Enhancing Cultural Competence Among Dental Students Through Active Teaching and Experiential Learning

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Abstract

Dental schools are required to utilize teaching practices that increase students' culture competence and ensure their ability to deliver equitable oral care. This study explored the impact of active teaching, an approach that offered comprehensive engagement and experiential learning. Students participated in small group activities, conducted interviews and developed reflective writings. A QUAN→qual sequential mixed method was used to analyze their reflective writings. Quantitative results indicated that students' cultural competence was significantly enhanced. Qualitative findings showed that students recognized their unconscious biases and reported an increase of cultural competence. This study demonstrates the effectiveness of experiential learning, particularly the addition of small group discussions, in instruction aimed at enhancing cultural competence among 84 first year pre-doctoral dental students.

Enhancing Cultural Competence Among Dental Students Through Active Teaching and Experiential Learning

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Dental schools are required to utilize teaching practices that increase students' culture competence and ensure their ability to deliver equitable oral care. This study explored the impact of active teaching, an approach that offered comprehensive engagement and experiential learning. Students participated in small group activities, conducted interviews and developed reflective writings. A QUAN→qual sequential mixed method was used to analyze their reflective writings. Quantitative results indicated that students' cultural competence was significantly enhanced. Qualitative findings showed that students recognized their unconscious biases and reported an increase of cultural competence. This study demonstrates the effectiveness of experiential learning, particularly the addition of small group discussions, in instruction aimed at enhancing cultural competence among 84 first year pre-doctoral dental students. Keywords: Cultural Competence, Dental Students, Mixed Methods, Reflective Writing, Small Group Activity

Exploring effective ways to develop, promote and improve cultural competence in higher education programs continuously attracts educators' attention. Societal needs require that higher education programs, including professional schools, provide comprehensive training in culturally competence to ensure that future dental practitioners effectively serve and communicate with people from diverse cultural backgrounds (Reed, Bustamante, Parker, Robles-Pina, & Harris, 2007). What does cultural competence mean? For healthcare-related research, it is defined as a knowledge-based ability and set of professional skills that promotes appropriate communication with patients from diverse cultural backgrounds. Also, it is a belief system that underscores why the delivery of clinical care is an imperative for culturally diverse groups; the system should ensure this delivery is effective, equal and equivalent in integrity and quality as that which is delivered to majority groups, (Behar-Horenstein, Garvan, Moore, & Catalanotto, 2013; Commission on Dental Accreditation, 2013; Health Resources and Services Administration, 2013).

The National Center for Cultural Competence (2011) recommends that healthcare institutions develop culturally competent values in organizations and increase cultural competence in their professional practices, awareness, and behaviors. The Commission on Dental Accreditation (CODA), and the American Dental Association (ADA) (2013) mandates dental schools to provide curricular experiences that develop students' critical thinking, cultural competence, and problem-solving skills. Moreover, CODA expects dental schools to show that graduates have the knowledge, skills and beliefs which underscore the effective delivery of comprehensive oral care.

While there has been some progress in decreasing disparities in oral healthcare access, equitable oral healthcare is not yet delivered to all people. Thus, increasing dental students' cultural competence and social responsibility is continuously urgent and important (U.S. Department of Health and Human Services, 2000). To foster cultural competence and awareness of diversity, students need experiences that promote an awareness and recognition of their unconscious bias. Previous research found that, by interacting with different people, pre-doctoral dental students recognized their unconscious bias. The authors stressed that

additional modifications in teaching practice might contribute to further reducing student bias (Behar-Horenstein et al., 2013; Isaac, Behar-Horenstein, Lee, & Catalanotto, 2015). Opportunities to communicate with people from diverse groups when they are studying in healthcare programs are crucial in that regard. To improve their clinical behavior, students also need opportunities to reflect and receive comprehensive feedback about their communication experiences (Teal, Gill, Green, & Crandall, 2012). One study showed that interacting with socially diverse patients helped healthcare students prevent unconscious bias and negative stereotypes (Burgess, Van Ryn, Dovidio, & Saha, 2007).

Effective teaching practices aimed at increasing the knowledge and understanding of other cultural groups acknowledges the role of diversity in communication and stresses that it is pivotal to the development of cultural competence (Sue, 2001). Previous research revealed that current healthcare teaching approaches need to focus on transformation and application, instead of merely disseminating content and information (Chun, 2010). Developing students' cultural competence requires a broad and systemic teaching approach, including the enactment of an overarching commitment to cultural competence throughout an organization (Sue, 2001). When designing courses, healthcare educators are encouraged to consider enhancing students' awareness of cultural competence and diversity, by covering discussing its intersections with race, gender, sexual orientation, language, disability, and social economic status (Isaac et al., 2015; Reed, Bustamante, Parker, Robles-Pina, & Harris, 2007).

Traditional teaching methods used by dental schools during the delivery of information about cultural competence have been criticized for excluding real world experience and neglecting opportunities for critical and reflective discussion. CODA and ADA (2013) recommend that healthcare institutions use active and collaborative teaching methods, including case study, small group discussion, and transformational approaches combined with scientific content and clinical experience. These approaches are suggested to increase students' social responsibility and to decrease their potential cultural bias. Compared with the traditional teaching approach, a comprehensive approach is designed to challenge and result in changing students' attitudes, behaviors, and abilities, by integrating critical thinking and problem-solving methods (Chun, 2010). Small group discussion among peers is one approach that can be used in dental education (Rowland, Bean, & Casamassimo, 2006). Researchers have reported the impact of reflective writings in promoting change in student's awareness and expression of cultural competence (Isaac et al., 2015).

