Research Article

Julia Ballenger and Mei Jiang*

Culturally responsive teaching knowledge and practices of online faculty in educational administration: a pilot study

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Abstract: The new statistics project that the nation will become "Minority White" in 2045 where Whites will comprise 49.7% of the population. In contrast, Hispanics will comprise 24.6%, Blacks 13.1%, Asians 7.9%, and 3.8% for multiracial populations. Given such shifts in the demographic trends, a culturally inclusive curriculum design and delivery is critical for all students' success. The purpose of this pilot quantitative comparative research study was to assess Culturally Responsive Teaching Knowledge (CRT) and Culturally Responsive Educational Practices (CREP) in Texas public university faculty who teach and/or advise online Master's and/or Doctoral students of color, military students, LGBTQ students, religious minority students, and international students in Educational Administration. All respondents in this pilot research study believed Culturally Responsive Teaching was "very important". However, their self-reported ratings on knowledge of CRT were significantly lower than their value of CRT. These findings revealed the respondents recognized the importance and necessity of cultural diversity in online learning. They viewed cultural differences as assets in online courses. However, they self-perceived their own knowledge of cultural diversity in online teaching was insufficient. With the changing student demographics and increase in international students, faculty members should incorporate diverse learning activities into the online course design to promote equitable learning outcomes. These instructional methods are particularly important to the online graduate programs in the fields of Educational Administration, Instructional Administration, and Educational Leadership.

Keywords: cultural responsiveness; educational administration; higher education

^{*}Corresponding author: Mei Jiang, Texas A&M University-Commerce, Commerce, TX, USA, E-mail: mei.jiang@tamuc.edu. https://orcid.org/0000-0001-5019-3283

Julia Ballenger, Texas A&M University-Commerce, Commerce, TX, USA, E-mail: julia.ballenger@tamuc.edu. https://orcid.org/0000-0002-0961-3431

According to U.S. Census Bureau, it has been estimated that, by around 2020, more than one-half of the nation's children will be part of a minority race or ethnic group (Chappell, 2014). Given America's demographic trends, changes in education pedagogy, procedures, and practices are necessary to ensure that all vulnerable youth, regardless of race, gender, immigrant status, or sexual orientation, receive an excellent education. Regardless of subject matter, cultural influences pervade learner-teacher, learner-learner, and learner-content interactions in the continually-changing classroom. The potential for learning any subject matter is enhanced when culturally based teacher practices and pedagogy are systematically incorporated into the instructional planning process (Branch, 1997; Joshee & Johnson, 2007; Scheel & Branch, 1993). Multicultural teaching methods have to be applied to create more effective classroom instruction through a non-biased, non-sexist scope. Students' feeling of inclusion and belonging are accomplished through educators' use of culturally responsive pedagogy and teaching practices.

Therefore, cultural differences between faculty and their students can create important challenges that may affect the quality and efficacy of online teaching and learning. Culture is an entity that transcends ethnic and national boundaries. Viewed from this perspective, culture may encompass patterns shaped by ethnicity, religion, socio-economic status, geography, profession, ideology, gender, and lifestyle. Gay (2010) defined culturally responsive teaching "as using the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant to and effective for them" (p. 31). Ladson-Billings (1994) defined culturally relevant pedagogy as one "that empowers students intellectually, socially, emotionally, and politically using cultural referents to impart knowledge, skills, and attitudes" (pp. 16-17). Ladson-Billings (1995a) explained that culturally relevant pedagogy is a "pedagogy of opposition not unlike critical pedagogy but specifically committed to collective, not merely individual, empowerment" (p. 160). These theoretical frameworks are valuable contributions that provide useful pathways for understanding and dealing with issues of culture not only in traditional classrooms but also in online teaching and learning environments.

The purpose of this pilot quantitative comparative study was to test assessments for online full-time faculty in Texas public universities. These assessments measured Culturally Responsive Teaching Knowledge (CRT) and Culturally Responsive Educational Practices (CREP) in Texas public university faculty who teach and/or advise online Master's and/or Doctoral students. In Texas, there are 35 Master's and/or Doctoral programs in Educational Administration, Instructional Administration, or Educational Leadership that are either 100% Online, Fully Online (86–99%), or Hybrid/Blended. In the current study, we focused on

full-time faculty who teach or advise Master's or Doctoral students in one of those 35 online Master's and/or Doctoral programs. Participants of any gender, ethnicity, and age were included, including military students, LGBTQ students, religious minority students, and international students. This pilot study replicated Heitner and Jennings' (2016) research and particularly focused on the online faculty teaching in the Master's and Doctoral online programs in Educational Administration, Instructional Administration, or Educational Leadership in Texas.

1 The literature review

One of the benefits of online learning is to provide students the opportunity to enroll in a course or program of study regardless of where they reside. Many of the graduate students in this Northeast, Texas University are from different regions in Texas and other states. Graduate students enrolled in the fully online Masters of Educational Leadership program represent many different cultural, ethnic, and language groups. These groups of students are culturally diverse with regard to race, ethnicity, socioeconomics, language, religion, and gender. For example, in the College of Education and Human Service of this university, there were 1836 students enrolled in graduate programs in Fall 2016, including 1,432 (80%) females and 404 (20%) males. There were 1,030 (56.1%) Caucasian, 429 (23.3%) African American, 247 (13.5%) Hispanic, and 123(6.7%) all other students. We also have military and LGBTQ students enrolled in the Master's program.

