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A Diverse Clinical-Based Practice in Teacher Education

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Abstract

The purpose of the study was to determine if offering a virtual clinical-based practice would affect teacher candidates' level of confidence in teaching diverse students. During 2012-2014, data were collected using a pre- and post-Likert scale questionnaire. A paired two sample t-test was utilized to determine if there was a significant difference in mean scores from the pre- to the post-questionnaire. Increases were found in all questionnaire items with five of the items showing a significant increase at the α =.01 level. The results suggest that a virtual clinical-based practice may provide an authentic experience for teacher candidates, may lead teacher candidates to be become more aware and take a positive approach to students' differences, and that the teacher candidates' comfort level with unfamiliar situations posed by students from diverse backgrounds may increase. A future implication is that colleges of education may want to consider adding a virtual clinical-based practice to existing diversity education classes. However, more research needs to be conducted to determine if virtual clinical-based practices are equal to or better than on-site clinical-based practices in an attempt to increase teacher candidates' levels of confidence in teaching diverse students.

Keywords: diversity, teacher candidates, virtual clinical-based practice, confidence

Introduction

As teacher candidates become teachers and educational leaders, they need to be sufficiently prepared to work in ethnically, culturally, and linguistically diverse settings. Demographic data shows public school students are becoming more diverse, yet the teaching force does not mirror this trend (NCES, 2013). Working with students, whose backgrounds are much different, poses a challenge for teacher candidates. According to Howe and Lisi (2014), "teachers are often not prepared to work with diversity" (p. 11). Many monoculture teachers lack knowledge about their own as well as their students' cultures (Howard, 1999). Jiang and DeVilliar (2011) stated that pre-service and practicing teachers' dispositions are generally weak and may create feelings of professional inadequacy when instructing students from cultures different than their own. Some teachers, believing their way is the right way, may see diverse students as lacking, disadvantaged or limited (Grant & Sleeter, 2011). What experiences might support future teachers' increase in comfort level when working in diverse settings?

This paper describes a study that attempted to determine if offering a virtual clinical-based practice would affect teacher candidates' level of confidence in teaching diverse students. It begins with the Literature Review then describes the Purpose. Data Collection, Data Analysis, and Limitations, follow. The paper concludes with the Discussion and Future Implications.

Literature Review

Demographic Data

According to Banks (2013), public schools are witnessing the largest influx of immigrant students since the beginning of the 20th century. Demographic data indicates the pre K-12 student enrollment in the nation's public schools is becoming increasingly diverse (NCES, 2013). This is in contrast to the backgrounds of the nation's public school teachers.

Between fall 2012 and fall 2023, the number of White students enrolled in U.S. public schools is projected to continue decreasing from 25.3 million to 23.5 million, and White students' share of enrollment is expected to decline to 45 percent. The percentage of students who are White is projected to be less than 50 percent beginning in 2014 and to continue to decline as the enrollments of Hispanics and Asians/Pacific Islanders are expected to increase. The number of Hispanic public school students is projected to increase from 12.2 million in 2012 to 15.6 million, representing 30 percent of total enrollment in 2023. During this period, the number of Asian/Pacific Islander students is projected to increase from 2.5 million to 2.9 million, and their enrollment share in 2023 is projected to be 5 percent. Although the number of Black students is projected to fluctuate between around 7.6 million and 7.8 million during this period, their enrollment share is projected to decrease from 16 to 15 percent (NCES, 2015, para. 3).

Contrast the student enrollment with that of teachers. In 2013, approximately 82 percent of all public school teachers were non-Hispanic White, while 7 percent were non-Hispanic Black, and 8 percent were Hispanic (NCES, 2013). In addition to racial differences, Frankenberg, Lee and Orfield (2003) found differences in achievement gap including overrepresentation by minority students in special education, higher dropout rates and lower graduation rates for urban students of color, and a much lower percentage for African American, Latino, and Native American students who go to college. This information suggests more needs to be done to address these issues. Acknowledging that differences in demographics and achievement gap exists between the nation's public school teachers and the students they teach, what can assist teacher candidates to develop confidence when teaching to diverse students?

