Does digital curricula matter? An examination of online versus traditional multicultural education course delivery

Jemimah Lea Young

Published online: 11 July 2017.

Submit your article to this journal ⬈

View related articles ⬈

Does digital curricula matter? An examination of online versus traditional multicultural education course delivery

Jemimah Lea Young

College of Education, University of North Texas, 1300 West Highland St, Denton, TX 76203, USA

Digital curricula and online learning materials are necessary to reach the next generation of teachers. The purpose of this study was to examine the effects of an online introductory multicultural education course on the culturally responsive teaching self-efficacy (CRTSE) and culturally responsive teaching outcome expectancy (CRTOE) of pre-service teachers. The results suggest that online multicultural education has a moderate effect on pre-service teacher CRTSE and CRTOE. Implications are provided for pre-service teacher education and further research.

Keywords: Online learning, Culturally responsive teaching, Teacher self-efficacy

Learner demand has prompted an increase in online instructional delivery across colleges and universities. In the fall of 2014, estimates suggest that 28.5%, or approximately six million, degree seeking college students participated in online instruction (U.S. Department of Education, 2016.) However, as the instructional medium changes, many scholars posit that the quality of the instruction and the integrity of course content can get "lost in transition" (Brantmeier, Aragon, & Folkestad, 2011; Brown, 2013). This is especially challenging in mandatory courses in race and ethnic studies. These mandatory courses are often referred to as multicultural education courses. Multicultural education courses are progressive approaches to transforming education by holistically critiquing and addressing discriminatory practices in education (Gollnick & Chinn, 2013; Sleeter & Carmona, 2016).

The practice of multicultural education is grounded in ideals of social justice, education equity, and a dedication to facilitating educational experiences in which all students reach their full potential as learners and socially aware and active beings - locally, nationally, and globally (Gorski & Covert, 2000, p. 4). Given the depth and complexity of multicultural education course delivery, many suggest that the efficacy of multicultural education content can be lost when presented digitally and at a distance (Clark & Stowers, 2016; Goodfellow & Lamy, 2009; Young & Young, 2012). Yet, due

to the increased demand for accessible educational opportunities, digital curricula cannot be ignored.

Online learning materials are necessary to reach the next generation of teachers. According to recent projections, the number of non-Hispanic White students in U.S. public schools has decreased from majority status, as approximately 50.3% of public school students are Latino, African American, or Asian (Maxwell, 2014). Given the changing demographics of American classrooms, it is likely that prospective teachers will interact with culturally diverse students (Sleeter, La Vonne, & Kumashiro, 2014). Based on these trends teacher educators must ensure that all pre-service teachers are culturally competent. Teachers who fail to understand the relationship between culture and classroom behavior tend to implement traditional instructional techniques that are ineffective when working with diverse students (Siwatu & Starker, 2010). To better prepare pre-service teachers, teacher educators must strategically look for the points of intersection between digital media and culturally responsive teaching. Many pre-service teachers seeking to increase their multicultural instructional confidence also prefer to gain these skills in an online environment (Kitsanis & Talleyrand, 2005). Fortunately, teacher self-efficacy is an established educational construct that has been adapted to assess efficacy in culturally responsive instruction.

According to Bandura (1997), self-efficacy beliefs are influenced by mastery experience, vicarious experience, verbal persuasion, and psychological and emotional states. Mastery experiences are important because they provide an opportunity to receive concrete evidence substantiating success or failure (Siwatu, 2011). Along with mastery experiences, pre-service teachers may also benefit from the vicarious experiences realized through video case studies and teacher noticing activities. Online learning environments are highly conducive to these types of activities. Although online courses offer several affordances, online multicultural education courses are consistently criticized. One major criticism of online multicultural education is the potential to trivialize or exoticize cultural differences (Merryfield, 2001). Others have found that students tend to provide superficial or oversimplified responses to course assignments (Oikonomidoy, 2009). Despite the many criticisms of online multicultural education courses, empirical studies to support or refute the claims remain elusive. Therefore, the purpose of this study was to examine the effects of an online introductory multicultural education course on the culturally responsive teaching self-efficacy (CRTSE) and culturally responsive teaching outcome expectancy (CRTOE) of pre-service teachers.