The purpose of this literature review is to support the argument for the use of culturally responsive teaching practices and pedagogy in the design and delivery of online courses. Sections of this literature include definition of culture, theoretical and conceptual frameworks of culturally relevant teaching and culturally relevant leadership. In addition, the social constructivist theory and the Community of Inquiry (CoI) Conceptual Framework will be reviewed. Lastly, the review will include a synthesis of several qualitative and quantitative empirical research studies. The gaps in the research and recommendations for future research will conclude the review.

1.1 Definition of culture

Culture permeates learning and is central to the higher education; however, the concept of "culture" is complex and defined in numerous ways. Brooks (1975) and Nostrand (1974) viewed culture as a static entity made up of observable and learned characteristics, whereas the more recent models view culture as dynamic and changing (Moore, 1991). Educational leadership, social and behavioral researchers defined culture as the collective norms, rituals, and behaviors that groups of people share (Ryan, 2010). Culture drives what we do, how we think, and how we interact with one another. Particularly in the school setting, school culture has been considered as a set of values, norms, and beliefs that works as a soft strategy in sustainable school improvement (Lee & Louis, 2019; Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). Lee and Louis (2019) identified academic press, student support, trust and respect, optimism, professional learning community as the key elements of a strong school culture. Furthermore, Bridwell-Mitchell (2018) argued that a strong school culture is a connected one with interwoven elements. A school with a strong culture consists of a large number of overlapping and cohesive interactions between people so that the fundamental beliefs, shared values, norms, and patterns/actions of the school can be widely spread across the school community.

Deardorff (2010) noted that culture can be understood as a shared set of norms, values, and beliefs that influence people's interactions and behaviors. These aspects of culture, such as values and beliefs, may not be easily observed compared to other aspects, such as language and behavior (Hall, 1976). For Bennett (1998), the observable characteristics of culture (termed objective culture), are related to cultural products people make and consciously transmit from generation to generation, such as food, holidays, stories, and clothing. Meanwhile, the unobservable aspects, referred to as subjective culture, are related to behavior, values, and ways of thinking that are informally learned and unconsciously shared. For the purpose of this study, we will focus on both the objective and subjective aspects of culture. Issues concerning the social and cultural dimensions of educational tasks in the higher education setting will be examined to discuss how to meet the needs of culturally diverse learners.

1.2 Cultural response teaching and leadership frameworks

Aronson and Laughter (2016) completed a synthesis of the research on the theory and practice of culturally relevant education across content areas. Two primary strands emerged from the literature. One of the strands focused on teacher practices (i.e., Geneva Gay's research) and the other focused on teacher stance and standards (i.e., Gloria Ladson-Billings' research). Faculty in teacher education and educational leadership programs purport to adopt and use Culturally Responsive Teaching Knowledge (CRT) and Culturally Responsive Practices (CRP) in the design and delivery of their online courses. However, Sleeter's (2012) research on "Confirming the Marginalization of Culturally Responsive Pedagogy" confirmed the absence of CRT, CRP, and attention to cultural differences and ethnic diversity in many online courses.

Ladson-Billings (1995b) acknowledged that teachers use culturally relevant pedagogy to develop sociopolitical consciousness, which includes one's obligation to recognize issues of race, class, and gender in themselves and to incorporate these issues in their teaching. Building on Paris' (2012) theory of culturally sustaining pedagogy, Ladson-Billings (2014) extended her research to more global cultural identities and other disciples such as arts, literature, music, athletics, and film.

Villegas and Lucas (2002) integrated Gay's five essential elements and their (i.e., Villegas and Lucas) salient characteristics of CRT to develop an adapted theoretical framework of culturally responsive teaching that is relevant for pedagogy development in British University Business Schools. Villegas and Lucas's adapted framework is presented as five pillars of culturally relevant teaching, which are: (a) Pillar 1: cultural consciousness, (b) Pillar 2: resources, (c) Pillar 3: moral responsibility, (d) Pillar 4: cultural bridging, and (e) Pillar 5: higher education curriculum (p. 7). Moreover, Villegas and Lucas used this adapted theoretical framework to facilitate the development of culturally responsive teaching practices for ethnic minority students in the Business school and the wider university.

A culturally responsive school culture is not complete without culturally relevant leadership. Based on Ladson-Billings' (1995b) culturally relevant pedagogy framework, theories of social justice leadership, inclusive leadership, and culturally responsive school leadership (Khalifa, Gooden, & Davis, 2016; North, 2006; Scanlan & Lopez, 2012; Theoharis, 2007, 2008; Theoharis & O'Toole, 2011) were framed to prepare educational leadership for social justice. Capper, Theoharis, and Sebastian (2006) conceptualized the preparation of leaders for social justice through two dimensions: critical consciousness, knowledge, and practical skills that focus on social justice on the horizontal dimension, while curriculum, pedagogy, and assessment oriented toward social justice on the vertical dimension of the framework. In responding to the schooling needs from the larger school environment perspective, Khalifa et al. (2016) discussed the importance of critical self-awareness, teacher preparation, school environment, and community advocacy in building culturally responsive school leadership to address pressing issues under the multicultural context.