With increasing social attention that stresses a need for a patient-centered approach in healthcare sciences, dental educators are urged to explore ways to teach cultural competence that: (1) considers transformation and application in society; (2) uses active and comprehensive engagement; (3) provides opportunities to communicate and interact with people from different cultural groups (such as racial, gender, sexual orientation, language, disability, social economic status, with professional guide and feedback; (4) relies on the use of a standardized measure of analyzing outcomes; and (5) incorporates small group discussion that help foster critical thinking. This study, the third, of a serial program, explored the effectiveness of this aforementioned teaching method on developing dental students' cultural competence. The previous two studies used a combination of traditional and active learning experiences (Behar-Horenstein, Feng, Isaac, & Lee, in press Isaac et al., 2015). In this study, the instructor used small group discussions to encourage students' willingness to probe more deeply into cultural competence and diversity, and to develop their communication skills and critical thinking. The purpose of this study was to explore how the implementation of the small group interactions, in addition to reflective writing, and conducting interviews influenced change in students' cultural competence. The researchers were interested in discovering if the training activities would help dental students recognize their unconscious bias and then reduce it.

Specifically, we wanted to know if the new teaching approach resulted in more effective outcomes than were shown in the previous two studies.

Researchers' Positionality

All of the participants' reflective writings were read individually by both of the researchers, all non-dentists, in order to individually identify statements or phrases that reflected students' perceptions and experiences. The researchers (a tenured professor in education, with appointments in dentistry, veterinary medicine and pharmacy, and a doctoral candidate in education) then came together to review the themes and the fit of individual excerpts from the participants. This inquiry was a one of the goals in the school's funded grant, which focused on revising pre-doctoral dental education. Interest in this study stemmed in part from the researchers' exploration of the literature. A review showed that one of the major challenges facing the oral health profession is identifying and implementing effective strategies for addressing the persistent rates of oral health disparities among underserved racial and ethnic groups (Spencer & Trigilidas, 2016). Missing from this body of knowledge is how the development of cultural competence could be aided by carefully crafted instructional interventions. Another motivating factor was the authors' beliefs that developing cultural competency during pre-doctoral studies is imperative to changing the trajectory of oral healthcare disparities (Office of the Surgeon General, 2003). The researchers experienced in qualitative analysis, have conducted and published previous studies on teaching cultural competence and the use of reflective writing in dentistry.

Methods

Course Design

This study was conducted in 2015 at a Southern College of Dentistry. This was the third-year study of a serial program and that compared the second year to the present (third year) findings. In this study, the instructor used, small group activities in which students discussed particular questions such as: (1) What does it mean to be competent? (2) What does a competency look like? (3) What is your definition of cultural competency? Provide an example, and (4) Provide some examples of when you experienced culturally insensitive communication. How did you feel as a result? A representative from each group shared their responses. Each group wrote and posted their responses on large paper (33" X 42") on the classroom wall. Following each discussion, the instructor asked a representative of each group to report their responses and that were posted on the wall. Before moving onto subsequent questions, students were asked to read other group's posted responses. The instructor concluded the session with an explanation of the first reflective writing assignment.

During the second session, the instructor again engaged the students in small groups activities and asked them to respond to the following questions: (5) Assign yourself a particular rating of your own cultural competence from 0 to 10, where 0 = not at all, and 10 = extraordinarily skilled, (6) Explain why you assigned yourself a particular rating of your own cultural competence from 0 to 10, where 0 = not at all, and 10 = extraordinarily skilled, (7) What are the most significant factors that have influenced your level of cultural competence?, and (8) Why am I being asked to learn about my personal cultural competence? During this study, unlike the first and second studies (Behar-Horenstein et al., in press; Isaac et al., 2015) there were no instructor presentations or direct dissemination of information.

This approach was quite different from that which was used in the previous study. In the second study, presentations included an overview of characteristics that explicated cultural

competence, barriers to its development, the impact of inequity, as well as the social-historical and socio-political impact on cultural competence. Students were presented with a continuum depicting the stages of cultural proficiency. They were asked to silently identify where they would place themselves.   This exercise, designed to create cognitive disequilibrium, encouraged students to reflect on their own bias, privilege and assumptions, and seek effective solutions during small group discussions and while preparing reflective writing assignments (Mezirow, 1990). This study was approved by the university's institutional review board (#U-1071-2010). All data was de-identified prior to analysis to protect participants' safety, privacy, and confidentiality.

Data Collection

During the 2015 spring semester, students were asked to complete two self-reflective writing assignments focusing on the fundamentals aspects of cultural competency. The first reflective writing assignment, Assignment 1, was assigned at the beginning of the course and focused on the students' own cultural perceptions. Students responded to questions that required them to share their current cultural perceptions and worldview, as well as previous experiences they perceived contributed to the development of these cultural perceptions and worldview. The last question (Question #16) was comprehensive and asked students to: *Define your world—what does it encompass? What are some of your assumptions?*

For the second assignment, Assignment 2, students were first randomly assigned to one of the seven groups from the topics list (Language, Gender, Disabled, Sexual Orientation, Religion, SES, and Racial) and they were instructed to interview someone who met the specific interview requirement of that group (Table 1).

