Increasing migrations across the world mean leaders at all levels need to become more competent in working across cultures. During the past 30 years, program designers, researchers, and others have investigated intercultural competence (ICC), often described as the capability to accurately understand and adapt behavior to cultural differences and commonalities. Tertiary education programs (TEP) are accepting these challenges by offering experiences (such as coursework, study away, study abroad, cultural events, etc.) that are intended to produce culturally competent graduates. The teaching and learning experiences described in this study at a midwestern American university may inform others. This study examined archived data from two courses designed to enhance undergraduates’ ICC. Researchers expected that students who completed a course, called Critical Race Theory in Education (CRT), would show statistically larger gains during a second course, called Human Relations in a Multicultural Society (HRMS). At the beginning and conclusion of HRMS, students completed the Intercultural Development Inventory (IDI). Researchers used the two-sample t-test to compare the pre-HRMS scores of students who had completed CRT and students who had not completed CRT. Analysis showed students who took CRT before HRMS had statistically significantly higher beginning scores than students who had not completed CRT before they enrolled in HRMS (p = .042). Although students who completed CRT started HRMS with the higher IDI mean score, those individuals did not make statistically significant gains in their ICC during the HRMS course (p = .130). However, the students who had not completed CRT before HRMS did make statistically significant gains in their ICC during the HRMS course (p < .001). These results, with additional research, could be used to redesign the courses or to design other curricula approaches.

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At a time when global business markets, communication technologies, and transportation systems have increased the diversity of cultural contact in daily lives, intercultural communication skills and abilities are essential to multicultural societies and to life in the global village (Samovar & Porter, 2000). Tertiary education plays a key role in fostering intercultural competence (ICC) among undergraduate students and to prepare them for the world environment. Colleges and universities throughout the world are developing teaching and learning opportunities for students. One university in Mankato, Minnesota, USA is requiring students to complete general education courses that address these values.

**Background**

At this university, for more than ten years, Sandell and teams of undergraduate researchers have examined the influence of undergraduate courses on students’ ICC (Sandell, 2020a). The teams made a series of reports about the ICC of undergraduate students, measured before and after the HRMS course:

- 95% are likely to start their university studies in the stage of ethnocentric minimization.
- More than 1000 students who completed the HRMS course showed a statistically significant positive difference in ICC.
- No differences in ICC were related to the students’ ethnicity, age group, region of childhood, study abroad, class, academic major, or semester.
- In a teacher preparation program, which emphasized ICC throughout the entire academic program, ICC was statistically significantly enhanced among 47 students between year 1, year 2, and year 3.
- ICC was statistically significantly enhanced after students had experiences in Service Learning across cultural backgrounds).

**Literature Review**

This investigation was interested in the development of effective ICC with culturally diverse persons and groups. Many scholars attempt to define this variable, yet the labels and definitions of ICC vary across the disciplines (Deardorff, 2008). This investigation considered ICC as “the capability to shift cultural perspective and appropriately adapt behavior to cultural differences and commonalities” (Hammer, 2015, p. 26). With this definition, ICC includes several core components: cultural awareness, understanding of behavioral and psychological characteristics of people
from diverse backgrounds, and proficiency in managing their perception and behavior appropriately toward cultural differences (Hammer, 2011).

**Role of Tertiary Education**

Industry demand for a workforce equipped with ICC suggests that TE is responsible for incorporating ICC into the preparation of leaders and workers. TE in general serves as a social institution which provides skills and fosters good citizenship (Johns, 2021). Tertiary education plays an important role in fostering cross-cultural skills (Blankvoort et al., 2019). An increasing number of universities throughout the world are acknowledging the need of fostering students’ ICC (Hammer, 2011). Many degree programs aim to achieve ICC through their curricular activities (Strohmeier et al., 2017). The effort of fostering ICC may focus on equipping students with advanced critical thinking and learning, because the development of ICC is “a lifelong self-regulated learning task” (p. 85) and suggested that educators focus on allowing students to navigate their own learning process in cross-cultural scenarios.

Because student populations are becoming more culturally diverse, teacher preparation programs seek to develop ICC among preservice teachers so they may teach effectively in the classrooms (Taylor et al., 2016). However, according to Lee et al. (2021), undergraduate students are generally situated at the stage of denial and unaware, or least competent about cultural differences. Also, while there is a range of definitions for the word "culture," European or white American college students, who had the least intercultural experience, tend to understand "culture" simply as race or ethnicity. This emphasizes the significant role of multicultural education courses. Even among preservice teachers, it is reported that their multicultural values are not developed in a consistent manner (Acquah & Commins, 2013). There is also a challenge in the design of preservice programs; some research notes that while preservice teachers recognize the impact of multiculturalism on the classroom (Taylor et al., 2016), their preservice programs may not provide experience and reflection that enhance cultural competence in the classroom (King & Buder, 2015).