1.3 Social constructivism

Russian psychologist Lev Vygotsky, regarded as the father of social constructivism, believed that knowledge was constructed through dialog and interaction with others (Vygotsky, 1978). He argued that knowledge is co-constructed

in a social environment and that in the process of social interaction, people use language as a tool to construct meaning. Social constructivism is a broad-based epistemological approach to understanding how social and interpersonal influences jointly construct one's understanding of the world (Burr, 2003; Gergen, 1985). In educational practices, students construct knowledge through their interactions with the instructor and others. They negotiate meaning through learning activities. Therefore, the instructor's role is to use various technologies and instructional activities that aim at deepening students' understanding of the subject matter in the learning environment (Swan, Garrison, & Richardson, 2009). Understanding that human development is socially situated and knowledge is constructed through interaction with others, we use the socioconstructivist approach in the design and delivery of our online course. We used a sense of community and social ability as two critical factors influencing learners' level of online participation and social interaction (Royai & Wighting, 2005).

1.4 Community of Inquiry Model (CoI)

Garrison, Anderson, and Archer (2000) synthesized a wide body of educational research to develop what is known as the Community of Inquiry Model (CoI). The CoI Model addresses the interaction of individual learners and their instructors. The CoI Model is based on the constructivist theoretical principles. This model consists of three independent dimensions, which are social presence, teaching presence, and cognitive presence. The concept of social presence was defined by Garrison et al. (2000) as "The ability of participants in a community of inquiry to project their personal characteristics into the community, thereby, presenting themselves to others as real people" (p. 89).

Teaching presence denotes the design elements of an online course that "allows for instructor facilitation and pedagogical direction to learners in the social and cognitive processes" (Anderson, Rourke, Garrison, & Archer, 2001, para. 4). Cognitive presence is "the extent to which the participation in any particular configuration of a community of inquiry are able to construct meaning through sustained communication" (Anderson et al., 2001, p. 12). One way to increase cognitive presence in online courses is to design activities that begin with a triggering event in the form of a problem or dilemma. Students brainstorm ideas and share the information about the dilemma with their online peers. Culturally relevant teaching practices or pedagogy was not included in this model; however, teachers in online courses could certainly use these cultural constructs in the design and delivery of their courses.

1.5 Culturally relevant teaching, cultural differences, and ethnic diversity

In this section, the researchers provided an analysis of several empirical research studies. These authors investigated how faculty members accounted for cultural differences, diversity, and culturally relevant teaching in the development of online course content in higher education.

A search through the EBSCO Host database was conducted to locate peerreviewed empirical studies published in the U.S., the UK, Australia, Canada, and other countries on the topic of developing online courses with attention to diversity, cultural differences, and international students in the context of online education. Most of the articles reviewed used a qualitative research design with either case study or other basic qualitative research method with only two quantitative studies using the survey method.

For the purpose of this literature review, the researchers purposefully selected qualitative empirical research studies where the context for teaching and learning was online, at the higher education level, and included a culturally diverse student population. McDermott (2017) conducted a qualitative study to explore the extent to which faculty in one Irish higher education institution considered the cultural nature of the students in the design and delivery of online courses. McDermott purposively selected three faculty members as the participants. The results of the study revealed that culture was not considered either in the design or delivery phases of the participants' courses. McDermott concluded the article with recommendations on how to address these deficiencies and provide professional development support for online faculty.

Jabbar and Hardaker's (2013) research focused on the role of CRT for supporting ethnic diversity in British University Business Schools. 10 faculty members and administrators with a minimum of three years' experience in higher education were purposefully chosen to participate in in-depth interviews of the study. The researcher explored the role of culturally responsive teaching in U.K. higher education and whether/how methods and techniques of pedagogy formulation were used to support the learning of ethnic minorities. The results revealed the need for faculty to adopt an approach to teaching online courses that is culturally responsive and engage their students through their cultural values and heritage.

Both Jabbar and Hardaker's (2013) and McDermott (2017) employed qualitative research methods to study CRT in the design and delivery of online instruction. Their findings were quite similar in that the participants did not consider using culturally relevant teaching and pedagogy in developing their courses. Similarly, Zhang and Kenny (2010) explored the learning experiences of three international students

enrolled in an online master's program offered by a large university in Canada. The findings revealed that the lack of familiarity with the North American culture and colloquial language made it difficult to participate in online activities in the online environment. Zhang and Kenny suggested that distance education course designers should be aware of the needs and expectations of international students and adapt their teaching to culturally diverse student population. Faculty members should combine the design principles from both traditional and constructivism theories to address the needs of ethnically diverse students. Correspondingly, Kang and Chang (2016) argued that online learning is never a "value-free transaction and selfreferenced learning event" (p. 789). Cultural impacts should be strategically incorporated into online course design, e.g., providing collaborative team projects to enhance peer-to-peer interactions, using nonverbal and visual forms of communication methods, and providing accommodation in the areas of language and life to help student sojourners complete cultural transition.

Milheim (2014) administered a short-answer written, web-based survey from December 2012 through February 2013 to explore how cultural differences manifest themselves in online courses. In addition, this researcher sought to identify how instructors perceived their roles with respect to facilitating discussion across multiple cultures. A total number of 41 faculty or instructors who had taught at least one, fully online course responded to the survey. It was commonly acknowledged that culture plays a critical role in the classroom, however, it was difficult to identify differences in the online setting due to a sense of anonymity and masking of culture. Such masking could have a significant impact on the communication that occurs in the courses. In this case, students' self-identification of their culture became important.