Cultural Competence and Multicultural Education

With the demographic differences between teachers and the diverse students they instruct as well as the achievement gap, schools of education must do more to prepare culturally competent teachers. Cultural competence is defined as the ability to think, act, and feel in ways that are respectful of diversity (Howe & Lisi, 2914, p. 397). Banks and Banks (2001) define multicultural education as

An idea, an educational reform movement, and a process whose major goal is to change the structure of educational institutions so that male and female students, exceptional students, and students who are members of diverse racial, ethnic, language, and cultural groups will have an equal chance to achieve academically in school. (p. 1)

Bennett (2011) identified four dimensions of multicultural education that teachers and teacher candidates should develop. All four dimensions—equity pedagogy, curriculum reform, multicultural competence, and social justice—may support teacher candidates' confidence levels when instructing diverse students. The dimension of multicultural competence relates to the purpose of the study. Multicultural competence refers to teachers who are comfortable teaching and interacting with students, families, and other teachers who are culturally and racially different from themselves (Bennett, 2011). With the intention of becoming culturally competent, teachers must learn multiple ways of perceiving, evaluating, believing, and doing. As a teacher, developing multicultural competence provides students the opportunity to function in an unusual environment while protecting their own cultural identity (Bennett, 2011).

Associated with multicultural education and competence is culturally relevant education (CRE). CRE focuses on teaching and pedagogy (Aronson & Laughter, 2015). One aspect of teaching in CRE is influencing competency and methods to create culturally responsive classrooms (Gay, 2010). Aronson and Laughter (2015) state "culturally relevant educators facilitate cultural competence" (p. 5).

Furthermore, Aronson and Laughter (2015) define cultural competence as a place where students learn about their own and others' cultures. Since most of the nation's teacher candidates are female and come from white, middle class backgrounds (Banks, 2001), they lack cultural competence. This results in teacher candidates being less able to connect with their students and less empathetic to students whose behaviors and values differ.

In addition to multicultural competence and CRE, dispositions of teacher candidates should be examined to support teacher candidates' confidence. Dispositions are referred to as "the habits of professional action and moral commitments that underlie an educator's performance" (InTASC, 2011, p. 6). Jiang and DeVilliar (2011) indicate teacher candidates' dispositions are underdeveloped, while Mueller and Hindin (2011) suggest authentic field experiences can positively impact dispositions.

Teacher Candidate Dispositions

The literature indicates that pre-service and practicing teachers' dispositions are generally weak and may create feelings of professional inadequacy regarding students from cultures different than their own (Jiang & DeVilliar, 2011). More specifically, teacher candidates struggle with ideals and stereotypes when entering college, leading teacher candidates to resist new perspectives about teaching (Mueller & Hindin, 2011). These ideals, according to Mueller, which stem from families and friends, their own experiences in school, and other established values, form the teacher candidates' belief systems.

What experiences can teacher preparation programs offer to assist in the development of teacher candidates' confidence? Mueller and Hindin (2011) suggest authentic field experiences have positively impacted teacher candidates and their dispositions. For example, one teacher candidate in an authentic field experience stated "I am currently in a placement in a school that is not very diverse. One student

[from that school] made a comment that was negative about other races. We talked about how that was wrong and about how we should not judge a book by its cover" (p. 27). Keengwe (2010) found teachers candidates believe they could more effectively reach culturally different students had they been given more diversity training and experience.

Need for Diverse Pre-Service Experiences

While teacher preparation programs offer pre-service clinical and courses experiences, the amount and quality of these experiences differ from one college program to another. Some programs offer experiences in rural school settings, yet this type of setting has shown there is a minimal focus on diversity (Wenger & Dinsmore, 2005). Also, not effective is the reliance on diversity education classes (Keengwe, 2010). A more effective attempt to provide diverse field experiences has been placing student teachers abroad. Studies reveal student teachers in this type of experience grew to respect the individual differences of students in their classrooms and helped the student teachers recognize how important it is to adapt to the cultural differences of their students (Gilson & Martin, 2012). These same authors also found the student teachers exhibited more self-confidence, professional competence, more flexibility, and better attitudes (Gilson & Martin, 2012). Jiang and DiVilliar (2011) found that students traveling to Belize, China, and Mexico reported positive experiences by teaching in these foreign countries, and they possessed a better understanding of different cultures that could positively impact their teaching when they returned to the United States. Marx and Moss (2011) stated immersion experiences in foreign countries influenced teacher candidates' intercultural development.