Culturally Responsive Teaching Self-Efficacy

General pedagogical practices are often detached from the needs of culturally and linguistically diverse (CLD) students (Young, Young, & Hamilton, 2013). Consequently, students of color consistently underperform across a multitude of assessments and inventories. Researchers posit that culturally responsive pedagogies can curb these trends (Gay, 2000; Ladson-Billings, 1994). Despite significant uptake of these practices in teacher education programs, significant changes in student achievement have yet to materialize. One explanation of this phenomenon is that teacher educators do not

explicitly teach culturally responsive practices beyond the inherent pedagogical overlap (Young, 2017). For example, many educators claim that culturally responsive teaching is just "good teaching"; however, pre-service teachers need explicit examples to inform their praxis (Frye, Button, Kelly, & Button, 2010).

Many teacher education programs actively work to impart the knowledge and skills of culturally responsive teaching to their students, but this work fails to predict future implementation of culturally responsive teaching practices (Siwatu, 2011). One explanation for the lack of implementation of culturally responsive teaching amongst pre-service teachers is a diminished belief in the veracity of culturally responsive teaching (Young, 2017a). Teachers must possess more than confidence in their pedagogical content knowledge. To reach all students in the classroom, teachers must be confident that they can effectively teach all students. Culturally responsive self-efficacy and outcome expectancy beliefs have the potential to influence pre-service teacher classroom actions (Siwatu, Frazier, Osaghae, & Starker, 2011).

According to Bandura (1977), self-efficacy is defined as "beliefs in one's capability to organize and execute the courses of action necessary to obtain the given attainments" (p. 3). These beliefs are important to consider because teacher self-efficacy can predict future classroom actions. Specifically, self-efficacy is necessary to put acquired skills into action (Evans, 1989). Teachers must have confidence in their ability to implement the skills they acquire from their teacher education program before they can successfully implement the skills in the classroom. However, teaching self-efficacy is not rigid, but is fluid and fluctuates when exposed to different subject matter or students with diverse needs (Knoblauch & Hoy, 2008). Because teaching self-efficacy changes based on the context, climate, and culture it is important to consider teacher self-efficacy beliefs concerning culturally responsive teaching competency. Culturally responsive teaching competencies are based on four categories of knowledge: (1) curriculum and instruction, (2) classroom management, (3) student assessment, and (4) cultural enrichment (Siwatu, 2006). Appropriately, these funds of knowledge represent the foundation of culturally responsive teacher self-efficacy. Despite the changing demographics of today's schools and the need for culturally responsive teaching, little research has been done to investigate teacher self-efficacy and outcome expectancy beliefs related to culturally responsive teaching (Siwatu, 2007). To address this research void, this study was conducted to inform theory and practice in this area.

Purpose

The purpose of this study was to investigate the effects of an online multicultural education course on the culturally responsive teaching self-efficacy and outcome expectancy of pre-service teachers. The introductory to multicultural education course typically represents the sole course related to culturally responsive practices that many pre-service teachers receive prior to the student teaching experience (Young, 2017b). Given the importance of this course, many teacher educators must allocate the limited instructional time to the most pertinent material. In a multicultural education course this tends to involve building relationships with students through rich discussions and

activities related to the five dimensions of multicultural education. The five dimensions of multicultural education provide a clear, coherent, and exceptionally appropriate lens to undergird multicultural education. These dimensions are: (a) content integration, (b) knowledge construction, (c) prejudice reduction, (d) equity pedagogy, and (e) empowerment of the school culture and social structure (Banks, 2015a). They are traditionally embedded into the content of face-to-face classroom interactions. Preparing teachers to work with culturally and linguistically diverse learners is essential to the development of a culturally competent nation (Banks, 2015b; Gorski, 2016). Thus, multicultural education courses must remain effective in the digital age. This study was guided by the following research questions:

    1. What are the effects of an online multicultural educational course on teacher CRTSE?

    2. What are the effects of an online multicultural educational course on teacher CRTOE?

    3. What are the effects of an online multicultural educational course on the relationship
      between teacher CRTSE and CRTOE?

Method

Participants

    This study took place in two multicultural education courses in a Midwestern University. The participants in this study ($N = 74$) consisted of secondary education pre-service teachers from multiple subject matter concentrations. Demographic data were collected to provide a context for the examination of culturally responsive teaching in relation to pre-service teachers cultural and instructional background. Many of the pre-service teachers were female ($N = 45$). Most of the students self-identified as White ($N = 43$), followed by Latino ($N = 23$), Black ($N = 9$), and Asian ($N = 1$). The treatment group consisted of ($N = 50$) enrolled in an online section of an introductory multicultural educational course, while the control group completed a traditional section of the course ($N = 34$).