More recently, Prieto (2018) administered a quantitative online survey to 91 psychology educators to determine their attitudes toward incorporating diversity content into courses. Findings indicated that as instructors' personal acceptance of culturally diverse students increased, instructors' level of "backlash" attitudes toward those students decreased, and instructors attached a greater level of importance to incorporating diversity issues into their course content. Given the fact that university student populations are increasingly becoming more culturally and ethnically diverse in the U.S., the student population in the online classes mirror the larger macro system. We see more students of different genders, ethnicities, languages, and cultural backgrounds in online learning community. For example, we are now seeing an increase in the number of non-traditional students who work full time with families. However, the empirical research reviewed above indicated that most of the online faculty were not cognizant of culturally relevant teaching theory and educational practices. More empirical research needs to be conducted to examine whether or not online faculty have the culturally responsive

knowledge and skills to support the learning of ethnic minority university students in the United States.

2 Method

The purpose of this pilot quantitative comparative study was to measure Culturally Responsive Teaching knowledge (CRT) and Culturally Responsive Educational Practices (CREP) in Texas public universities. Participants included full-time faculty who teach and/or advise online Master's and/or Doctoral students of color, military students, LGBTQ students, religious minority students, and international students. The current study also examined whether differences exist between faculty's knowledge (CRT) and educational practices (CREP). The current study replicated Heitner and Jennings' (2016) research focusing on the educational sector of pubic university faculty population in Texas. Particularly, we focused on Master's and Doctoral online programs in Educational Administration, Instructional Administration, or Educational Leadership. Culturally Responsive Teaching Knowledge and Practices of Online Faculty instrument (Heitner & Jennings, 2016) was used to measure CRT and CREP. Descriptive data analysis was used to describe CRT and CREP and Wilcoxon-Signed-Ranks test was used for within-groups of subscale scores comparisons. The research questions and sub-questions that framed this study are listed below.

- Research Question 1: To what extent are online faculty knowledgeable about culturally responsive teaching (CRT)?
- Research Question 2: To what extent do online faculty value culturally responsive teaching?
- Research Question 3: To what extent do online faculty use culturally responsive educational practices (CREP)?
- Research Question 4: Do subscale scores for knowledge, value/importance, practice, and preparation/skills differ within groups?
 - Sub-Question 4a: Are scores for Value/Importance of CRT higher than scores for Knowledge of CRT?
 - Sub-Question 4b: Are scores for Knowledge of CRT higher than scores for Knowledge (about meeting needs) of Different Communities?
 - Sub-Question 4c: Are scores of Knowledge of CRT higher than score for Value (about meeting needs) of Different Communities?
 - Sub-Question 4d: Are scores for Value/Importance of CRT higher than scores for Value (about meeting needs) of Different Communities?
 - Sub-Question 4e: Are scores for Use of CRT higher than score for Practice (meeting needs) of Different Communities?

Sub-Question 4f: Are score for Prep/Skills for CREP higher than scores for Knowledge/Skills/Abilities (for meeting needs) of Different Communities?

3 Population and sampling

Based on the Texas Higher Education Coordinating Board (THECB) website, there is a total number of 35 Master's and/or Doctoral program in Educational Administration, Instructional Administration, or Educational Leadership that are either 100% Online, Fully Online (86–99%), or Hybrid/Blended. Of the 35 institutions, 25 (71.4%) of them are 100% online, 8 (22.9%) are fully (86–99%) online, and 2 (5.7%) are hybrid/blended. Most of the programs (n = 31; 88.5%) are Master's programs (MA/MS/MED) and four programs (11.5%) are doctoral programs (EDD). For the current study, we purposefully selected participants who met all of the following criteria: (a) teach in a Texas not-for-profit public university; (b) work as a full-time faculty; (c) teach or advise Master's or Doctoral students in either 100% online, fully online (86–99%) or hybrid/blended programs; d) teach courses in the program of Instructional Leadership, Educational Leadership or Educational Administration; e) have at least two years of online instructional experience at either the master's or doctoral level or both, and f) have prior experience teaching at least five online or hybrid/blended courses.

Participants of all genders, ethnicities (e.g., African American, Non-Hispanic White, Hispanic, Asian, American Indian and Alaska Native, Native Hawaiian, other Pacific Islander, and Two or more Races) and of any age were included in the study. Faculty in 35 Master's and/or Doctoral program in Educational Administration, Instructional Administration, or Educational Leadership were invited via email to complete the online study on Qualtrics.

3.1 Instrument

Culturally Responsive Teaching Knowledge and Practices of Online Faculty instrument (Heitner & Jennings, 2016) was used to measure CRT and CREP in this pilot study (see Appendix). This instrument was developed based upon Gay's (2010) theoretical framework to measure the extent to which online faculty consider, value, and address culturally responsive teaching in their work on a 5-point Likert scale. The Culturally Responsive Teaching Knowledge and Practices of Online Faculty instrument contains five sections. Section One (i.e., knowledge about culturally responsive teaching) asks participants to rate their current knowledge of 12 **DE GRUYTER**

culturally responsive tenets and approaches from 1 (poor) to 5 (excellent). Section Two (i.e., Value/importance of culturally responsive teaching) asks participant to rate their opinion of the importance of the same 12 items from 1 (not at all important) to 5 (extremely important). Section Three (i.e., Use of culturally responsive educational practices) rates the extent to which faculty use the same 12 items (i.e., practices) from 1 (never) to 5 (all the time). Section Four (preparation/skills to use culturally responsive educational practices) looks at faculty's self-perceived level of preparation on those 12 items (i.e., practices) from 1 (poor) to 5 (excellent). Section Five examines faculty's agreement with their knowledge, value, practice, Knowledge/skills/abilities (KSAs) from 1 (strongly disagree) to 5 (strongly agree).