**Critical Race Theory**

From the foundation of the United States to the recent era, the social system has been constructed to benefit the dominant racial/ethnic group and disadvantage the marginalized population. Such social structures, which enforce White Supremacy, have marginalized and subordinated Black, Indigenous and People of Color (BIPOC)
individuals continuously. Critical Race Theory (CRT) is a framework to challenge the law about how it forms and sustains institutional racism by targeting marginalized people (López, 2003).

CRT can be traced back to the late 1970s and early 1980s as an alternative perspective that addresses the limitations of traditional civil rights approaches in tackling racial inequality in the United States (Bell, 1980; Delgado, 1989). Delgado and Stefancic (2017), explain “the critical race theory movement is a collection of activists and scholars engaged in studying and transforming the relationship among race, racism and power” (p. 2). CRT researchers provide explanations for why society is unable to identify racism because it is rooted in norms, systems, and organizations (Scheurich & Young, 1997; Vaught & Castagno, 2008). Beyond analyzing the legal system, CRT is a useful framework to prepare professionals to become more racially conscious and actively work against racism and bias. It can be used to analyze systems, structures, and outcomes at multiple levels (Delgado & Stefancic, 2017). The application of a racial equity lens as educators are developing knowledge and expertise in their fields of study prepares them to succeed in a racially complex society. CRT describes the experiences of White Americans as “the normative standard” (Saddler, 2012, p.42). One of CRT’s major focuses is narrative writing and storytelling to include the voices of people of color who have been traditionally excluded by the decision-making systems.

While the student demographic at elementary and secondary schools is becoming extremely diverse, there are few teachers of color (particularly, black male teachers). Consequently, CRT may be used to address the challenges that preservice teachers of color face in teacher education programs (Brown, 2014). Also, CRT has been used to research curriculum design and pedagogy as scholars see the place for application in the classroom to incorporate critical and culturally responsive teaching (Ladson-Billings, 1995).

The first important concept of CRT is that race is a social construct. Racism is not only individual acts of prejudice but also systemic and institutionalized within a society, which impacts policies and practices in education (Ladson-Billings & Tate, 1995; Haney-López, 1994; Stovall, 2006). This is a clear differentiation from race as biological or natural characteristics.

The second important concept of CRT is intersectionality. Oppression against marginalized populations is not defined by race, but there are often multiple forms of oppression based on gender, socioeconomic status, sexual orientation, etc., which overlap with one another (Crenshaw, 1989; Crenshaw et al., 1995). Therefore, racism
cannot be understood unless we know the complexity of multiple social identities that are also social constructs.

The third concept, interest convergence, is one of the important CRT tenants as well. Progress in social justice is always driven by the interest of the dominant population in the United States (Delgado & Stefancic, 2017). Bell (1980) and Dudziak (1988) noted that the Civil Rights movement and desegregation activism in the Cold War era were both supported by the interests and necessities of white people back then.

**HRMS Theoretical Base: The Intercultural Development Continuum**

The theoretical base for the design of the HRMS course is the Intercultural Development Continuum (IDC). The IDC is grounded in the Developmental Model of Intercultural Sensitivity (DMIS) originally proposed by Bennett (1986). The DMIS model is a developmental model in which an individual progresses from an ethnocentric mindset to an ethno-relative mindset. Since the original DMIS was proposed, IDI research findings have supported the basic tenets of the DMIS and revised some aspects of its framework (Hammer, 2012).

The IDC describes five orientations to cultural differences and similarities. Denial – or Unaware – is an orientation to cultural differences in which one is simply unaware of differences and similarities. The other culture is unknown. Polarization – or Defense suggests opposites – polarized concepts of "us" and "them," without much understanding. In Minimization, one tries to minimize the differences and emphasize the similarities. In Acceptance, the individual has become acquainted with people in another culture and accepts them, even if there is disagreement. Finally, a person may reach Adaptation, in which they are so well-acquainted with the other culture that they can adapt their behavior to fit in.