del Prado Hill, Friedland, and Phelps (2012) conducted a review of literature to assess the influence of field experiences on teacher candidate perceptions of students, especially perceptions of students in urban settings. The review examined 24 qualitative, 5 quantitative, and 7 mixed studies. Findings from this review substantiated earlier studies conducted by Nieto (2000) and Sleeter (2001) who found field experiences may be positive, negative, may bring about little change, or may reinforce the negative stereotypes held by teacher candidates. McIntyre et al. (as cited in del Prado Hill et al., 2012) found research on field experiences lacking with del Prado Hill et al. (2012) corroborating this finding.

Despite the lack of systematic research on field experiences and variation in how these experiences are carried out, a few suggestions to increase teacher candidates' confidence should be considered. These include increasing the time for teacher candidates' involvement with students, their families and communities in which the students live; providing teacher candidates with guided reflection to connect practice to theory; supervising teacher candidates to deliver maximum support; and structuring the teacher candidates' field experiences by careful selection of school placements and training of cooperating or mentor teachers (del Prado Hill et al., 2012).

The purpose of this study was to determine the impact of offering a virtual clinical-based practice (CBP) on teacher candidates' level of confidence when teaching diverse students. Throughout a semester, all teacher candidates enrolled in sections of the diversity course participated in the virtual CBP. Participants in the virtual CBP viewed a PowerPoint presentation and five recordings of third and fourth grade students in a highly impoverished school in Mexico. The elementary students were all English learners, with the presentation and recordings created by the lead teacher at the partner school. The final CBP activity asked the teacher candidates to develop an English learner activity for use in the school and at home by the third and fourth grade students. Several of del Prado Hill et al. (2012) field experience considerations, as discussed in the literature review, were included in the virtual CBP. The considerations included an increase in "virtual" time the teacher candidates were involved with the elementary students, a clearer understanding of the community within which the elementary students and their families lived, guided reflections that connected the clinical-based practice to course content and theory, purposeful selection of the school, and a school-based teacher who co-created the teacher candidates' clinical-based assignments.

Data Collection

The study was conducted at a Midwestern comprehensive and rural public university. The participants in the study were teacher candidates completing a required diversity course. The study commenced in the fall semester of 2012, and data were collected until the end of the spring 2014 semester. Each semester was sixteen weeks in length; the virtual CBP was carried out during five of the sixteen weeks of each semester. All students, who were enrolled in the course, participated in the virtual CBP as a required assignment. Students could opt out of the study, although no student chose this option. A total of 208 students were enrolled in all sections of the course; however, not all questionnaires were useable. Each of the 55 participants who provided useable data was at a different stage in the university's teacher education program, ranging from one year to five or more years of college.

The data was obtained through a pre- and post-Likert scale questionnaire as shown in Appendix A. Formed from a review of related literature, the questionnaire asked fourteen questions about knowledge, expectations and approaches to students' differences. A scale of 5 = strongly agree to 1 = strongly disagree was used to determine pre- and post-mean scores. The significance level was set at = .01. During the 2012-2014 academic years, the confidential online questionnaire was distributed each semester totaling three virtual sections and four on-campus sections of the diversity course. Of these sections, a total of 55 questionnaires were usable.

Participants were given one week to complete an online pre-questionnaire. After administration of the prequestionnaire, participants were asked to watch a PowerPoint presentation and five recordings of third and fourth grade students in a highly impoverished school in Mexico. The elementary students were all English learners. The presentation and recordings were created by the lead teacher at the partner school. The final CBP activity asked the teacher candidates to develop an English learner activity for use in the school and at home by the third and fourth grade students. The post-questionnaire, like the pre-questionnaire, was virtually administered to the teacher candidates after completion of the English learner activity. The participants were allowed one week to complete the post-questionnaire.