An expert panel consisting of 10 faculty and students of racial/ethnic/religious minority, military, LGBTQ, and international cultures reviewed the instrument items for face validation. Content validity was assessed through interview responses. Cronbach's alpha for all subscale of this instrument were found to be between 0.895 and 0.97, and subscale intra-class correlation coefficients ranged from 0.526 to 0.833. In addition, construct validity was assessed in the Campbell-Fiske Multitraitmultimethod matrix analysis in which correlations between the responses to the same groups of questions across respondents from the private, not-for-profit, public, and for-profit sectors were examined. Twenty-seven out of 36 inter subscale correlation was found to be significant, ranging from 0.322 and 0.882. In the current study, the Culturally Responsive Teaching Knowledge and Practices of Online Faculty instrument was administered via Qualtrics to a pilot sample of online faculty of Master's and Doctoral online programs in Educational Administration, Instructional Administration, or Educational Leadership. Demographic information of the participants (i.e., gender, ethnicity, and age) was also collected in the survey. It took about 30 min for participants to complete the survey.

4 Results

The research invitation was distributed through the targeted online graduate programs in Spring 2018 followed by two rounds of reminders. Within two months we received 11 responses out of about 100 faculty members that were reached. The approximate response rate was 11%. Out of 11 pilot participants (see Table 1), seven (63.6%) were female faculty and four (36.4%) were male faculty. Seven (63.6%) were 55 or older and only four (36.4%) were 40–54. Six (54.6%) of this group selfidentified as a member of a racial, ethnic, or linguistic minority group, while two of them (18.2%) self-reported as a member of religious minority group. None of them self-identified as LGBTO, or had ever been a member of the U.S. Armed Forces. However, most of them (n = 8; 72.7%) self-reported that one or more of their Yes

No

72.7

27.3

Sociodemographic characteristics	n	%
Gender		
Male	4	36.4
Female	7	63.6
Age group		
55 or older	7	63.6
40-54 years old	4	36.4
Racial/ethnic/linguistic minority group		
IN racial/ethnic/linguistic minority group	6	54.6
NOT IN racial/ethnic/linguistic minority group	5	45.4
Religious minority group		
IN religious minority group	2	18.2
NOT IN religious minority group	9	81.8
Immediate family member currently or previously in U.S. Arm	ed Forces	

Table 1: Sociodemographic characteristics of participants.

immediate family member (parent, child, sibling, or spouse) currently or previously had been a member of the U.S. Armed Forces. All of this pilot group self-reported that they grew up in the United States.

8

3

Regarding their teaching experiences, eight (72.7%) had taught online classes at doctoral level and nine (81.8%) had taught online classes at Master's level. Only two participants had taught online classes at four years undergraduate level and one person taught online in two years college. Nine of this group (81.8%) had been teaching on ground in a brick and mortar classrooms at the postsecondary level for over 10 years. Only two participants had less than five years teaching experiences in face-to-face classroom. Compared to the face-to-face setting, this pilot sample had comparatively less teaching experiences in the online setting. Five participants (45.5%) had taught online for over 10 years, three participants (27.3%) had taught online for 6–10 years, and three (27.3%) also taught online for 2–5 years. When asked how many online classes they had taught, six participants (54.5%) reported more than 15 fully online classes/sections and four participants had taught 11–15 online classes/sections. Only one participant (9%) taught 5–10 online classes.

Descriptive statistics was used to describe the sample of this pilot study. A summary of aggregate descriptive statistics for the responses to the subscales and overall scores on the instrument was reported in Table 2.

To answer Question 1, the online faculty's knowledge about CRT had a mean of 45 (SD = 10.43) out of the total possible score of 60. In addressing Question 2 about the extent to which online faculty value CRT, the result showed a higher mean of

students - Practice

communities of students

35

35

27.18

27.18

8.38

5.64

140 112.91 20.67 75-140

6 - 35

15 - 35

Subscale	Possible points	M	SD	Range
Section 1: Knowledge about culturally responsive teaching	60	45	10.43	24-60
Section 2: Value/importance of culturally responsive teaching	60	50.09	10.52	28-60
Section 3: Use of culturally responsive educational practices	60	44.91	12.53	12-60
Section 4: Preparation/skills to use culturally responsive educational practices	60	43.64	12.64	17–60
Section 5: Meeting the needs of different communities of students – Knowledge	35	28.18	5.38	19-35
Section 5: Meeting the needs of different communities of students – Value	35	30.36	5.94	19-35

Table 2: Descriptive statistics for subscale summed scores.

Section 5: Meeting the needs of different communities of

Section 5: Meeting the needs of different communities of

students - Knowledge, skills, abilities (KSAs) Section 5: Overall - Meeting the needs of different

50.09 (SD = 10.52). On the extent to which online faculty use culturally responsive educational practices (CREP), it showed a mean of 44.91 (SD = 12.53). Related measure on the preparation and/or skills faculty use CREP showed a mean of 43.64 (SD = 12.64).

In addressing Question 4 and its sub-questions, since the pilot sample size was small, Wilcoxon-Signed-Ranks test was used for within-group comparisons of subscale scores for knowledge, value, value/importance, practice, and preparation/skills. As the subscales of Section 5 (Meeting the needs of different communities of students) had seven items whereas Sections 1 through 4 had 12 items, average of each subscale was used for within-group comparisons.

