of Discrimination</i>	The participant indicated that their salient sociocultural values were negatively impacted in their learning environments in which they facilitate or participate as a learner.
<i>RQ2 - Salient Sociocultural Values</i>	The participant was asked to share their three important diversity dimensions (values).
<i>RQ2 - Age Influences Learning Environment</i>	The participant indicated that their salient sociocultural value of age plays a role in their learning environments in which they facilitate or participate as a learner.
<i>RQ2 - Education Background Influences Learning Environments</i>	The participant indicated that their salient sociocultural value of education background plays a role in their learning environments in which they facilitate or participate as a learner.
<i>RQ2 - Ethnicity Influences Learning Environments</i>	The participant indicated that their salient sociocultural value of ethnicity plays a role in their learning environments in which they facilitate or participate as a learner.
<i>RQ2 - Family Background Influences Learning Environments</i>	The participant indicated that their salient sociocultural value of family background plays a role in their learning environments in which they facilitate or participate as a learner.
<i>RQ2 - Gender Identity Influences Learning Environments</i>	The participant indicated that their salient sociocultural value of gender identity plays a role in their learning environments in which they facilitate or participate as a learner.
<i>RQ2 - Home or Geographical Background Influences Learning Environment</i>	The participant indicated that their salient sociocultural value of home or geographical background plays a role in their learning environments in which they facilitate or participate as a learner.
<i>RQ2 - Race Influences Learning Environment</i>	The participant indicated that their salient sociocultural value of race plays a role in their learning environments in which they facilitate or participate as a learner.

1	<i>RQ2 - Religion or Spirituality Influence Learning Environments</i>	The participant indicated that their salient sociocultural value of religion or spirituality plays a role in their learning environments in which they facilitate or participate as a learner.
8	<i>RQ2 - Sexual Orientation Influences Learning Environment</i>	The participant indicated that their salient sociocultural value of sexual orientation plays a role in their learning environments in which they facilitate or participate as a learner.
4	<i>RQ2 - Work Experience Influences Learning Environment</i>	The participant indicated that their salient sociocultural value of work experiences plays a role in their learning environments in which they facilitate or participate as a learner.

Focused Coding Codebook—Session Evaluation

CRT Practice Item	Codebook Description
<i>Benefactor</i>	It has multiple benefits for all students. Of all the curricular programs, instructional practices, and research projects discussed in the preceding chapters, there was no instance in which improvements occurred for some ethnic groups or area of academic functioning but not for others.
<i>Community Building</i>	It cultivates an ethos of academic success as well as a sense of community, camaraderie, kindredness, and reciprocity among students who work collaboratively for their mutual personal wellbeing and academic achievement.
<i>Developmental</i>	It has multiple emphases, features, and effects. It simultaneously addresses development of academic, psychological, emotional, social, moral, political, and cultural skills; it cultivates school success without compromising or constraining students' ethnic identity and cultural affiliation. In fact, it develops competence, confidence, and efficacy in these latter areas as well.
<i>Envision</i>	It teaches students to envision and develop the skills needed to construct more desirable futures and to be integral, active participants in these creations.
<i>Multidimensional Learning</i>	It considers achievement to be multidimensional and uses multifocal indicators in assessing the levels of accomplishment for students. Both the acquisition and demonstration of the various dimensions of achievements are synchronized with different ethnic groups' preferred learning, performance, participation, and communication styles.
<i>Self-Awareness</i>	It engages students perpetually in processes of self-knowing and self-assessment.

APPENDIX M. PARTICIPANTS' EXAMPLES

OPENING ACTIVITY

Create a summary sheet for Quiz 2

- Topics, pictures, diagrams, formulas, definitions, etc. 😊
- Feel free to add concepts from homework, lectures, textbook readings, etc.

Amira's Session II Activity Examples

Student Creations/Resources

Main Activity #1- Paired problem solving

Please rotate roles 😊

01

Group member 1-
connect each
problem to an
example in the
homework, lecture,
or textbook

02

Group member 2-
check-in with
fellow peers, make
sure all group
members are
feeling comfortable
with the problem

03

Group member 3-
Create a list of any
questions the group
may have & of new
concepts the group has
learned

Enthalpy Change

In a constant-pressure calorimeter, **100 mL** of **1.35 M HCl** was added to **100 mL** of **1.76 M NaOH**. The reaction was monitored, and the following temperatures recorded: **starting temperature = 24.6 degrees Celsius**; and **final temperature = 38.8 degrees Celsius**.