Course Design

    The same instructor taught the treatment and control groups with identical course materials and assignments. The treatment group was the online class and the control group was the traditional class. To mirror the activities across courses, the instructor designed the online course based on the syllabus from the traditional course. The courses were organized by activities into categories: (1) Lecture, (2) Learning Assessment, (3) Lead, (4) Lens, and (5) Lab. Each week the students in both courses had to complete all five of the components. The Lecture consisted of a PowerPoint presentation that was voiced over and uploaded for the online section. The Learning Assessments were quizzes that both sections completed online. The Lead was a class discussion related to the main ideas and concepts in the chapter. The Lens was a group assignment designed to engage students in more nuanced concepts and ideas that challenged or affirmed their personal

beliefs. Finally, the Labs were summative assessments that required the students to apply the content presented in the course each week.

Each course was 15 weeks long, and the major and minor assignments were identical. The courses had the same syllabus expectations, textbook, and assignment rubrics. The major difference between the courses was the digital delivery of the curriculum. For example, the lectures were recorded and posted digitally each week. The discussion prompts were the same, however each student was required to post an initial message and respond to at least two peers online. In the traditional course this participation requirement was not evoked. Furthermore, the major assignments and group components were also retained.

Instrumentation

Data were collected using the culturally responsive teaching self-efficacy (CRTSE) and culturally responsive teaching outcome expectancy (CRTOE) scales. The CRTSE is a 40-item Likert scaled instrument used to elicit information from pre-service teachers regarding their efficacy in executing specific teaching practices and tasks that are associated with teachers who have adopted a culturally responsive pedagogy (Siwatu, 2007). Pre-service teachers were asked to indicate their degree of confidence ranging from 0 (no confidence at all) to 100 (completely confident) on items such as "I am able to identify the diverse needs of my students." Responses to each item were averaged to develop a CRTSE strength index. This index represents a quantitative indicator of the strength of each pre-service teacher's CRTSE and can serve as a meta-analytic summary tool to assess CRTSE across instrument administrations. Pre-service teachers who have higher scores on the CRTSE are more confident in their ability to implement culturally responsive teaching. Although the sample size for this study was considerably smaller than other administrations of the CRTSE, the inter-item reliability was substantially high ($\alpha = 0.96$).

The second instrument, the 26-item CRTOE, was designed to assess pre-service teacher beliefs that engaging in culturally responsive teaching practices will have positive classroom and student outcomes (Siwatu, 2007). Pre-service teachers were asked to indicate their degree of confidence ranging from 0 (no confidence at all) to 100 (completely confident) on items such as "Using culturally familiar examples will make learning new concepts easier." The inter-item reliability for this administration of the CRTOE was also substantially high ($\alpha = 0.95$). Pre-service teachers who believe in the positive outcomes associated with culturally responsive teaching will have higher scores on the CRTOE and subsequent higher affinity to the implementation of the practices.

Data Analysis

Upon completing the 15-week course, the online and the traditional course students were given the CRTSE and the CRTOE. Pre-service teachers were given access to the instruments via Qualtrics ©, an online survey administration application. Three categories of data were collected, including demographic responses, responses to CRTSE scale, and responses to CRTOE scale. IBM Statistics 22 ©, was used to perform an exploratory data analysis of the participant scores on the CRTSE and CRTOE scales. Item specific means on the CRTSE and CRTOE were recorded, along with the mean

difference and results of two separate *Multi-way ANOVAs*. Each *ANOVA* utilized teacher mean CRTSE and CRTOE as the dependent variable. Although the CRTSE and CRTOE constructs are related they are fundamentally different constructs. Thus, the correlation between the two constructs was also examined.

Results

In the sections that follow, the CRTSE results are presented, followed by the CRTOE results, *Multi-way ANOVA* results, and finally the correlations between the scales. These data are contextualized in the discussion section to explicate connections to prior research and teaching effectiveness. Together these data capture the nuanced differences between the effects of online multicultural education content delivery and traditional course structure on pre-service teacher culturally responsive teaching self-efficacy.