Table 1. *Groups for Interviewee Categories for Year 2015*

Groups	Interviewee Categories: Your interviewee should be someone:
1. Sexual Orientation	who has different sexual orientation from your own
2. Religious	from a religious affiliation unlike your own
3. Disabled	who is mentally or physically challenged
4. Language	whose first language is different from your own
5. Social Class	whose social class is different from your own
6. Racial	from a racial/ethnic group that is different from your own
7. Gender	whose gender is different from your own

The purpose of the interview was to discover the interviewee's cultural experiences and worldviews using ten questions that covered topics on education, faith, purpose of life, and others. Students were asked to share the interviewees' responses, and compare them with their own experiences and perceptions by answering question #10: *As a result of the conducting interview with the assigned individual, describe the insight you acquired about your values and prevalent assumptions in your cross-cultural relationships and ways in which they are similar or different from the previous experiences you have had (e.g., derived from family members, friends, institutions).* Researchers conducted a comparative analysis to find out how students' cultural perceptions changed during the two assignments, as well as what the students learned from the interview and the course. Their answers to question #16 in Assignment 1 and question

#10 in Assignment 2 were extracted since these two questions were similar. Both qualitative and quantitative analyses were conducted.

Data Analysis Methods

 For this study, the authors used a QUAN→qual sequential mixed method; quantitative analysis guided the qualitative analysis (Mertens, 2010). Qualitative analysis was conducted after determining the potential of significant relationships identified in the quantitative analysis to contextualize and support the quantitative observations. This design was selected because the authors were interested in locating quantitative differences and identifying reasons for those findings, which could be best discerned through deep qualitative analysis.

In addition to guiding qualitative analysis, quantitative analysis added value to the overall study in several aspects. First, quantitative data analysis and interpretation examined to what extend that students' cultural competence was influenced by the new teaching approach. Besides providing rich statistical evidence, the treatment effects were also examined by multiple explanatory factors, such as gender and White/URM status. Thus, quantitative analysis measured treatment effects empirically and promoted the generalizability of the results (Creswell, 2012). Second, quantitative analysis helped determine significant word factors, which provided the fundamental component of the subsequent qualitative research and the whole study. Indeed, by examining the causal relationship among variables, and linking the content of subsequent qualitative results as a whole, the quantitative analysis suggested the trends and significance of using active teaching and an experimental learning approach in promoting cultural competence. Third, quantitative analysis strengthened the trustworthiness and contributed to triangulation of this study. Combining both quantitative and qualitative analysis results, provided depth and breadth as well as generalizability which can enable the readers to recognize the meaningfulness of the research findings in a comprehensive way (Creswell, 2013).

Quantitative methods. For the quantitative section, researchers used the Linguistic Inquiry Word Count (LIWC) software to conduct a word count for each answer and to count the number of the specific dictionary identified words according to the LIWC's internal dictionary (LIWC, 2007). The internal dictionary was comprised of 80 word categories of words related to participants' emotions among others. After collecting statistics from the LIWC program, the authors used SPSS 20.0 software to run a principle components factor analysis with Varimax rotation. The analysis identified and extracted 7 factors from 17 word categories, in which eigenvalues were greater than one. The dataset also included the students' coded demographic data.

Paired samples *t*-test, independent samples *t*-test, and one-way ANOVA were conducted to address questions on differences of word count. In addition, a general linear model (GLM) multivariate analysis of variance (MANOVA) was conducted using the seven factor scores of each assignment as dependent variables, word count as covariate, each student's gender, their White/ URM status, groups for interviewee categories, and Assignment 1 or 2 as independent variables. The authors explored the following questions: 1) Is there a statistically significant difference in the word count between assignments, 2) Is there a statistically significant difference in the word count among the seven groups for interviewee categories?, 3) Is there statistically significant difference for word count between male and female students?, 4) Is there statistically significant difference for word count between White and URM students?, 5) Considering the seven factors as dependent variables and word count as covariate in the model, are there statistically significant effects or interactions in the full model?

Since students in 2014 who were given the same assignments that provided the same kind of data, served as comparative data. Specifically, the authors were interested in the following: 1) Is there a statistically significant difference for word count between students who received different types of instruction? 2) Are there statistically significant effects on students' factor scores from different teaching types with White/ URM status and groups for interviewee categories controlled as covariates? To answer the aforementioned questions, another set of independent samples *t*-test and MANOVA were conducted. The general linear model set for the MANOVA used seven factors and word count (of Assignment 2 only) as dependent variables, teaching types as the independent variable, the White/ URM status, and groups for interviewee categories as covariates.

Qualitative methods. For the qualitative analysis section, students' answers to question #16 in Assignment 1 and question #10 in Assignment 2 served as original data. NVivo software was used to identify the most frequently used three- or more-letter words. The authors calculated and identified words that highly represented the whole texts. Those highly representative words, acquired in the quantitative analysis, were matched into 17 LIWC word categories to cross-reference words. Using those cross-referenced words as nodes, original data were coded sentence by sentence using NVivo. Then, coded texts were extracted from NVivo with students' demographics and interviewee categories. For example, a sentence was coded as "culture" was extracted to serve as a reference, and was labeled as "White," "female," and "Sexual Orientation." Finally, such qualitative findings were synthesized by interviewee categories, and to be interpreted in the results section. Thus, combined with demographic and interviewee categories data, the contents of students' answers were analyzed logically to present qualitative findings. In addition, to ensure the quality and significance of the presented findings, the first author, who was an experienced qualitative research expertise, handled the qualitative data analysis and present procedure. Also, this data analysis method was successfully used in previous two studies, thus the validity and feasibility of this method was well examined (Behar-Horenstein et al., in press; Isaac et al., 2015).

