Gaps or bridges in multicultural teacher education: A Q study of attitudes toward student diversity

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1. Introduction

Due to immigration and globalization in the new era, schools in most Western countries have become increasingly diverse over the last few decades. As global migration continues to rise, student diversity will continue to grow worldwide (UNESCO, 2004). To respond to the increasing global student diversity, research mushroomed in recent years. A quick topic search of “student diversity” in web of science database in the fields of educational research and psychology since year 2000 generated 696 peer-reviewed journal articles in USA, 109 in Australia, 92 in England, 47 in Canada, 43 in Spain, and many more in other countries throughout the five continents. The United States, in particular, is rapidly shifting from a nation that is predominantly white to a country where most residents will come from non-white, non-European, and non-English-speaking groups (Agence France Press, 2008; D’Andrea & Daniels, 2001; Pennock-Roman, 2002). In
contrast, the majority of teachers in the United States is and will likely continue to be predominantly white with similar cultural backgrounds (National Center for Education Statistics, 2011). The disparity between the increasing student diversity and homogenous teaching force has called for urgency of multicultural teacher education to prepare preservice teachers to acquire cultural competence to work effectively with a diverse student body (National Council for Accreditation of Teacher Education, NCATE, 2008).

In particular, the NCATE (2008) diversity standard stipulates that teacher candidates are required to “acquire and demonstrate the knowledge, skills, and professional dispositions necessary to help all students learn” (p. 12). This three-dimensional standard resonates with a partial theoretical model proposed by Sue, Arredondo, and McDaniel (1992) in a related field in counseling. In the model, Sue et al. (1992) developed a $3 \times 3$ matrix of how counselors should be prepared to deal with client diversity. An essential part of the model focused on counselor’s attitudes toward client diversity in three dimensions: (1) recognizing personal values and beliefs about client diversity, (2) acquiring knowledge about client diversity, and (3) identifying effective skills in dealing with client diversity.

1. The need to study attitudes in multicultural teacher education

To improve the effectiveness of multicultural education, Banks proposed five domains preservice teachers need to master to achieve cultural competence: content integration, knowledge construction process, prejudice reduction, equity pedagogy, and empowering school culture and social structure (Banks, 2004). In particular, content integration addresses the extent preservice teachers integrate diversity issues into their subject areas or disciplines. Knowledge construction process calls for a need for preservice teachers to help students understand how knowledge is constructed within biases and perspectives. Prejudice reduction describes lessons and activities preservice teachers use to reduce prejudices toward diverse groups. Equity pedagogy encourages preservice teachers to modify their teachings to ensure that all students can learn. And empowering school culture and social structure appeals for preservice teachers’ contribution to helping transform schools and society to achieve educational equity and equality. Based on Banks’ (2004) model, a factor analytic study involving over 600 students from two universities in Midwest U.S. suggested two primary components of cultural competence, namely, knowledge and praxis (Yang & Montgomery, 2011b). Knowledge refers to what preservice teachers know about multicultural issues; whereas praxis reflects what they actually do in dealing with student diversity. Preservice teachers may acquire knowledge about diversity and multicultural issues, yet display inadequate praxis in incorporating diversity component in their curriculum or pedagogy.

The potential discrepancy between knowledge and praxis may be inevitable when attitudes toward student diversity are not addressed adequately. Previous studies indicate that attitudes form cognitive relationships, which in turn influence behavioral outcome (Cross, 2005; Proctor, 2001). More specifically, Oppenheim (1992) argues that attitudes are reinforced by beliefs (cognitive component), which may lead to certain behavioral intents. Positive attitudes tend to orient a person’s behavior in a positive manner and vice versa (Jonassen, 2001). Hence, preservice teachers’ attitudes toward student diversity may moderate the relationship between knowledge and praxis. In particular, preservice teachers may become knowledgeable about diversity issues in K–12 classrooms, but if they harbor negative attitudes toward student diversity, they may be hesitant or unwilling in practicing multicultural pedagogy (Wasonga, 2005).

Another major reason why the study of attitudes is central to multicultural education is the impact of attitudes on diversity experience, either positively or negatively (Tatar & Horenzczyn, 2003). In order to cultivate attitudinal change toward a given diversity issue, existing attitudes need to be determined. As attitudes are usually formed through human interactions, teacher educators play a pivotal role in the formation of preservice teachers’ attitudes. A study in Sweden on students’ attitudes toward diversity shows that students with a negative or monocultural attitude particularly need teachers who can act as positive role models in cultivating a multicultural attitude (Elmeroth, 2009). As such, it is important to examine both preservice teachers’ and teacher educators’ attitudes toward student diversity. Since attitudes are central to multicultural education, it is important to define it construct. Unfortunately, as an elusive construct, there is no consensus thus far regarding the definitions or components of attitudes (Cross, 2005; Fielding, 2001; Jonassen, 2001). A common conception is that attitudes embody evaluation and emotion toward a topic or an issue (Simmons, 2001). Further, it is unanimous that attitudes change as people experience the pleasant or unpleasant contexts or consequences of their attitude object (Böhner, 2001).

1.2. The traditional survey method versus Q methodology

Most existing studies on attitudes toward student diversity use surveys to collect attitude data from teachers and teacher candidates (Barry & Lechner, 1995; Hachfeld et al., 2011; Horenzczyn & Tatar, 2002; Symeonidou & Phtiaka, 2009) by means of Likert scale or semantic differential. These studies made a significant contribution to multicultural teacher education and suggested a pressing need to study attitudes toward student diversity worldwide. For example, a survey on cultural diversity in the educational system in Spain suggests that taking a single course on intercultural issues is not sufficient to prepare teachers for cultural diversity. Rather, an important first step is to develop positive attitudes toward student diversity (García & Lopez, 2005).