Culturally Responsive Teaching Self-efficacy

The CRTSE strength index for the face-to-face group ($M_{CRTSEcontol}$= 80.43, $SD_{CRTSEcontrol}$ = 4.45) indicates that the control group participants are approximately 80% confident in their ability to implement the culturally responsive practices assessed. The CRTSE strength index for the online group ($M_{CRTSEtreatment}$= 79.27, SD_{CRTSE} = 3.12) indicates that the treatment group pre-service teachers are approximately 79% confident in their ability to implement the culturally responsive practices assessed. The means and standard deviations for each of the 40 CRSTE items are presented in Table 1. Pre-service teachers' culturally responsive teaching self-efficacy was highest for the following items in the control group: "I can help students feel like important members of the classroom", (M = 87.79, SD = 3.18) and "I can build a sense of trust in my students", (M= 85.71, SD = 2.88). Item-specific means were lowest among the pre-service teachers in the control group for: "I can greet English Language Learners with a phrase in their native language." (M = 62.18, SD = 6.07) and "I can praise English Language Learners for their accomplishments using a phrase in their native language." (M = 64.65, SD = 6.20). Participants in the control group had a mean score of 3098.12 (SD = 130.42). High scores on the CRTSE scale indicate a greater sense of efficacy for engaging in specific instructional and non-instructional tasks associated with culturally responsive teaching. The scores for participants in this group ranged from 260 to 4000.

Pre-service teachers' culturally responsive teaching self-efficacy was highest for the following items in the treatment group: "I can use interests of my students to make learning meaningful for them." (M = 88.18, SD = 1.97) and "I can help students feel like important members of the classroom." (M= 87.94, SD = 2.04). Item-specific means were lowest among the pre-service teachers in the treatment group for: "I can greet English Language Learners with a phrase in their native language." (M = 65.12, SD = 3.73) and "I can praise English Language Learners for their accomplishments using a phrase in their native language." (M = 68.06, SD = 4.21). Participants in the treatment group had a mean score of 3156.78 (SD = 81.67). High scores on the CRTSE scale indicate a greater sense of efficacy for engaging in specific instructional and non-instructional tasks associated

with culturally responsive teaching. The scores for participants in the treatment group ranged from 1535 to 3942.

Table 1
Pre-service Teachers' Culturally Responsive Teaching Self-Efficacy Beliefs

Culturally Responsive Teaching Self-Efficacy Beliefs	Control	Treatment
1. Implement cooperative learning activities for those students who like to work in groups.	81.65(3.58)	84.14(2.09)
2. Use interests of my students to make learning meaningful for them.	85.41(3.06)	88.18(1.97)
3. Develop a personal relationship with my students.	85.68(3.24)	85.04(3.08)
4. Explain new concepts using examples that are taken from my students' everyday lives.	83.21(3.20)	83.56(2.38)
5. Help students feel like important members of the classroom.	87.79(3.18)	87.94(2.04)
6. Revise instructional material to include a better representation of cultural groups.	78.03(4.19)	79.42(2.28)
7. Obtain information regarding my students' academic interest.	80.82(3.45)	80.56(2.70)
8. Determine whether my students like to work alone or in a group.	80.74(2.99)	81.42(2.63)
9. Build a sense of trust in my students.	85.71(2.88)	85.88(2.54)
10. Obtain information about my students' academic weaknesses	79.71(3.77)	81.28(2.58)
11. Use my students' prior knowledge to help them make sense of new information.	82.50(3.49)	85.02(2.13)
12. Design instruction that matches my students' developmental needs.	76.97(3.74)	80.26(2.93)
13. Help students to develop positive relationships with their classmates.	83.32(3.13)	81.50(2.71)
14. Obtain information about my students' academic strengths.	80.26(3.64)	75.32(3.29)
15. Identify ways that standardized tests may be biased towards linguistically diverse students.	76.12(4.20)	74.78(2.97)
16. Assess student learning using various types of assessments.	76.53(4.51)	79.36(2.87)