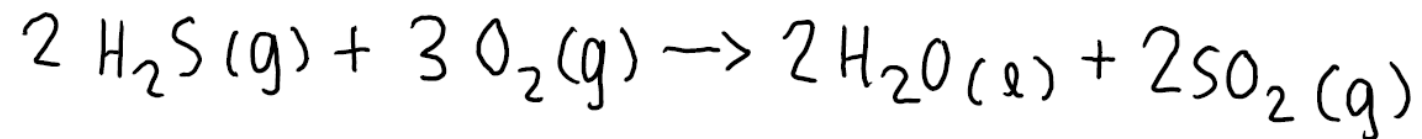
Calculate the ΔH of this reaction (in $\frac{\text{KJ}}{\text{mol}}$ of H_2O produced).

*Assume the solution has the same density and specific heat as water (1.00 g / mL and 4.184 J / g * C), respectively. Assume that the total volume is the sum of individual volumes.

Steps:

Heat of Formation

Use a standard enthalpies of formation table to calculate the **standard enthalpy change** for the following reaction:



Steps:

$$\Delta H_f \text{SO}_2(\text{g}) = -296.8 \text{ kJ/mol}$$

$$\Delta H_f \text{H}_2\text{O}(\text{l}) = -285.8 \text{ kJ/mol}$$

$$\Delta H_f \text{H}_2\text{S}(\text{g}) = -20.6 \text{ kJ/mol}$$

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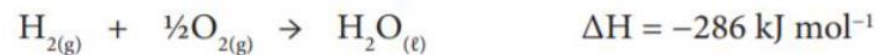
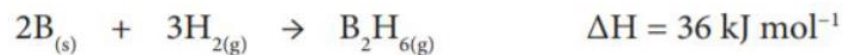
9

Hess's Law

The compound diborane (B_2H_6) is used as a rocket fuel. The equation for the combustion of diborane is shown below.



Calculate the enthalpy of combustion of diborane (B_2H_6) in kJ mol^{-1} , using the following data.



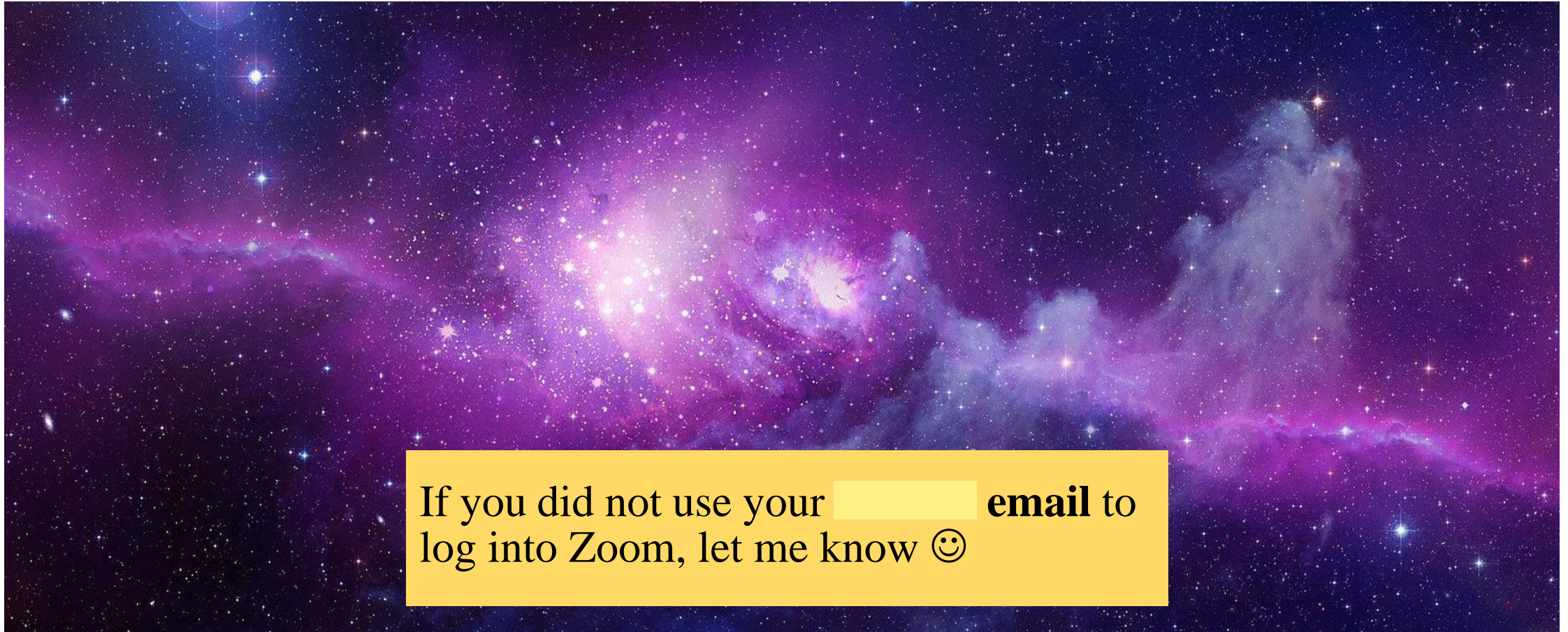
Steps:

Main Activity #2: Predicting Test Questions

- Share **any study strategies** and **topics** you are focusing on for **Quiz 2**
- Create your own questions & **quiz your group**
- Share any **problems** you are reviewing & discuss how they may appear / be worded on the quiz

Closing Activity

- Share your biggest takeaway or a main concept from today's session 😊



Thank you 😊 & best of luck for Quiz 2!!

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In case of technical difficulties . . .

- If you are unable to see any content or hear audio after 6:30, please contact _____
- I may be experiencing technical issues on my end but will still hold the session and can provide additional materials by email 😊
- Thank you & welcome to SI!

SI Session Plan

Template

Leader Name	Amira (she/her)	SI Course	CHM 115	Session Date	2/9	# Students Expected	4-6
Pre-Planning							
What did students struggle with in your last session?	Students found the band of nuclear stability to be a newer and more challenging concept. In general, students have found nuclear chemistry to be a newer topic, in comparison to the previous units.						
What are the learning outcomes for this session?	1. After the session, students will be able to compare exothermic vs. endothermic reactions. 2. After the session, students will be able to apply Hess's law for problems involving the calculation of enthalpy changes.						
What study skills are you using in this session?	Students will be creating a "summary sheet." This will help students synthesize big picture concepts, encourage students with different learning styles to incorporate definitions / pictures / diagrams, and to empower students with a study technique for their open note quizzes.						
What materials will you need for this session?	Computer						
Opening Activity							
Time Allotted (10 min or less): 10		Grouping Strategy: Breakout rooms then as a whole					
Content: Summary Sheet							
<p><u>What will students be doing in this activity? Be as detailed as possible.</u></p> <p>Students will create summary sheets of material for Quiz 2 including definitions, diagrams, pictures, etc. for around 7-8 minutes in breakout rooms. Students will then rejoin the main room and each group will add one of their ideas to the whiteboard, to share with the main group.</p> <p>I hope this activity will help students review the material in a more general way before tackling different problems in today's main activity. In addition, I hope students with different learning styles will be able to create diagrams, definitions, pictures, etc. For example, some students prefer to delve into theory and definitions, and other students prefer to create diagrams or use different colors.</p>							

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Find the derivative of $y = \sqrt{r^2 - 10x^2}$, where r is a constant.

40. **A** ☐ $\frac{r - 10x}{\sqrt{r^2 - 10x^2}}$

B ☐ $\frac{-10x}{\sqrt{r^2 - 10x^2}}$

C ☐ $\frac{r^2 - 10x^2}{2\sqrt{r^2 - 10x^2}}$

D ☐ $\frac{-10x^2}{\sqrt{2r - 20x}}$

E ☐ $\frac{10}{\sqrt{r^2 - 10x^2}}$

F ☐ $\frac{r^2 - 10x^2}{\sqrt{2r - 20x}}$

Hailey's Session II Problem Set

Chain Rule and Related Rates

A diver in midair has vertical position given by

$$h(t) = -16t^2 + 5t + 25$$

where $h(t)$ is the diver's height above the water, in feet, t seconds after beginning the dive. What acceleration, in ft/sec², t seconds after the dive begins?