In analyzing whether scores for Value/Importance of CRT were higher than scores for Knowledge of CRT (RQ 4a), a Wilcoxon Signed Rank test revealed that Value/Importance of CRT was higher than Knowledge of CRT, z = -2.199, p < 0.05, with a large effect size (r = 0.66). The median score on the Value/Importance of CRT (Md = 4.5) was higher than Knowledge of CRT (Md = 4). Wilcoxon Signed Rank tests did not demonstrate significant differences (a) between Knowledge of CRT and Knowledge (about meeting needs) of Different Communities (RQ 4b), z = -0.459, p = 0.646; 2) between Knowledge of CRT and Value (about meeting needs) of Different Communities (RQ 4c), z = -1.327, p = 0.185; 3). Differences were not noted between Value/Importance of CRT and Value (about meeting needs) of Different Communities (RQ 4d), z = -0.663, p = 0.508; 4); between Use of CREP and Practice (meeting needs) of Different Communities (RQ 4e), z = -0.255, p = 0.799; and between Prep/Skills for CREP and Knowledge/Skills/Abilities (for meeting needs) of Different Communities, z = -0.593, p = 0.553.

5 Discussion and recommendations

The researchers in this pilot quantitative, survey research study proposed to assess the Culturally Responsive Teaching knowledge (CRT) and Culturally Responsive Educational Practices (CREP) in Texas public universities among full-time faculty who teach in Master's and Doctoral online programs. The researchers sought to include faculty with diverse cultural background who teach and/or advise online Master's and/or Doctoral students of color, military students, LGBTQ students, religious minority students, and international students. The pilot sample consisted of faculty who self-reported to be a member of a racial, ethnic, linguistic, or religious minority. None of them self-reported to be LGBTQ, a member of U.S. Armed Forces, or at the age of 18 or older when arrival in the U.S. All of the participants were middle aged (40 or older) and the majority were female.

According to self-reports, this pilot group valued CRT and considered CRT important in online instruction. With an average rating of 4.16 per item, participants in this pilot group all believed culturally responsive teaching was at least "very important". Interestingly, their ratings on "Value" about CRT were significantly higher compared to their knowledge about CRT. Follow up examinations also showed that their ratings on value about CRT was higher than use of CREP, and Preparation/skills in using CREP. That indicates the respondents in this pilot study recognized the importance and necessity of cultural diversity in online learning. They considered creating caring online learning communities an important job. However, their self-perception of their own knowledge of cultural diversity in online learning/teaching seems lower.

This finding suggests that the faculty teaching online classes in the fields of Educational Administration, Instructional Administration, or Educational Leadership know the importance of culturally responsive teaching knowledge; however, it seems they did not feel confident about their knowledge of culturally responsive teaching knowledge. This finding holds true for the discrepancy between the view/importance of culturally responsive educational practices and use of culturally responsive educational practices. Similarly between view/importance of CRT and the self-perceived preparation and skills in educational practices. The awareness of the importance of CRT had no direct

relationship with how much culturally responsive educational practices online faculty used in teaching. The faculty's self-perceived level of preparation regarding the requisite knowledge, skills, and abilities to use culturally responsive educational practices were not comparative to their awareness on the importance of CRT.

The findings in this study were similar to other research on the use of CRT and CRP in the design and delivery of online courses (Starker & Fitchett, 2013). The brief review of related empirical research conducted in the U. S. and other countries revealed that most faculty members were aware of the importance of addressing culture in the design and delivery of their courses; however, they did not address culture. Several instructional models that include cognitive, social, and pedagogical issues are used for online course design and delivery. These models are based on the community of inquiry approach (Lipman, 1991), constructivist learning theory (Duffy & Cunningham, 1996), and socio-cultural theory (Vygotsky, 1978).

Many of the instructional models used to develop online course content include learning theories based on constructivist beliefs that students can construct their own knowledge. However, Wild and Henderson (1997) acknowledged that these instructional models are likely to be void of "the cognitive, epistemological, and philosophical aspects of intercultural, intracultural, and [multicultural] educational contexts" (p. 187). Henderson (1996, 1994) developed a multiple cultural model. With this model, online faculty could proactively structure the teaching and learning environment with content that is meaningful, connects to prior knowledge, and addresses cultural differences of the students. Thus, students would learn by interacting with the content, other students, and the instructor in the online setting. With the changing student demographics and increase in international students, faculty members should ensure that learning activities incorporated into the course design of online course reflects the multicultural realities of the world. Faculty should include multiple cultural ways of learning and teaching to promote equitable learning outcomes. These instructional methods are particularly important to the online graduate programs in the fields of Educational Administration, Instructional Administration, or Educational Leadership. Ladson-Billings (2006, 2009, 2014) often posits that faculty members believed that culturally responsive teaching was just good teaching. Some faculty members in this research reported that they were aware of the importance of culturally responsive teaching but did not know how to incorporate this method into their online teaching and learning process.

5.1 Limitations

Many of the empirical research studies synthesized in this literature review consisted of a small number of participants. In fact, one of the limitations of this pilot study was the small sample size and results of this study should be taken with caution. Descriptive statistics and non-parametric statistical tests were used in this pilot study due to the sample size limitation. Additional research should be conducted with university faculty who have been successful with incorporating multiple cultural ways of learning and teaching in their online courses. A much larger sample size that covers a wide range of ages, geographic locations, program and institution types and sizes is greatly needed to enhance generalizability of the study. According to Spillane (2016), researchers may follow the recommendations below to increase the response rate for survey research.