17. Model classroom tasks to enhance English Language Learners' understanding.	78.44(3.81)	75.16(2.85)
18. Obtain information about my students' cultural background.	80.44(3.73)	77.94(2.83)
19. Use a variety of teaching methods.	80.76(3.75)	82.60(2.89)
20. Develop a community of learners when my class consists of students from diverse backgrounds.	77.97(3.85)	80.76(2.43)
21. Identify ways that standardized tests may be biased towards culturally diverse students.	78.32(4.12)	76.28(3.16)
22. Establish positive home-school relations.	78.41(3.86)	78.22(2.55)
23. Design a classroom environment using displays that reflect a variety of cultures.	77.65(4.38)	80.38(2.79)
24. Obtain information about my students' home life.	67.29(4.48)	68.48(2.90)
25. Identify ways that students communicate at home and how they may differ from the school norms.	77.94(3.99)	79.08(2.54)
26. Use examples that are familiar to students from diverse cultural backgrounds.	76.79(4.37)	80.66(2.41)
27. Greet English Language Learners with a phrase in their native language.	62.18(6.07)	65.12(3.73)
28. Communicate with parents regarding their child's educational progress.	82.68(3.84)	84.92(2.16)
29. Structure parent-teacher conferences so that the meeting is not intimidating for parents.	82.68(3.85)	79.78(2.78)
30. Praise English Language Learners for their accomplishments using a phrase in their native language.	64.65(6.20)	68.06(4.21)
31. Determine whether my students feel comfortable competing with other students.	77.50(3.42)	77.42(2.40)
32. Critically examine the curriculum to determine whether it reinforces negative cultural stereotypes.	81.21(3.14)	80.40(2.31)
33. Use a learning preference inventory to gather data about how my students like to learn.	69.18(4.75)	72.44(3.72)
34. Use my students' cultural background to help make learning meaningful.	80.79(4.00)	81.04(2.57)
35. Identify ways that the school culture (e.g., values, norms, and practices) is different from my students' home culture.	72.50(4.11)	77.34(2.71)
36. Communicate with the parents of English Language Learners regarding their child's achievement.	69.38(5.49)	71.10(3.42)
37. Adapt instruction to meet the needs of my students.	74.15(3.70)	74.00(2.90)
38. Implement strategies to minimize the effects of the mismatch between my students' home culture and the school culture.	68.82(4.42)	72.84(2.86)
39. Teach students about their cultures' contributions to	73.62(4.41)	80.10(2.25)

my content area.	
40. Design a lesson that shows how other cultural groups have made use of my content area.	77.97(3.75) 80.04(2.42)

Culturally Responsive Teaching Outcome Expectations

The CRTOE strength index ($M_{\text{CRTOEcontrol}}$= 84.67, $SD_{\text{CRTOEcontrol}}$ = 3.99) indicates that the pre-service teachers in the control group are approximately 85% confident that culturally responsive teaching has a positive influence on student outcomes. The CRTOE strength index ($M_{\text{CRTOETreatment}}$ = 84.97, $SD_{\text{CRTOETreament}}$ = 2.78) indicates that the pre-service teachers in the treatment group are also approximately 85% confident that culturally responsive teaching has a positive influence on student outcomes. The means and standard deviations for each of the 26 CRSTE items are presented in Table 2. Pre-service teachers' culturally responsive teaching outcome expectancies were highest in the control group for the possibility that "a positive teacher-student relationship can be established by building a sense of trust in my students." (M = 92.80, SD = 3.16). Item specific means were lowest among the pre-service teachers in the control group for the possibility that "the frequency with which students' abilities are misdiagnosed will decrease when their standardized test scores are interpreted with caution." (M = 75.30, SD = 21.32). Participants in this group had a mean score of 2142.97 (SD = 86.17). High scores on the CRTOE scale indicated a greater belief in the positive outcomes associated with culturally responsive teaching. The scores for participants in this group ranged from 241 to 2500.

In the treatment group, pre-service teachers' culturally responsive teaching outcome expectations were highest for the possibility that "a positive teacher-student relationship can be established by building a sense of trust in my students." (M = 94.17, SD = 1.63). Item specific means were lowest among the pre-service teachers in the treatment group for the possibility that "acknowledging the ways that the school culture is different from my student's home culture will minimize the likelihood of discipline problems." (M = 76.11, SD = 2.94). Participants in this study had a mean score of 2230.91 (SD = 49.06). High scores on the CRTOE scale indicated a greater belief in the positive outcomes associated with culturally responsive teaching. The scores for participants in this group ranged from 1180 to 2600.