**Intersection of CRT and IDC**

Some academic writers criticize ideas about the development of ICC as ways to simply describe differences and similarities between cultures. However, CRT offers a model to address social hierarchy between cultures (dominant culture vs marginalized culture) (Razack & Jeffery, 2002; Schiele, 2007; Yee, 2005). CRT also provides holistic content which may foster individual and group competence in combatting structural racism and promoting social justice. Conservative groups have
criticized CRT as promoting division. Gutzmann (2022) have noted this may be due to a lack of capacity to consider concepts from a non-traditional lens. The idea of ethno-relativism embedded in the IDC offers a way for individuals from dominant cultures to be more accepting of the theories that may challenge their traditional dominant cultural perspectives.

**Methodology**

This investigation responded to two hypotheses:

1. Individuals who completed CRT would begin the HR course at a statistically significantly higher developmental orientation to cultural differences relative to students who did not complete CRT.
2. Individuals who completed CRT would make statistically significant larger gains in their developmental orientation to cultural differences during the HR course than students who did not complete the CRT course.

**Setting**

The study was conducted at a mid-sized public university in south central Minnesota. The University is a teaching and applied research institution, with about 14,000 students enrolled in over 200 academic programs, from bachelor’s through doctoral degrees. The University is a diverse, global institution with 18% students of color and with 8% international students from 95 countries. Education and support are provided by 1,600 faculty and staff, including 700 teaching faculty. The University has a growing number of on-line programs to accelerate educational access and opportunity. Additional locations include partnerships in the metropolitan Twin Cities and in northern Minnesota’s Iron Range region.

**Interventions**

Minnesota State University, Mankato leaders have determined that development of ICC among students, faculty, and staff is essential to foster graduates who are competent in a diverse society (Minnesota State University, Mankato, 2019). There are many university courses intended to enhance students’ ICC. This investigation was interested in two courses: Critical Race Theory in Education (CRT) and Human Relations in a Multicultural Society (HRMS).
Introduction to Critical Race Theory course is designed to move students from recognizing and acknowledging diversity, to working toward racial equity. The semester begins with the class understanding a common definition of race and uses the Courageous Conversations about Race Protocol (Singleton and Linton, 2005) to teach students how to have productive non-threatening conversations about race. Students learn about the history and construction of the concept of race and its role in the formation of the United States. Students also learn how the many resulting policies still negatively impact people of color today. The course is heavily discussion-based and relies on students to speak their truths whether that truth confirms or contradicts the topic of the day. The impact of race is examined in topics such as housing, healthcare, education, sports, law, entertainment, and politics. These topics are examined through the CRT tenets or principles: Interest Convergence, White Over Color Ascendancy, and Racism is Normal. The course involves narrative writing and storytelling to include the voices of people who have been traditionally excluded from the system.

Human Relations in Multicultural Society is a 3-credit course providing education in self-awareness and skills essential for living and working socially in a democratic society. The course addresses issues of oppression and social justice related to race/ethnicity, gender, age, class, religion, disability, physical appearance, sexual orientation and nationality, the groups that have been historically excluded from the western power and decision-making. The course materials supply students with knowledge gained through examination of texts, data, or other information: journaling, persona characters, case studies, review activities, cooperative large and small group activities, role-playing, simulations, assigned and elective readings, lectures, multimedia presentations, guest speakers, field trips, and inquiry-oriented discussion circles. They also provide information and models to apply concepts in solving cultural competency and human relations problems. Throughout the course, the instructor takes a mentor role and serves as a guide, facilitator, and observer, and periodically addresses individual and classroom-wide needs. Students also must spend 18 hours of Service-Learning field experience so that they have meaningful experiences with individuals and groups from diverse cultures.

Population/Sample

Archived data was used from undergraduate students enrolled during Fall 2021 in a course called Human Relations in a Multicultural Society. Each semester, about 25 students enroll in each of three sections of the course. For this study, the final data set included 67 students, because several students withdrew from the course or
did not complete one of the assessments. Data subsets were created. One subset included 19 students who completed the CRT course before enrolling in the Human Relations course. The second subset included 48 students who did not complete the CRT course. Of the respondents, 33% were male, 67% were female, 22% were African American, 72% were European American, and 7% had other ethnic demographic identifiers.

**Variable of Interest: Intercultural Competence**

Investigators were interested in the variable known as ICC, “the capability to shift cultural perspective and appropriately adapt behavior to cultural differences and commonalities” (Hammer, 2015, p. 26). For this study, the researchers used the variable called Developmental Orientation (DO) as a proxy for IC (Intercultural Competence). The DO is one’s worldview, i.e., the lens or perspective with which an individual or group views cultural differences and similarities.