Results

Sample Description

The third-year study was conducted with 84 pre-doctoral dental students, including 52 female students (61.9%) and 32 male students (38.1%); 43 (51.2%) of the 84 students were from URM groups and 41 (48.8%) students were White (Table 2).

Table 2. *Participant Demographics by Groups for Interviewee Categories for Year 2015*

Groups	White (41, 48.8%)		URM (43, 51.2%)		Total
	Male	Female	Male	Female	
1. Sexual Orientation	3	3	1	4	11
2. Religious	3	5	1	3	12
3. Disabled	2	3	2	4	11
4. Language	3	3	5	2	13
5. Social Class	4	3	4	1	12
6. Racial	2	4	1	6	13

7. Gender	1	2	0	9	12	
Total	18	23	14	29	84	

Total Male: 32, 38.1%; Total Female: 52, 61.9%

Table 3. *Factor Structure Representing Underlying Dimensions for Year 2015*

Factors	1 Past experience	2 Negate	3 Insight	4 Inclusive	5 Certain	6 Because	7 Humans
Variance (64% in total)	12.8%	11.7%	9.2%	8.7%	7.5%	7.2%	6.9%
SheHe	.842						
Past	.788						
Social	.733						
Negate		.797					
Excl		.739					
Family		-.547					
Tentat			.797				
Insignt			.741				
Ipron			.514				
We				.816			
Incl				.785			
Percept					.636		
Certain					-.588		
Cause						.773	
Discrep						-.687	
Adverb							-.692
Humans							.588

Quantitative Findings

Comparison results within Year 2015. The factor analysis results showed that seven factors extracted from 17 LIWC word categories (eigenvalues greater than one, absolute value of factor loadings greater than .50), explained 64% of total variance (Table 3). Word count was significantly different between Assignment 1 and 2. Students wrote significantly more in Assignment 2 (M=657.67) than Assignment 1 (M=155.23), $p<.000$ (Table 4).

Table 4. *t-test Results for Word Count by Assignment for Year 2015*

Assignment	N	Mean	SD	*t*-value	*p*-value
Assignment 1	84	155.23	98.678	11.319	.000
Assignment 2	84	657.67	415.843		

Word count was not statistically significant different between White and URM students in either Assignment 1 (*p*=.083) or Assignment 2 (*p*=.575). Word count was not statistically significant different between males and females in either Assignment 1 (*p*=.686) or Assignment 2 (*p*=.212). Additionally, for Assignment 2, word count was not statistically significant different among categories (*p*=.127). The number of participants per interview category was fairly similar ranging from 11 to 13.

MANOVA results showed that in addition to the statistically significant effect of the assignment on the model (*p*=.000), there was a statistically significant interaction effect between (White/URM) and category (*p*=.011). This finding indicated that the effect of the category on the model was not the same for White students and URM students (Table 5).

Table 5. *Significant Multivariate Tests Results for Year 2015*

Effect	Wilks' Lambda Value	F-value	df	*p*-value
Assignment	.593	10.495	7	.000
(White/URM) × category	.556	1.604	42	.011

In the full model and for between-subjects, there was significant effect on factor 1 (*p*<.000); Word Count had significant effect on factor 1 (*p*=.006) and factor 4 (*p*<.050); Assignment group had significant effect on factor 1 (*p*<.000), factor 4 (*p*=.007), and factor 5 (*p*=.029); White/URM status had significant effect on factor 4 (*p*=.005); Category had significant effect on factor 6 (*p*=.020); However, gender did not have significant effect on any factors. There was a significant two-way interaction on factor 2 with White/URM status and Category (*p*=.006); there was a significant two-way interaction was for factor 4 with White/URM status and Category (*p*=.007); another significant two-way interaction was for factor 6 with Gender and White/URM status (*p*=.026). In addition, there was a significant three-way interaction for factor 5 with Assignment by Gender by White/URM status, *p*=.010. No significant four-way interactions were observed (Table 6).

Table 6. *Significant MANOVA Results of Between-Subjects Effects for Year 2015*

Source	Dependent variable	Df	Mean square	F-value	*p*-value
Corrected Model	Factor 1	54	1.969	3.671	.000
Word Count	Factor 1	1	4.124	7.690	.006
	Factor 4	1	3.499	3.921	.050

	Factor 1	1	20.760	38.713	.000
Assignment	Factor 4	1	6.848	7.674	.007
	Factor 5	1	4.674	4.887	.029
White/URM	Factor 4	1	7.241	8.115	.005
Category	Factor 6	6	2.642	2.631	.020
Gender × (White/URM)	Factor 6	1	5.136	5.114	.026
(White/URM) ×	Factor 2	6	3.032	3.222	.006
Category	Factor 4	6	2.770	3.104	.007
Assignment × Gender × (White/URM)	Factor 5	1	6.616	6.917	.010

Comparison of different teaching types—between Year 2015 and Year 2014. Comparing word count between students in the 2014 study and students in the 2015 study, results of independent samples *t*-test showed that word count was statistically significant different between 2015 and 2014 for both assignments. For Assignment 1, students in Year 2015 wrote significant more words (M=155.23) than students in Year 2014 (M=125.36), *p*=.027. For Assignment 2, students in Year 2015 wrote significant more words (M=657.67) than students in Year 2014 (M=260.85), p<.000 (Table 7).