Data Analysis

participants to create a four-digit code to maintain the participants' anonymity. Question fourteen is also not indicated in the results, because it asked participants to identify the number of completed teacher education internships. A paired two sample t-test was utilized to determine if there was a significant difference in mean scores from the pre- to the post-questionnaire. When comparing the pre-mean to the post-mean, all twelve of the questions showed an increase with five questions significant. As shown in Appendix B, the questions that revealed a significant increase were questions two, four, eight, ten, and thirteen. Appendix B includes the standard deviation, effect size, and p-values for the five questions found to be significant as well as pre- and post-questionnaire scores. There was a significant increase for question two from the pre-questionnaire (mean = 4.58, st. dev. = 0.60) to the post-questionnaire (mean = 4.82, st. dev. = 0.39) at the one percent level of significance (t(54) = 3.23; p-value = 0.0011). There was a significant increase for question four from the pre-questionnaire (mean = 3.82, st. dev. = 0.67) to the postquestionnaire (mean = 4.38, st. dev. = 0.68) at the 1% level of significance (t(54) = 5.65; p-value = 0.000000305). There was a significant increase for question eight from the pre-questionnaire (mean = 4.20, st. dev. = 0.89) to the post-questionnaire (mean = 4.56, st. dev. = 0.63) at the 1% level of significance (t (54) = 2.84; p-value = 0.0032). There was a significant increase for question ten from the prequestionnaire (mean = 4.42, st. dev. = 0.53) to the post-questionnaire (mean = 4.65, st. dev. = 0.52) at the 1% level of significance (t(54) = 2.63; p-value = 0.0055). There was a significant increase for question thirteen from the pre-questionnaire (mean = 3.69, st. dev. = 0.74) to the post-questionnaire (mean = 4.07, st. dev. = 0.86) at the 1% level of significance (t (54) = 2.86; p-value = 0.0030).

Limitations

Although increases were found for all questionnaire items, only five were found to be significant. This could be due to the low N of 55. A low N would result in a Type II error, in which a significant difference may not be found when one is present. The larger the sample size, the more likely it is to find a significant difference. Another limitation may be that data for each participant were collected only one semester. A longer time period may reveal different results; however, it is unclear what those results would be. It is possible that more time would help candidates become more confident. Finally, the participants that completed the questionnaire in this study were not randomly selected. Non-random selection may have resulted in a sample not representative of the population.

Discussion

This study included a clinical-based practice whereby teacher candidates virtually assisted students and

their families who lived in another country. Mueller and Hindin (2011) suggested authentic field experiences positively impact teacher candidates and their dispositions. This study revealed a significant increase for questionnaire item number two which asked teacher candidates if they learned content best when connections were made to real-life situations. The results suggest that a virtual clinical-based practice may provide an authentic experience for teacher candidates. As shown in Appendix B, significance was also found for questionnaire items eight, ten and thirteen. Gilson and Martin (2012) found that experiences abroad helped teacher candidates to respect the individual differences of students in their classrooms and to recognize how important it is to adapt to cultural differences of the students. The results of questionnaire items eight and ten suggest that a virtual clinical-based experience may lead teacher candidates to be become more aware and take a positive approach to students' differences. Additionally, the significant increase in questionnaire item thirteen suggests teacher candidates' comfort level with unfamiliar situations posed by students from diverse backgrounds may increase due to participation in a virtual clinical-based experience.

One feature of the virtual clinical-based practice utilized in the study included collaboration with a Mexico school-based teacher to help form the teacher candidates' clinical-based assignments. Although del Prado Hill et al. (2012) did not focus their research on virtual clinical-based experiences, they stated that careful selection of school placements and training of cooperating or mentor teachers could boost teacher candidates' comfort levels when working with diverse students. Unfortunately, the pre- and post-questionnaire did not address selection of the school placements nor training of the teachers. It is plausible, however, that both could have partially caused the increases found for all twelve questions.

According to Keengwe (2010), reliance on diversity education classes is not the most effective way to understand diversity. King and Butler (2015) found that teacher education programs offer some type of diversity curricula but the content varies significantly. The most significant increase, as shown in Appendix B, was found for questionnaire item four. This item asked teacher candidates if they had knowledge to help them meet the needs of all students. This result suggests the addition of a virtual clinical-based may be more effective than solely relying on diversity courses and could increase teacher candidates' knowledge to meet the needs of all students.