**Figure 1. Intercultural Development Continuum (Hammer, 2012)**

<table>
<thead>
<tr>
<th>Monocultural Mindset</th>
<th>Multicultural Mindsets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denial</td>
<td>Minimization</td>
</tr>
<tr>
<td>Polarization</td>
<td>Acceptance</td>
</tr>
<tr>
<td>Minimization</td>
<td>Adaptation</td>
</tr>
</tbody>
</table>

| 55 | 70 | 85 | 100 | 115 | 130 | 145 |

**Measurement Instrument**

The IDI version 3 (Hammer, 2009) was used to generate the DO score. The researchers use the IDI because of its validity and reliability testing (Hammer, 2011), as well as its suitability for a university classroom-based setting and its ease of use. Several faculty members at this University use the IDIv3 as a pedagogical and assessment tool with the goal of enhancing students’ ICC and sensitivity. The IDI consists of fifty Likert-type items composed of statements explaining situational and cross-cultural diversity. The inventory is completed in a 20- to 30-minute session online.
Table 1.

Examples of items on the Intercultural Development Inventory ®

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is appropriate that people do not care what happens outside their country.</td>
<td></td>
</tr>
<tr>
<td>People should avoid individuals from other cultures who behave differently.</td>
<td></td>
</tr>
<tr>
<td>Our culture’s way of life should be a model for the rest of the world.</td>
<td></td>
</tr>
<tr>
<td>People from our culture are less tolerant compared to people from other cultures.</td>
<td></td>
</tr>
<tr>
<td>Family values are stronger in other cultures than in our culture.</td>
<td></td>
</tr>
<tr>
<td>When I encounter people from a different culture, I find I change my behavior to adapt to theirs.</td>
<td></td>
</tr>
</tbody>
</table>

(Hammer, 2023)

These investigators acknowledge that there have been reasonable questions about the IDI’s validity, specifically when used with Black, Indigenous, and people of color (BIPOC). As Punti and Dingel (2021) reported, there is not much research that explores and questions the validity of intercultural assessment tools among diverse populations. In fact, their empirical study was one of the first to address validity concerns of using the IDI for BIPOC students in the United States. Indeed, there may be limitations for using any assessment instrument on any university campus that aims to improve students’ intercultural understanding and relationships. The IDI authors wrote the IDI intentionally to not include collection of racial demographic data or questions about race in lieu of culture. However, the IDI ® has been rigorously tested for reliability and validity. The high cross-cultural reliability and validity have been analyzed through psychometric criteria beyond face validity (Hammer, 2011; Hammer et al., 2003).

Data Collection

As an instructional strategy, students completed the IDI® version 3 online during regular class periods during the third week and the last week of the 16-week semester. The online survey took thirty to forty minutes for each participant to complete. The surveys became archived data used for course and program assessment (not a student assessment). The study was conducted according to the guidelines of...
the Declaration of Helsinki and approved by the Institutional Review Board of Minnesota State University, Mankato (protocol number 11375999, 3 October 2017).

**Data Analysis**

The data was de-identified and exported to Excel and SPSS (IBM Corp, 2019) for cohort analysis using ANOVA tests of significance. The researchers used paired samples t-tests to examine mean scores from the IDI to evaluate whether any significant indicators of change were observed. Pre-HR IDI test results for the CRT students and non-CRT students were analyzed using an independent-samples t-test. Results were examined based on \( p < .05 \), the standard level of significance.

**Results**

**Hypothesis 1**

Investigators first hypothesized that individuals who completed CRT would begin the HR course at a statistically significantly higher developmental orientation to cultural differences relative to students who did not complete CRT. The one-tailed independent-samples t-test revealed that students who took a CRT class before the HR class had statistically significantly higher scores than students who first enrolled in the HR class \( (p = .042) \). Thus, the first hypothesis was supported by the data analysis.

**Table 2**

Paired-Samples t-test results for Beginning Developmental Orientation of CRT and Non-CRT students, before the HR Course (one-tailed)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Beginning Mean of CRT (N=19)</th>
<th>Beginning Mean of Non-CRT (N=48)</th>
<th>Sig. (one-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developmental Orientation</td>
<td>97.61</td>
<td>90.47</td>
<td>0.042*</td>
</tr>
</tbody>
</table>

\*p < .05. As measured by the IDI scores of CRT students and non-CRT students
Hypothesis 2.

Next, the investigators hypothesized that individuals who first completed the CRT course would make statistically significant larger gains in their developmental orientation to cultural differences during the HR course than students who did not complete the CRT course. Although students who completed CRT started HR with the higher IDI score, individuals who completed CRT did not make statistically significant larger gains in their DO during the HR course. These results are shown in Tables 3 and 4.