- 1. Keep It Simple: Address the information you need with 15 or least clear, concise questions.
- 2. Send Personalized Invitations: Use your influence. Acknowledge potential participants personally with an email invitation from you. Include your name and the importance of the response.
- 3. Communicate Value: inform potential respondents of the value they'll take away or be a part of the contribution to the knowledge base.
- 4. Establish Expectations: Let respondents know how long they should set aside for the survey. Ensure the actual time to complete the survey is correct. Many respondents will take at least 20 min to complete a survey.
- 5. Send heads up and follow-up dates: Communicate in advance to let your respondents know a survey is coming their way. After the initial invitation, people may take the survey right away, but in all likelihood, many will not. A great way to increase response rates is to send at least two follow-up emails over a period of time reminding potential respondents and keeping the survey top of mind.

6 Future research

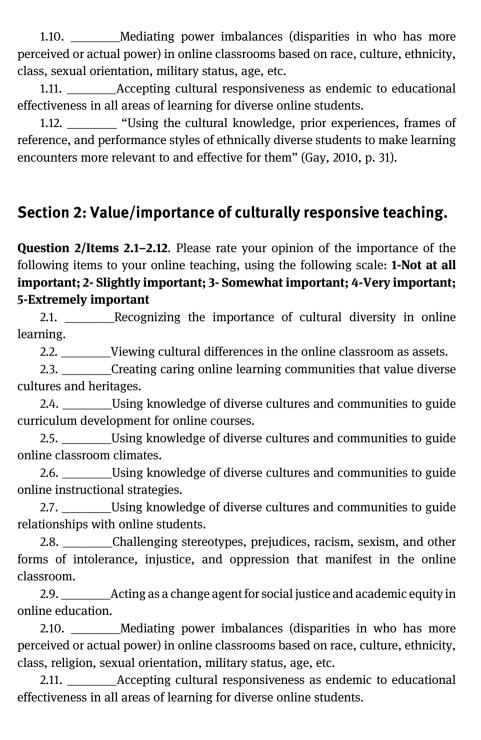
Besides increasing sample size to improve its generalizability, there is also a need for future research that combines qualitative and quantitative research related to online teaching and the use of culturally responsive pedagogy. One way to do this is to conduct a mixed methods research study. We recommend using the mixedmethods sequential explanatory design. This design consists of two distinct phases: quantitative followed by qualitative (Creswell & Creswell, 2017). In the quantitative phase, the researcher firsts collects and analyzes the quantitative data. Next, the qualitative text (data) are collected and analyzed. This qualitative data may help explain or elaborate on the quantitative results obtained in the first phase. The second, qualitative, phase builds on the first, quantitative phase, and the two phases are connected in the intermediate stage in the study. Using this mixed-methods design allows the researcher to analyze the quantitative problem and gain an understanding of the research problem. On the other hand, the qualitative data and their analyses helps to refine and explain the statistical results by examining participants perceptions more in depth (Tashakkori & Teddlie, 1998).

Appendix

Culturally Responsive Teaching Knowledge and Practices of Online Faculty instrument

Section 1: Knowledge about culturally responsive teaching.

Question 1/It	tems 1.1–1.12. Please rate your current knowledge of the following
culturally resp	oonsive tenets and approaches, using the following scale: 1-Poor; 2-
Fair; 3- Good	; 4-Very Good; 5-Excellent
1.1	Recognizing the importance of cultural diversity in online
learning.	
1.2	Viewing cultural differences in the online classroom as assets.
1.3	Creating caring online learning communities that value diverse
cultures and h	neritages.
1.4	Using knowledge of diverse cultures and communities to guide
curriculum de	evelopment for online courses.
1.5	Using knowledge of diverse cultures and communities to guide
online classro	om climates.
1.6	Using knowledge of diverse cultures and communities to guide
online instruc	tional strategies.
1.7	Using knowledge of diverse cultures and communities to guide
relationships	with online students.
1.8	Challenging stereotypes, prejudices, racism, sexism, and other
forms of into	olerance, injustice, and oppression that manifest in the online
classroom.	
1.9	Acting as a change agent for social justice and academic equity in
online educat	ion.



online education.

class, sexual orientation, military status, age, etc.

effectiveness in all areas of learning for diverse online students.

encounters more relevant to and effective for them" (Gay, 2010, p. 31).

2.12. "Using the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant to and effective for them" (Gay, 2010, p. 31). Section 3: Use of culturally responsive educational practices. **Question 3/Items 3.1–3.12.** Please rate the extent to which you use the following practices in your online teaching, using the following scale: 1-Never; 2- Rarely; 3-Occasionally; 4- Frequently; 5-All the time. 3.1. Recognizing the importance of cultural diversity in online learning. 3.2. Viewing cultural differences in the online classroom as assets. 3.3. _____Creating caring online learning communities that value diverse cultures and heritages. Using knowledge of diverse cultures and communities to guide curriculum development for online courses. 3.5. _____Using knowledge of diverse cultures and communities to guide online classroom climates. 3.6. Using knowledge of diverse cultures and communities to guide online instructional strategies. 3.7. Using knowledge of diverse cultures and communities to guide relationships with online students. 3.8. _____Challenging stereotypes, prejudices, racism, sexism, and other forms of intolerance, injustice, and oppression that manifest in the online classroom.