Table 2
Pre-service Teachers' Culturally Responsive Teaching Outcome Expectancy Beliefs

Culturally Responsive Teaching Self-Efficacy Beliefs	Control	Treatment
1. Providing English Language Learners with visual aids will enhance their understanding of assignments.	91.37(3.43)	87.85(2.08)
2. Connecting my students' prior knowledge with new incoming information will lead to deeper learning.	90.13(3.41)	90.91(2.04)
3. A positive teacher-student relationship can be established by building a sense of trust in my students.	92.80(3.16)	94.17(1.63)

4. Matching instruction to the student's learning preferences will enhance their learning.	85.87(3.58) 89.52(2.10)
5. Incorporating a variety of teaching methods will help my students to be successful.	88.70(3.93) 91.11(1.97)
6. Students will be successful when instruction is adapted to meet their needs.	88.33(3.84) 88.39(2.81)
7. Developing a community of learners when my class consists of students from diverse cultural backgrounds will promote positive interactions between students.	86.57(3.76) 87.72(2.21)
8. Using culturally familiar examples will make learning new concepts easier.	86.13(4.22) 86.65(2.08)
9. When students see themselves in the pictures that are displayed in the classroom, they develop a positive self-identity.	86.87(3.49) 83.22(2.68)
10. Using my student's interests when designing instruction will increase their motivation to learn.	89.03(3.66) 88.52(2.19)
11. Helping students from diverse cultural backgrounds succeed in school will increase their confidence in their academic ability.	90.00(3.37) 88.72(2.12)
12. Revising instructional material to include a better representation of the student's cultural group will foster positive self-images.	86.17(3.63) 85.22(2.32)
13. Student's academic achievement will increase when they are provided with unbiased access to the necessary learning resources.	84.87(3.71) 86.30(2.32)
14. Establishing positive home-school relations will increase parental involvement.	83.73(3.94) 82.09(2.65)
15. Assessing student learning using a variety of assessment procedures will provide a better picture of what they have learned.	88.43(3.48) 86.02(2.23)
16. The likelihood of student-teacher misunderstandings decreases when my students' cultural background is understood.	85.50(4.53) 81.96(2.52)
17. Simplifying the language used during the presentation will enhance English Language Learners' comprehension of the lesson.	85.50(3.78) 84.24(2.25)
18. Students' self-esteem can be enhanced when their cultural background is valued by the teacher.	88.73(3.57) 86.63(2.26)
19. Students will develop an appreciation for their culture when they are taught about the contributions their culture has made over time.	87.30(3.96) 85.89(2.30)
20. Conveying the message that parents are an important part of the classroom will increase parent participation.	85.60(3.71) 84.67(2.24)

21. Changing the structure of the classroom so that it is compatible with my students' home culture will increase their motivation to come to class.	80.73(4.73)	78.85(2.85)
22. Understanding the communication preferences of my students will decrease the likelihood of student-teacher communication problems.	85.90(3.90)	86.61(2.15)
23. Student attendance will increase when a personal relationship between the teacher and students has been developed.	87.93(3.54)	87.78(2.07)
24. Encouraging students to use their native language will help to maintain students' cultural identity.	71.63(5.35)	78.17(2.94)
25. The frequency with which students' abilities are misdiagnosed will decrease when their standardized test scores are interpreted with caution.	70.67(5.66)	76.59(3.11)
26. Acknowledging the ways that the school culture is different from my student's home culture will minimize the likelihood of discipline problems.	79.97(4.83)	76.11(2.94)

It was hypothesized that a statistically significant difference would not exist between the online and traditional multicultural education courses on CRTSE and CRTOE. The results of the three-way ANOVA failed to reveal a statistically significant difference between scores for main or interaction effects on the CRTSE or CRTOE strength indices. The standardized mean difference effect size in overall CRTSE was $d =$ .56, [.12 -1.01]. While the standardized mean difference effect size in overall CRTOE was $d = 1.22$, [.74 -1.69]. Additionally, the bivariate relationship between CRTSE and CRTOE in the treatment and control groups was also assessed. The results suggest that a small, non-statistically significant negative relation exists between CRTSE and CRTOE in the treatment group ($r = -.16$, $p = .28$). While a moderate positive statistically significant relationship was observed in the control group ($r = .57$, $p < .001$).

Discussion
The results of this study suggest that online multicultural education has a moderate effect on pre-service teacher CRTSE and CRTOE, but this effect is not robust. Culturally responsive teachers acknowledge and understand the unique role that culture, language, and race play in teaching and learning (Chu, 2013). However, pre-service teachers in the control and treatment groups score higher on general education practices, such as implementing cooperative learning activities and identifying student interest, other than cultural pedagogies. This is a general concern for both the online and traditional multicultural education courses. It would be remiss not to mention that self-efficacy measurements represent only one of several indicators of culturally responsive classroom dispositions; however, self-reported scores typically exaggerate results. Thus, one would expect other measures to either directly align with the current scores or attenuate the scores presented here.