Table 3.

CRT Paired-Samples t-test results Pre- and Post-HR Course (one-tailed)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mean of Pre-HR (N=19)</th>
<th>Mean of Post-HR (N=18)</th>
<th>Mean Dif.</th>
<th>Sig. (one-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developmental Orientation</td>
<td>97.61</td>
<td>102.73</td>
<td>5.12</td>
<td>0.13</td>
</tr>
</tbody>
</table>

*p < .05. As measured by the IDI scores of CRT students and non-CRT students

Table 4

Non-CRT Paired-Samples t-test results Pre- and Post-HR Course (one-tailed)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mean of Pre-HR (N=48)</th>
<th>Mean of Post-HR (N=43)</th>
<th>Mean Dif.</th>
<th>Sig. (one-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developmental Orientation</td>
<td>90.47</td>
<td>104.13</td>
<td>13.66</td>
<td>&lt;.001*</td>
</tr>
</tbody>
</table>

*p < .05. As measured by the IDI scores of CRT students and non-CRT students

Table 3 shows that the students who completed CRT before the HRMS course did not show statistically significant changes during the HRMS course. And Table 4
shows that the students who did not complete CRT before the HRMS course did show statistically significant changes after the HRMS course.

**Discussion and Recommendations**

As the world’s population shifts through migration, individual countries are experiencing great diversity among their regions. Furthermore, global markets, communication technologies, and transportation systems have increased the diversity of cultural contact in daily lives. ICC is increasingly necessary to achieve human goals.

Tertiary education can strategically foster the ICC of their graduates. This research provides information about two distinct types of diversity education courses. The purpose of this research was to examine the change in students’ ICC in a semester-long course called Human Relations in a Multicultural Society, by comparing two groups: students who already completed a CRT course and students who did not first complete a CRT course. The CRT group entered the HRMS course with statistically higher developmental orientation to other cultures. Both groups increased in their orientations toward cultural differences (their developmental orientations). However, only the group without CRT showed a statistically significant increase during the HRMS course. The results indicate that non-CRT students improved their abilities to shift from an ethnocentric perspective to an ethno-relative perspective, and, in effect, ‘catch up’ with the CRT students.

The CRT course emphasized a focus on social justice and, therefore, included narrative writing and storytelling to bring the voices of marginalized people who have been traditionally excluded by the system. CRT may encourage more critical thought among students who are not from historically marginalized backgrounds. The HRMS course emphasized establishing engagement in one’s own culture to provide a solid foundation for interactions with cultures other than the individual’s own culture. Even without the comparison of CRT and non-CRT students, the results suggest that students can increase their ICC during a single semester.

One possibility is that the HRMS content may have been already familiar to those who completed CRT, leaving less room for growth. So, more research is needed to determine if the two courses can be coordinated to add benefits beyond the initial designs for the two courses. Individual and group reflection will be important because “cultural self-awareness is a prerequisite to understanding groups from different cultures” (Spitzer, 2015, p. 49), and ICC gained through reflective inquiry is maintained and often deepened over time (Wilbur, 2016).
Another possibility may be to use the IDI results to customize the course agenda for students in the various stages of developmental orientation, thus prompting students to continue their development from specific stages, rather than an assumed developmental stage. Instructors could use the IDI during the semesters. Students do not necessarily improve their scores by just growing 16 weeks older. In fact, students have overestimated their development of IC, and they are usually surprised and sometimes upset with the results. An overview of the stages in the IDC, individual coaching, and follow-up discussion may foster even more growth.

**Conclusion**

Two specific courses were of interest to the investigators: Introduction to Critical Race Theory in Education (CRT) and Human Relations in Multicultural Society (HRMS). The researchers investigated two hypotheses: (1) Individuals who completed CRT would begin the HRMS course at a statistically significant higher developmental orientation to cultural differences relative to students who did not complete the CRT course; and (2) Individuals who completed the CRT course would make statistically significant larger gains in their developmental orientation to cultural differences during the HRMS course than students who did not complete CRT. The results indicate that CRT contributed to students’ ICC, in that they entered the HRMS course with IDI scores significantly higher than those of students who had not completed the CRT course. However, this initial gap between two groups of students shrunk by the end of the HRMS course. Results also indicate that the students who did not complete the CRT course experienced a larger rate of gain in IDI compared to those who completed the CRT course HRMS.

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Data Availability Statement

The data presented in this study are available on request from the corresponding author. The data are not publicly available due to the difficulties involved with de-identifying qualitative data.

Disclosure statement

No potential conflict of interest was reported by the authors.

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