3.9. _____Acting as a change agent for social justice and academic equity in

3.10. _____Mediating power imbalances (disparities in who has more perceived or actual power) in online classrooms based on race, culture, ethnicity,

3.11. _____Accepting cultural responsiveness as endemic to educational

3.12. "Using the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning

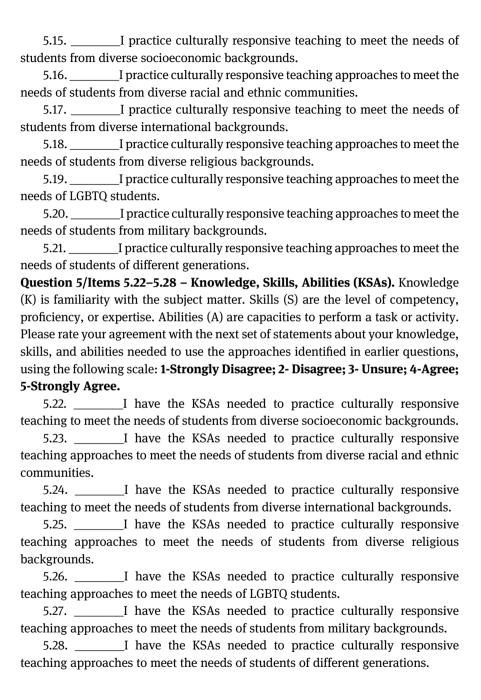
Section 4: Preparation/skills to use culturally responsive educational practices.

Question 4/Items 4.1-4.12. Please rate your perceived level of preparation regarding having the requisite knowledge, skills, and abilities to use the following practices in your online teaching, using the following scale: 1-Poor; 2- Fair; 3-Good; 4-Very good; 5-Excellent. 4.1. ______Recognizing the importance of cultural diversity in online learning. 4.2. _____Viewing cultural differences in the online classroom as assets. 4.3. Creating caring online learning communities that value diverse cultures and heritages. 4.4. Using knowledge of diverse cultures and communities to guide curriculum development for online courses. 4.5. Using knowledge of diverse cultures and communities to guide online classroom climates. 4.6. _____Using knowledge of diverse cultures and communities to guide online instructional strategies. 4.7. Using knowledge of diverse cultures and communities to guide relationships with online students. _Challenging stereotypes, prejudices, racism, sexism, and other forms of intolerance, injustice, and oppression that manifest in the online classroom. 4.9. _____Acting as a change agent for social justice and academic equity in online education. Mediating power imbalances (disparities in who has more perceived or actual power) in online classrooms based on race, culture, ethnicity, class, sexual orientation, military status, age, etc. 4.11. _____Accepting cultural responsiveness as endemic to educational effectiveness in all areas of learning for diverse online students. 4.12. _____ "Using the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant to and effective for them" (Gay, 2010, p. 31).

Section 5: Meeting the needs of different communities of students.

Question 5/Items 5.1–5.7 – Knowledge. Please rate your agreement with the next set of statements about your knowledge about the approaches identified in the

earlier questions, using the following scale: 1-Strongly Disagree; 2- Disagree; 3- $$
Unsure; 4-Agree; 5-Strongly Agree.
5.1I am knowledgeable about culturally responsive teaching ap-
proaches to meet the needs of students from diverse socioeconomic backgrounds.
5.2I am knowledgeable about culturally responsive teaching ap-
proaches to meet the needs of students from diverse racial and ethnic
communities.
5.3I am knowledgeable about culturally responsive teaching to meet
the needs of students from diverse international backgrounds.
5.4I am knowledgeable about culturally responsive teaching ap-
proaches to meet the needs of students from diverse religious backgrounds.
5.5I am knowledgeable about culturally responsive teaching ap-
proaches to meet the needs of lesbian, gay, bis exual, transgender, and questioning
(LGBTQ) students.
5.6I am knowledgeable about culturally responsive teaching ap-
proaches to meet the needs of students from military backgrounds.
5.7I am knowledgeable about culturally responsive teaching ap-
proaches to meet the needs of students of different generations.
Question 5/Items 5.8–5.14 – Value. Please rate your agreement with the next set
of statements about your value of the use of the approaches identified in earlier
questions, using the following scale: 1-Strongly Disagree; 2- Disagree; 3- Un-
sure; 4-Agree; 5-Strongly Agree.
5.8I value the use of culturally responsive teaching approaches to
meet the needs of students from diverse socioeconomic backgrounds.
5.9I value the use of culturally responsive teaching approaches to
meet the needs of students from diverse racial and ethnic communities.
5.10I value the use of culturally responsive teaching to meet the
needs of students from diverse international backgrounds.
5.11I value the use of culturally responsive teaching approaches to
meet the needs of students from diverse religious backgrounds.
5.12I value the use of culturally responsive teaching approaches to
meet the needs of LGBTQ students.
5.13I value the use of culturally responsive teaching approaches to
meet the needs of students from military backgrounds.
5.14I value the use of culturally responsive teaching approaches to
meet the needs of students of different generations.
Question 5/Items 5.15–5.21 – Practice. Please rate your agreement with the next
set of statements about your practice of the approaches identified in earlier
questions, using the following scale: 1-Strongly Disagree; 2- Disagree; 3- Un-
sure; 4-Agree; 5-Strongly Agree.



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