Table 7. *t-test Results for Word Count by Year*

Assignment	Year	N	Mean	SD	*t*-value	*p*-value
Assignment 1	Year 2014	92	125.36	78.880	2.227	.027
	Year 2015	84	155.23	98.678		
Assignment 2	Year 2014	92	260.85	141.964	8.315	.000
	Year 2015	84	657.67	415.843		

Table 8. *Significant Multivariate Tests Results by Year*

Effect	Wilks' Lambda Value	F-value	df	*p*-value
White/URM	.881	2.798	8	.006
Year (Teaching type)	.650	11.092	8	.000

Table 9. *Significant MANOVA Results of Between-Subjects Effects by Year*

Source	Dependent variable	df	Mean square	F-value	*p*-value
	Word Count	3	2425654	26.366	.000
Corrected Model	Factor 4	3	2.227	2.687	.048
	Factor 6	3	1.415	2.831	.040
	Word Count	1	6848715	74.442	.000
Year (Teaching type)	Factor 5	1	2.992	5.010	.026
	Factor 6	1	2.908	5.818	.017
	Factor 1	1	3.430	4.770	.030
White/URM	Factor 3	1	2.522	3.915	.049
	Factor 4	1	5.963	7.196	.008

Comparing factor scores and word count in Assignment 2 between the Year 2014 and Year 2015, the MANOVA results showed that in the full model, the different instructional styles had a statistically significant effect on the model (word count and seven factors) (p<.000). White/ URM status also resulted in statistically significant effect on the model (*p*=.006) (**Table 8**). For between-subjects effects in the full model, there were a significant effect on word count (p<.000), factor 4 (*p*=.048), and factor 6 (*p*=.040). Teaching type had significant effect on word count (*p*<.000) factor 5 (*p*=.026), and factor 6 (*p*=.017). White/URM status had significant effects on factor 1 (*p*=.030), factor 3 (*p*=.049), and factor 4 (*p*=.008). Category did not have significant effects on dependent variables (**Table 9**).

Qualitative Findings

A deductive thematic analysis was used. Codes were linked to factor dimensions to interpret the data (Boyatzis, 1998; Fereday & Muir-Cochrane, 2006; Hesse-Biber & Nagy Leavy, 2011) and categorical patterns within the data were found (Boyatzis, 1998; Attride-Stirling, 2001; Braun & Clarke, 2006). Conceptually linked categories were integrated and synthesized together into broad themes. Validation of the analysis was enhanced by the presence of two experienced qualitative researchers with extensive knowledge in the area of cultural competency in higher education. The authors describe significant differences that were similar by word category and expand on the contextual differences that the quantitative findings did not reveal in the categories of Language, Gender, Disabled, Sexual Orientation, Religion, SES, and Racial.

Language. After conducting interviews, student discovered that despite differences in first language, they recognized many similarities, became less fearful, or were more-open minded. Following an interview with a young Hispanic woman, Tom, a White male, gained some insight about the Hispanic culture. He also found "many similarities between my culture and hers." Connie, a White female, learned some information about the Egyptian culture and the country's growing acceptance of woman holding careers. This new material caused her to question if she was as culturally competent has she had earlier thought. The experience also encouraged Connie to be less afraid of asking questions of others whose culture was dissimilar to her own. Following the assignment, Naueen felt even more connected to her Indian culture. Growing up in America, she surmised had taught her to be more open-minded. Although same

sex relationships are considered inappropriate in India she "believe[s] that people can decide for themselves whether or not they want to participate in same sex relationships."

Gender. Participants reported that gender was not contributing factor in how they and interviewees viewed the world. Alyona, a URM female, did not think that "gender makes a big difference in how we view certain things, at least in the case of my interview." Katherine, a White female, agreed and shared that, "our views and insights are not necessarily that different." She qualified her opinion while pointing out that they both came from similar backgrounds. Sabrina, a URM female, also concurred that despite different gender, she and her interviewee shared "very similar opinions and beliefs." However, she suggested that they the culture in which they were raised together with religious beliefs "really shape[d] our view on many different things." Others described how engagement in the interview enhanced their awareness. Katie, a White female, wrote that the process opened her eyes "to what my patient clientele may be like one day." She recognized that a diverse set of patients would have different views on the world just as she does. Others commented on how the experience resonated with their own upbringing and past. Ellen began to examine the strong role that her family played in shaping her values and opinions. She remarked that it "made me think a lot about myself and my past." Juanita, URM female, became more cognizant of the ways in which her America values, despite being a non-native influenced her. Referring to her traditional Cuban heritage, she commented that Cubans believe that marriage should be limited to a union between a man and a woman. In contrast, she supports same-sex marriage. Juanita inferred that her openness was a product of attending school in the U.S. As she described, "otherwise my mentality would be the same as that of the majority of the island."