Future Implications

The results of this study indicate that a virtual clinical-based practice may impact teacher candidates' level of confidence when teaching diverse students. King and Butler (2015) suggested that creating diversity cultural-exchanges could assist when there are geographical limitations. These exchanges would offer "students from a rural university to 'host' and work with students from an urban university" (King and Butler, 2015, p. 50). Although study abroad experiences and cultural-exchanges can be beneficial, it is more cost-effective for colleges of education and teacher candidates to participate in a virtual clinical-based practice. Saving money, while increasing teacher candidates' confidence when instructing diverse students, would appeal to college administrators and others involved in teacher education programs. The increase in

teacher candidates' level of confidence to instruct diverse students can be impacted by the quality of the participating school as well as the involvement on assignments by teachers in partner schools. Thus, colleges of education may want to consider adding a virtual clinical-based practice to existing diversity education classes and utilizing a partner school that co-creates the clinical-based practice.

More research needs to be conducted to determine if virtual clinical-based practices are equal to or better than on-site clinical-based practices to increase teacher candidates' levels of confidence in teaching diverse students. Question 14, which asked participants to mark frequency of internships, could also be analyzed to determine if internship frequency results in a statistical difference in teacher candidates' level of confidence.

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Appendix A

Pre- and Post-Questionnaire

Confidence in Teaching Diverse Students: Effects of a Virtual Clinical-Based Practice

This questionnaire is being used for an undergraduate research study. The purpose of the questionnaire is to determine if offering a virtual clinical-based practice will affect your level of confidence in teaching diverse students. The questionnaire will take between 5 and 10 minutes to complete and completing it is optional. This questionnaire is confidential; your name will not be associated with the questionnaire. Completing this questionnaire indicates your agreement to participate in the study.

Please apply the following definitions to your responses:

Clinical-based practice (CBP) – Student teaching or internships that provide candidates with an intensive and extensive culminating activity. Candidates are immersed in the learning community and are provided opportunities to develop and demonstrate competence in the professional roles for which they are preparing. (NCATE, http://www.ncate.org/)

Level of confidence – Belief in the effectiveness of one's own abilities or in one's favorable acceptance by others; self-confidence. (American Heritage Dictionary, www.ahdictionary.com)

Diverse students – Differences among groups of people and individuals based on ethnicity, race, socioeconomic status, gender, exceptionalities, language, religion, sexual orientation, and geographical area. (NCATE, http://www.ncate.org/)

Directions: Create your own unique four-digit code by following this procedure: First Digit – Use the first number of the month you were born; Second Digit – Use the last number of the year you were born; Third Digit – Use the number that equals the letters in your middle name; and Fourth Digit – Use the number that equals the third digit of the year you were born. Next, using the scale of strongly agree to strongly disagree, mark ONE response to indicate your level of confidence in teaching diverse students.

1. Type your self-created four-digit code in the provided space.

3. I can make a difference in the way I teach all students. 4. I have knowledge that will help me meet the needs of all students. 5. I have the ability to overcome biases to help all students achieve. 6. I hold high expectations for all students. 7. I hold high expectations for students with diverse backgrounds. 8. I am sensitive to students' differences. 9. I am aware that students' backgrounds dictate their actions. 10. I take a positive approach to students' differences. 11. I am comfortable with students from diverse backgrounds. 12. I am comfortable with new experiences shared by students from diverse background. 13. I am comfortable with unfamiliar situations posed by students from diverse backgrounds. 14. In how many internships have you participated? Appendix B Fall 2012-Spring 2014 P-Values

2. I learn course content best when connections to real-life situations are made.

Questionnaire Item	Pre- Mean	Post- Mean	Effect Size (t Stat)	Pre- Mean Standard Deviatio n	Post- Mean Standard Deviatio n	P-Value
I learn course content best when connections to real- life situations are made.	4.58	4.82	3.23	0.6	0.39	0.0011
4. I have knowledge that will help me meet the needs of all students.	3.82	4.38	5.65	0.67	0.68	3.1E-07
8. I am sensitive to students' differences.	4.2	4.56	2.84	-0.89	0.63	0.0032
10. I take a positive approach to students' differences.	4.42	4.65	2.63	0.53	0.52	0.0055
 I am comfortable with unfamiliar situations posed by students from diverse backgrounds. 	3.69	4.07	2.86	0.74	0.86	0.003

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