Despite inconsistent statistically significant differences in CRTSE and CRTOE between the online and traditional groups, pre-service teachers in the traditional or control group did have a positive association between CRTSE and CRTOE that is worth further consideration. The results from the CRTOE survey indicate that pre-service teachers in the control group had a stronger belief in the relationship between their cultural responsiveness and the efficacy of culturally responsive practices. This divergence in confidence is problematic because it suggests that students recognize that culturally responsive teaching is necessary to meet the needs of all students, but may not use the practices because implementation of culturally responsive teaching requires that pre-service teachers are efficacious in their ability to implement this practice in the context of their own classrooms (Fitchett, Starker, & Salyers, 2012). This is important because it indicates that traditional multicultural education courses maybe nuanced in a way that was not measured or observed in the present study.

Conclusion

To meet the needs of our nation's diverse workforce, it is imperative that teacher education programs begin to prepare teachers to provide high quality instruction to all students. To meet this need more digital and online courses will be necessary to meet the learning needs of the next generation of teachers. Highly qualified teachers are often unwilling to work and live in culturally diverse environments that are often socially and economically different from their own neighborhoods (Fitchett, 2010). Thus, it is imperative that teacher education programs provide multicultural education courses to the multitude. Some of this apprehension can be averted if pre-service teachers have the capacity to successfully navigate culturally and linguistically diverse classrooms.

Culturally responsive teaching self-efficacy is one mechanism to begin building this capacity in pre-service teachers. Culturally void teaching practices resonated most with the pre-service teachers in this study. Much like the results of previous work with pre-service teachers in other content areas, pre-service teachers in both the control and treatment group were most comfortable implementing practices that did not require them to consider the culture of the student (Siwatu, 2007; Siwatu, 2008; Siwatu, 2009). Population trends suggest that by the year 2020 students of color will represent many K-12 learners (Ball, 2009); thus, it is imperative that multicultural teacher educators develop digital teaching strategies to increase access and pre-service teacher capacity to implement culturally responsive teaching practices in the classroom.

Disclosure Statement
No potential conflict of interest was reported by the authors.

References
Ball, A. F. (2009). Toward a theory of generative change in culturally and linguistically complex classrooms. *American Educational Research Journal, 46*, 45-72.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change.

Psychological Review, 84, 191–215.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: W. H. Freeman.

Banks, J. A. (2015a). Multicultural education, school reform, and educational equality. *Opening the doors to opportunity for all: Setting a research agenda for the future*, 54-63.

Banks, J. A. (2015b). *Cultural diversity and education*. New York, NY: Routledge.

Brantmeier, E. J., Aragon, A., & Folkestad, J. (2011). Examining collaborative learning modalities (CLM): critical multicultural education online?. *Multicultural Education & Technology Journal*, *5*(1), 5-18.

Brown, W. J. (2013). Multicultural curriculum development in online classes: practices from Washington state community colleges. *Community College Journal of Research and Practice*, *37*(10), 750-763.

Chu, S.Y. (2013). Teacher efficacy beliefs toward serving culturally and linguistically diverse students in special education: Implications of a pilot study. *Education and Urban Society*, *45*(3), 385–410.

Clark, C., & Stowers, G. (2016). Speaking with trunks, dancing with the "Pink Elephants": troubling e-racism, e-classism, and e-sexism in teaching multicultural teacher education. In *Handbook of Research on Effective Communication, Leadership, and Conflict Resolution* (pp. 78-97). IGI Global.

Fitchett, P. G. (2010). A profile of twenty-first century social studies teachers. *Journal of social studies research, 34*, 229-265.

Fitchett, P. G., Starker, T. V., & Salyers, B. (2012). Examining culturally responsive teaching self-efficacy in a preservice social studies education course. *Urban Education*, *47*(3), 585–611.

Frye, B., Button, L., Kelly, C., Button, G. (2010). Preservice teachers' self-perceptions and attitudes toward culturally responsive teaching. *Journal of Praxis in Multicultural Education, 5*(1), 6-22.

Gay, G. (2000). *Culturally responsive teaching: Theory, research, & practice*. New York, NY: Teachers College Press.