44. **A** ☐ $-28t$

B ☐ $-28t + 25$

C ☐ 25

D ☐ $-32t + 5$

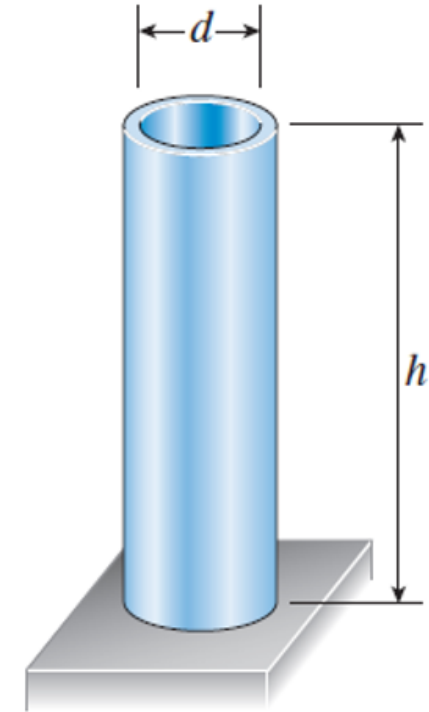
E ☐ -32

F ☐ -16

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Example: A tall standpipe has a diameter $d = 2.2 \text{ m}$ and wall thickness $t = 20 \text{ mm}$.

- a) What height h of water will produce a circumferential stress of 12 MPa in the wall of the pipe? (Assume $\rho_{\text{water}} = 1000 \frac{\text{kg}}{\text{m}^3}$, $g = 9.8$)
- b) What is the longitudinal stress in the tank due to the water pressure?



Aaron's Session II Problem Set

Aerospace and Aeronautical Engineering (Stress)

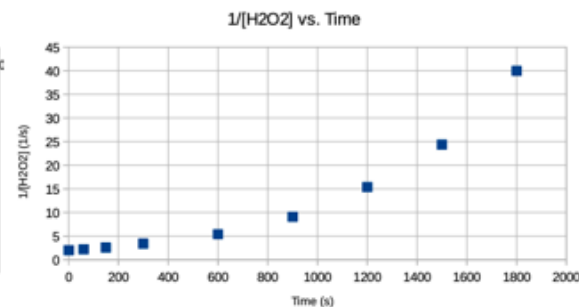
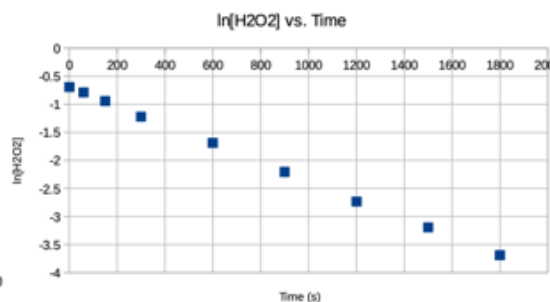
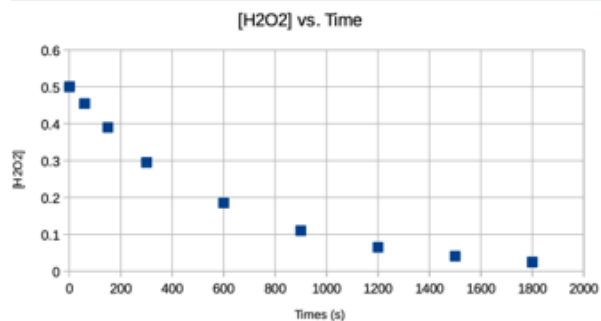
Activity 2: Analyzing graphs

The following reaction was studied at a certain temperature, the data in the table were obtained. Determine the rate law, the integrated rate law, the value of the rate constant, and the $[\text{H}_2\text{O}_2]$ at 1955 seconds.

$2\text{H}_2\text{O}_2(l) \rightarrow \text{O}_2(g) + 2\text{H}_2\text{O}(l)$	
Time (sec)	$[\text{H}_2\text{O}_2]$ (mol/L)
0.0	0.500
60.0	0.455
150.0	0.390
300.0	0.295
600.0	0.185
900.0	0.110
1200.0	0.0650
1500.0	0.0410
1800.0	0.0250

Ayesha's Session II Problem Set

Graph Analysis



Closing: What are you struggling with?

- Scan this code and type in topics that you have been struggling with from the last couple weeks.
- Its completely anonymous!
- You have five entries you can put in



Ayesha's Session II Closing Activity

Anonymous/Integration of Digital Tools