Disabled. Interviewing others with disabilities caused some participants to reckon with unrecognized biases. As a result of interviewing an individual with disabilities, Deborah, a White female, found herself confronted by her own prejudices, "I realized that I am not as objective as I thought." Amara, a URM female, encountered a similar realization. From experience, she had learned to be culturally sensitive towards people from various backgrounds. However, she had "not consciously made myself aware and courteous [to hold] the same respect for the mentally and physically challenged." During her discussion with Tanner, a young man who had knowingly suffered trauma, Corinne observed how he acknowledged and appreciated simple things, "such as smiles, kindness, and warmth in people." From this experience, she reevaluated her definition of happiness and purpose in life. Hannah, a female URM, confessed that she held inaccurate assumptions prior to conducting the interview. She thought that the interviewee would be unable to adequately communicate what they wanted to say. Hannah admitted that she was "ashamed that I ever thought such things about these individuals." These powerful revelations signify the deep and abiding insight that some participants acquired. Other participants described his limited experiences with individuals who lives were influenced by disability. Jeff, a URM male, thought he had an inherent ability to predict certain beliefs and behaviors by connecting observations of individuals with patterns from previous world experiences. However, conducting this interview caused him to question the veracity of this presumed skill. Samuel, a White male, discerned that his tolerance for others dissimilar from him was much greater than previously thought. He opined that the exposure to physical disability while in the U.S. had increased his acceptance. He pro-offered that growing up in Korea limited exposure "to most of the social taboos that are discussed openly here in the U.S."

Sexual orientation. This category resulted in the greatest number of remarks and insights. This finding is consistent with what has been reported in previous studies (Behar-Horenstein et al., in press; Isaac et al., 2015). Whether these findings resulted simply from conducting an interview is not entirely clear. Participants openly wrote about their rejection of homosexuality or their newfound empathy regarding the struggles that LGBT individuals were

forced to cope with. The perspectives of several participants remained unchanged following the interviews. Carol, a White female, claimed that she understood why homosexuality was not included in the Diagnostic and Statistical Manual of Mental Disorders. However, she still maintains that it is a mental illness. Leigh, another White female, previously assumed that media attention given to issues around a gay person's view on same-sex marriage was attention seeking behavior, began to understand why marriage was important for couples. Acquiring new insights "opened my eyes to a new belief and challenged my biases about homosexuality." Others began to question previously held assumptions. Patricia, a female, who believed that homosexuality results from genetics assumed that their families would be non-tradition. After interviewing a gay person, she learned that homosexuals can also be raised in traditional families. Jasmine, a White female, thought being gay was a choice. However, she now recognizes that individuals are born with this predisposition.

Robert, a white male, admitted having few interactions with people of different sexual orientations. He relied on stereotypes depicted by the American culture when thinking of these groups. After acquiring new information during the interview, he vowed never again to "assume that [all] patients follow American cultural stereotypes." Earl, a White male, who lacked experience with people of another sexual orientation, found this experience very insightful. In contrast, Tameka, a female URM, was actually very afraid that her interviewee would not want to answer the questions. She shared that this experienced was "the easiest, most enthralling interview I have ever conducted."

Others admitted possessing mistaken information or holding onto narrow minded beliefs. Margie, a White female, realized that her beliefs on this homosexuality or gay marriage were very intolerant. Following the interview, she asserted that she no longer views this matter in "the same light." Jane, a URM female, thought that all gay individuals acted in feminine ways. After discovering that this was not accurate, she learned "that being homosexual doesn't mean a man can't be masculine." Charisse, URM female, "was very surprised" to see how her viewpoints about certain things in life were so similar to individuals who had a sexual orientation unlike her won. Ashley, a White female, gained insight into the struggles of gay individuals in this country and how those battles can also affect perceptions. She was saddened by the "discrimination that homosexuals face." Ronald, a White male, believed that society would be a better place if the heterosexuals learned more about gay culture and "the strife" they experience. Similarly, Max, a White male, discovered "the harsh circumstances homosexuals sometimes must go through."

Religion. Participants learned new information about other religions, acquired insight about their own views, or were surprised to recognize the similarities between the interviewees and themselves. Steve, a White male, appreciated learning about the Jewish faith. While he did not hold any particular assumptions about the faith and culture, he realized just how ignorant he was "about the beliefs and traditions associated with Judaism." Thomas, a White male, discerned that not knowing about others' faith-based beliefs placed him at a disadvantage in having respectful interactions with others. Lynn, a White female, naively believed that Passover was something that only happened in Biblical times, and "was therefore extinct." Sharon grappled with her new found understanding of Judaism. She asked, "How can someone call themselves Jewish and not actively practice the religion? Being Christian is not like this." She wondered how being Jewish was simultaneously an ethnicity and religion.

After this assignment, Veronica, a White female, saw her "own views differently." She found that she was more traditional in comparison to others. Kelly, a White female, opined that everyone needs to "realize their own way of thinking and reasoning with the world." She felt that this assignment was a step in that direction for her. Following the interview, Haley, a White female, averred to get to know others who were unlike herself so that she could grow in cultural competency.   Mark, a White male, who had never really heard other people express

experiences with their religion reported feeling enlightened. Taneisha, a URM female, learned that despite differences in religions and cultures, as people, we can "find relatedness with others." She explained that she now planned to find ways to relate to others because she now recognized its role in building relationships and gaining patient trust. Gina, a White female, was surprised to find that despite different religious backgrounds, "the amount of similarities that the interviewee and I shared."