Goodfellow, R., & Lamy, M. N. (Eds.). (2009). *Learning cultures in online education*. New York, NY: A&C Black.

Gollnick, D. M., & Chinn, P. C. (2013). *Multicultural education in a pluralistic society*. Pearson Higher Ed.

Gorski, P. (2016). Rethinking the role of "culture" in educational equity: From cultural competence to equity literacy. *Multicultural Perspectives*, *18*(4), 221-226.

Gorski, P. C., & Covert, B. (2000). A working definition of multicultural education. *Multicultural Pavilion*. Retrieved from http://www.edchange.org/multicultural

Ladson-Billings, G. (1994). *The dreamkeepers: Successful teaching for African-American students.* San Francisco, CA: Josey-Bass.

Maxwell, L. A. (2014). U.S. school enrollment hits majority-minority milestone. *Education Week*, Retrieved from

http://www.edweek.org/ew/articles/2014/08/20/01demographics.h34.html

Merryfield, M. (2001). The paradoxes of teaching in multicultural education course online. *Journal of Teacher Education, 52*(4), 283-299.

Oikonomidoy, E. (2009). Conceptual collective online reflection in multicultural education classes. *Multicultural Education & Technology Journal*, *3*(2), 130-143.

Siwatu, K. O. (2007). Preservice teachers' culturally responsive teaching self-efficacy and outcome beliefs. *Teaching and Teacher Education, 23*, 1086-1101.

Siwatu, K. O. (2008). Teaching in the era of no child left behind: Preservice teachers' self? efficacy beliefs and teaching concerns. *Multicultural Learning and Teaching*, *3*(2). Retrieved from http://www.degruyter.com/view/j/mlt.2008.3.2/mlt.2008.3.2.1034/mlt.2008.3.2.1034.xml

Siwatu, K. O. (2009). Student teachers' self-efficacy beliefs regarding culturally responsive teaching and their professed classroom practices. *Teacher Education & Practice*, *22*(3), 323–333.

Siwatu, K. O. (2011). Preservice teachers' sense of preparedness and self-efficacy to teach in America's urban and suburban schools: Does context matter? *Teaching and Teacher Education*, *27*(2), 357–365.

Siwatu, K. O., Frazier, P., Osaghae, O. J., & Starker, T. V. (2011). From maybe I can to yes I can: Developing preservice and inservice teachers' self-efficacy to teach African American students. *The Journal of Negro Education*, 209-222.

Siwatu, K. O., & Starker, T. V. (2010). Predicting Preservice Teachers' Self-Efficacy to Resolve a Cultural Conflict Involving an African American Student. *Multicultural Perspectives*, *12*(1), 10–17.

Sleeter, C., & Carmona, J. F. (2016). *Un-standardizing curriculum: Multicultural teaching in the standards-based classroom*. New York, NY: Teachers College Press.

Sleeter, C. E., La Vonne, I. N., & Kumashiro, K. K. (2014). *Diversifying the teacher workforce: Preparing and retaining highly effective teachers*. New York, NY: Routledge.

U.S. Department of Education. (2016). *Digest of education statistic,* Retrieved from https://nces.ed.gov/fastfacts/display.asp?id=80

Young, J. L. (2017a). The effectiveness of the AVID program as a mechanism to foster academic resilience in underrepresented populations. *Journal of Multicultural Affairs*, *1*(2), 1-25.

Young, J. L. (2017b). Affective or effective? A Black female professor's critical refection on teaching effectiveness of multicultural courses. *Professing Education, 6*(1), 79-89.

Young, J. R. (2017). Vervistic instruction as a vehicle to mathematics competency for African American girls. In P. Larke, G. Webb-Hasan, & J. Young (Eds.), *Cultivating Achievement, Respect, and Empowerment (CARE) for African American Girls in PreK-12 Settings* (pp.69-90). Charlotte, NC: Information Age.

Young, J. R., Young, J. V., Hamilton, C. (2013). Culturally relevant project-based learning for STEM education: Implications and examples for urban schools. In M. Capraro, R. Capraro, & C. Lewis (Eds*.), Improving Urban Schools: Equity and Access in K-16 STEM Education* (pp. 39-65). Charlotte, NC: Information Age.

Young, J.R., & Young, J.L. (2012). "But that's not fair": Teacher technology readiness and African American Students'. *The Journal of the Texas Alliance of Black School Educators, 4*(1), 19-32.