SES. Participants who wrote about SES found that for the most part that this assignment challenged previously held beliefs or familial practices. Prior to this interview, Albert, a white male, believed that his values and cultural traditions would be quite different from someone of another SES. However, his assumption was proven wrong. Cynthia, a female, reflected on how this assignment reinforced the human component. She wrote that, "No matter the ethnicity, age, race, sexual orientation, or background, we all love, feel, and experience life in much the same way." Before the interview Richard, a URM male, thought that he and the interviewee would not understand one another owing to their differences in social class and upbringing. Afterwards, he learned how much they were alike in many ways. "Religion is as integral to his family as it is in mine." Eric, a URM male, thought it was amazing how faith unites people from different cultures and socioeconomic status "under the same roof to worship the same God."

One participant, Harold, a URM male, discerned that an individual's household income does not change or make a person different. He exclaimed that this experience allowed him to become more mindful and not so readily judge "individuals with different socioeconomic statuses." This assignment, caused Jose, a URM male, to reflect on his upbringing. Because his family was financially stable, he was raised to give back to the community. Janice, a White female, found her interviewee to be accepting of homosexuality. She believed that this was the result of society's progressive impact on all people, "not just those in certain socioeconomic classes."

Racial. After conducting this interview, Mary a White female, determined that she acquired "some insight about my values and prevalent assumptions in my cross-cultural relationships." Devona, a URM female, confided that the diversity seen in today's world "often masks the oneness within us." She opined that every person should be treated equally. Victoria, a URM female, non-native to the U.S. was reminded that "each person is more than the labels and categories that we often feel define us." Leah, a White female, reported that, despite her diverse upbringing and education in school, "I knew the least about his race and ethnicity." Through this experience, she was encouraged to acquire new knowledge and develop a better understanding of his community from an unbiased primary source. She discovered that regardless of different races and childhoods, that she and her interviewee had "experienced many of the same things, have similar values and ultimately have the same goals for our lives."

John, a White male, confessed that he came to this assignment with a closed mind. He admitted that, "you can learn a lot from a person by not looking for the differences in them but by seeking out the similarities to create a common bond upon to which you can build a relationship." David, a White male, turned the process of interviewing into a search for their similarities. However, he found himself becoming introspective and beginning "to look at some of my own character flaws that prompted misconceptions and "making rash generalizations." Amber, a URM female, was surprised to discover the similarities in beliefs, cultures, traditions, among people from different "ethnic" and "racial" categories. She reported that she was able to "learn a lot more and reflect in a deeper way."

Joselyn, a URM female, stated that it is only by talking to others and increasing her awareness of societal barriers and minority groups, that she was able "to see how alike we can

be." Judy, a White female, expressed her surprise that the interview experience resulted in interacting with someone "that had similar religious-or lack thereof-views as myself."

Discussion

The findings of the 2015 study were similar to what was observed in the previous two studies (Behar-Horenstein et al., in press; Isaac et al., 2015). Quantitative findings showed that in terms of word count, students wrote significantly more in assignment 2 than in assignment 1. Regarding cultural competence, students' insight increased after they had interviewed someone from a cultural background different from their own. The factor analysis provided seven factors (Past experiences, Negate, Insight, Inclusive, Certain, Because, and Humans) extracted from LIWC word categories, which were similar to factors from the previous two years' studies. MANOVA results showed that among the factors, significant effects occurred in factor 1 (Past experiences), factor 2 (Negate), factor 4 (Inclusive), factor 5 (Certain), and factor 6 (Because). Those effects came from word count, assignment 1 or 2, White/URM status, and category 6: racial. Gender did not contribute much in the model. However, it had an effect on factor 6 when interacting with White/URM status and on factor 5 when interacting with White/URM status and assignment 1 or 2. MANOVA results also showed that there was an effect of category on the model for URM students, indicating the contribution of the students' racial background. While comparing different teaching types, students in 2015 wrote significantly more than students in 2014 for both assignments. Perhaps the use of small group discussions motivated students' expression in regards to cultural competence. The MANOVA results showed that the instructional style used in 2015 had a statistically significant effect on word count and the seven factors. The findings suggested that small group discussions caused students to question whether prior to conducting the interview, they had been culturally competent and raised an awareness of their biases. Students came to realize that differences in cultural backgrounds in and of themselves did not result in how people view certain things.

The qualitative findings showed that after interviewing someone unlike themselves, that students recognized their unconscious biases, increased their cultural competence and reduced their bias. Students assigned to the language category reported that although they had a different first language from their interviewees, they still shared similarities in culture; language did not avert making a cultural connection. Students from the gender category indicated that gender difference did not impact their cultural views. They also reported that during this course, previous assumptions related to gender stereotypes had changed. Students who interviewed disabled people reported that they became aware of unconscious bias and prejudices and vowed to abandon unsubstantiated assumptions. After the course activities, they started to re-think their cultural competence and attempted to be more objective and respectful than before. Students who were assigned to the sexual orientation category reported that this learning experience helped them be more open-minded and to think more critically about previously held unquestioned beliefs. Similar feedback was provided by students who were assigned to the religion, SES, and racial categories. Overall, students reported an increase in cultural competence. They described how the course activities helped foster an awareness and recognition of the role that diversity plays in communication and access to care and consequently decreased their unconscious bias. As future dental care providers, they opined that every person should be treated equally.

Limitations

The authors cannot assert that interviewing in and of itself was purely causative in the significant differences observed although findings suggests that either the interviews alone, or that combined processes of reflective writing, interviewing and small group discussions was solely instrumental in observed changes. The findings suggest that the assignments prompted students' awareness of the "underlying values and attitudes necessary for cultural competency and awareness" if not "cultural competency" itself.   The wording of the two writing assignments was related but slightly different. Observed changes could have occurred from the "priming" effect of writing or students' perception of the content that the instructor would value, however in the context of this study no additional steps were taken to address this limitation. Further investigation is warranted.

Recommendations

The study's findings support theoretical assumptions that when students interact with culturally diverse people, they recognize and question potential bias and negative stereotypes (Behar-Horenstein et al., in press; Burgess et al., 2007; Chun, 2010; Isaac et al., 2015; Reed et al., 2007). This study showed that providing communication opportunities and increasing students' engagement in the learning process positively influenced their cultural competence and professional behavior (Teal et al., 2012). In addition, the findings showed how reflective writing increased students' awareness of diversity. With professional feedback and guidance, the reflective writing assignments promoted dental students' critical thinking, as well as their professional beliefs and knowledge. Since findings from the previous two studies also provide similar conclusions, the results of this study strongly support the efficacy and effectiveness of the teaching approach. The increased outcomes shown in this study suggest that the use of small group discussions in the cultural competence teaching practice promoted even more effective outcomes.   Overall, this study demonstrated the effectiveness of integrating communication activities and reflective writing in cultural competence teaching. In particular, the addition of small group discussions solidified the effectiveness of active learning in teaching cultural competence.

We recommend dental educators to pay greater attention to fostering students' cultural competence, help them recognize and reduce bias, and ensure that future dental care providers are culturally competent. Educational pursuits should focus on cultivating professional attitudes and behaviors, as well as social responsibility, so that prospective dentists deliver equitable care to the whole community, especially cultural minority groups.

References

Attride-Stirling, J. (2001). Thematic networks: An analytic tool for qualitative research. *Qualitative Research 1*(3), 385-405.

Behar-Horenstein, L., Garvan, C., Moore, T., & Catalanotto F. (2013). The knowledge, efficacy, and practices cultural competency instrument: A validity study. *Journal of Dental Education, 77*(8), 998-1005.

Behar-Horenstein, L., Feng, X., Isaac, C., & Lee, B. (In press). Dental students' expression of cultural competence. *Journal of Ethnographic and Qualitative Research.*

Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. Thousand Oaks, CA: Sage Publications.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101.

Burgess, D., Van Ryn, M., Dovidio, J., & Saha, S. (2007). Reducing racial bias among health care providers: Lessons from social-cognitive psychology. *Journal of General Internal Medicine, 22*(6), 882-887.

Chun, M. B. (2010). Pitfalls to avoid when introducing a cultural competency training initiative. *Medical Education*, *44*(6), 613-620.

Commission on Dental Accreditation. (2013). *Accreditation standards for dental hygiene education programs.* Chicago, IL: Commission on Dental Accreditation. http://www.ada.org/~/media/CODA/Files/dh.ashx

Commission on Dental Accreditation and American Dental Association. (2013). *Accreditation standards for dental education programs.* Chicago, IL: Commission on Dental Accreditation, American Dental Association. http://www.ada.org/en/coda/current-accreditation-standards

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Boston, MA: Pearson.

Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage.

Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods*, *5*(1), 80-92.

Health Resources and Services Administration. (2013). *Terms and definitions.* Retrieved from http://www.hrsa.gov/grants/apply/grantdictionary.html

Hesse-Biber, S., & Nagy Leavy, P. (2011). *The practice of qualitative research* (2nd ed.). Thousand Oaks, CA: Sage.

Isaac, C., Behar-Horenstein, L., Lee, B., & Catalanotto, F. (2015). Impact of interviews on dental students' expressions of cultural competency. *Journal of Dental Education, 79*(3), 312-321.

Mertens, D. (2010). *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods.* Thousand Oaks, CA: Sage.

Mezirow, J. (1990). How critical reflection triggers transformative learning. In J. Mezirow & Associates, *Fostering critical reflection in adulthood* (pp. 1-20). San Francisco, CA: Jossey-Bass.

National Center for Cultural Competence (2011). *Conceptual frameworks/models, guiding values, and principles.* Retrieved from http://nccc.georgetown.edu/foundations/frameworks

Office of the Surgeon General. (2003). U.S. national call to action to promote oral health. Retrieved from https://www.nidcr.nih.gov/DataStatistics/SurgeonGeneral/NationalCalltoAction/

Reed, D., Bustamante, R., Parker, C. H., Robles-Pina, R., & Harris, A. J. (2007). A course model for developing culturally proficient school leaders. *Journal of Education and Human Development, 1*, 1-11.

Rowland, M. L., Bean, C. Y., & Casamassimo, P. S. (2006). A snapshot of cultural competency education in US dental schools. *Journal of Dental Education, 70*(9), 982-990.

Spencer, A., & Trigilidas, J. (2016). Bridging the gap: Does cultural competency make a difference in the provision and efficacy of oral health care? *Dimensions of dental hygiene*. Retrieved from http://www.dimensionsofdentalhygiene.com/2008/12_December/Features/Bridging_the_Gap.aspx

Sue, D. W. (2001). Multidimensional facets of cultural competence. *The Counseling Psychologist*, *29*(6), 790-821.

Teal, C. R., Gill, A. C., Green, A. R., & Crandall, S. (2012). Helping medical learners recognise

and manage unconscious bias toward certain patient groups. *Medical Education, 46*(1), 80-88.

U.S. Department of Health and Human Services. (2000). *Oral health in America: A report of the surgeon general.* Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health.

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