Despite the significant contributions, traditional survey studies on attitudes suffer from three major disadvantages. First, survey items often treat attitude statements as isolated and disconnected from other attitude statements, rather than as interconnected parts under a large umbrella of attitude system. Participants respond to each attitude statement independently, diminishing variability in survey responses and impeding relative differentiation among attitude statements. Another disadvantage is that the traditional analysis of survey items is often variable-based and treats survey responses as unrelated to each other, or as patterns across individuals, as in traditional factor and cluster analysis. Third, social desirability in survey responses has been a haunting drawback, particularly when it comes to sensitive issues such as student diversity (Cross, 2005; Proctor, 2001).

In contrast, developed by British physicist and psychologist William Stephenson in the 1930s (Stephenson, 1935), Q methodology can circumvent the major drawbacks faced with traditional survey methods. Combining qualitative strategies with quantitative analysis, Q methodology fosters a marriage between the two paradigms of inquiry to allow the expression of various opinions around any topic (Brown, 1980, 1993; Sell & Brown, 1984). It is a research method to systematically review subjective opinions, and is “especially relevant for the communication scientists whose research assesses the perceptual world of individuals” (Brown, 1980, p. 204). Because of the qualitative component, Q methodology is capable of in-depth findings and results interpretations that are typically lacking in traditional survey methods. Further, as a means of extracting subjective opinions in an unobtrusive and
nonjudgmental fashion (Stephenson, 1935), Q methodology precludes the inevitable social desirability issue inherent in traditional survey responses. As such, Q methodology can be used in any international or cultural context to effectively study subjectivity of the participants, even those with marginal views or attitudes.

Another major advantage of Q methodology over traditional survey methods is that it uses a person-oriented instead of variable-based approach, wherein attitudes are treated as components of larger within-person perspectives rather than as discrete items. Q methodology was specifically designed to study human subjectivity via Q-sorting, a data collection technique that focuses on within-individual attitude differentiation and enables the examination of perspectives within individuals. The Q-sorting technique allows rankings of within-individual significance of attitudes by means of forced distribution. It requires respondents' commitment to assigning relative salience along the scale to each attitude statement rather than allowing them to rank every statement as highly positive or negative. Through this unique feature, Q-sorting wards off a lack of response variability, a common headache for researchers attempting to differentiate attitudes with traditional survey methods.

1.3. The need to study attitudes toward student diversity using Q methodology

Q methodology has been widely applied to a variety of fields such as political science (O’Neill & Nicholson-Cole, 2009), marketing research (Fairweather & Swaffield, 2002), policy studies (Addams & Proops, 2000; Sweden, 2006) and education (Garrett & Montgomery, 2006; Wheeler & Montgomery, 2009) in United Kingdom, New Zealand, and the United States. The common aim shared by studies using Q methodology was to extract the underlying beliefs and attitudes that may explain behavioral outcomes from the perspectives of the population of interest, such that the researchers gained a better understanding of and deeper insight into the participants’ experiences on the research topics.

Because the results from a Q study are a product of the sorting activity of participants rather than of built-in theories or definitions typical of traditional survey methods, Q research always has the power to surprise. For example, while it has been generally promoted to change the role of an instructor from lecturer to facilitator (McWhaw, Schnackenberg, Sclater, & Abrami, 2003; Twigg, 2005), a Q study of college students’ epistemological beliefs in learning math found counter-evidence. That is, while students varied in their attitudes toward math and expectations of the learning environment, it was surprisingly consensual that they placed a big emphasis on teacher characteristics and were not in favor of the practice of changing teachers’ role into a facilitator (Wheeler & Montgomery, 2009). Q methodology has also been applied to special education on views about the sexuality of individuals with intellectual disability (Brown & Bittle, 2008). Although Cross (2005) has strongly advocated the use of Q methodology in exploring and measuring attitudes, there has been no known research using Q methodology to study teacher educators’ and preservice teachers’ attitudes toward student diversity, which gave rise to the present study.

1.4. The present study

Based on the urgency of multicultural teacher education in a global context and the need to examine both preservice teachers’ and teacher educators’ attitudes toward student diversity, we conducted a Q study to draw on this global diversity trend, and to think through some of the possible applications and implications of Q research in multiculturalism in a global context. Our study was conducted in Midwestern U.S, but we believe the ideas and methodology presented herein are applicable elsewhere, and to teacher educators and preservice teachers in other countries.

2. Method

Attempting to identify the attitudes of preservice teachers and teacher educators toward student diversity is highly subjective; hence, necessitates a research method designed specifically for undertaking such a task. Designed by the British psychologist Stephenson (1953) to discover the range of subjective opinions or attitudes over a particular topic, Q-methodology is “the scientific study of human subjectivity, with human subjectivity being the way that an individual communicates their views or beliefs” (McKeown & Thomas, 1988, p. 12).

2.1. Study site

This study took place in a comprehensive teacher education program in the college of education at a large land-granted Midwest university in the United States. The teacher education program at the university highly values multiculturalism and is NCATE certified. The program offers a wide variety of majors ranging from elementary to high school education. Students are required to take diversity courses as well as other courses with core diversity components before they are admitted to teacher education programs in their junior or senior years.

2.2. Participants

Participant selection was convenience sampled with preservice teachers and teacher educators. However, because the purpose of our Q study was to understand the varied attitudes of working with students from diverse backgrounds, our participants were chosen for theoretical salience rather than randomly from a population. As a standard practice in Q methodology to understand rather than generalize the data results, participants are selected based on their characteristics of interest to the researcher (Brown, 1980). In other words, our participants were selected under the logic of theoretical sampling (Glaser & Strauss, 1967). The participants were invited because they had exposure to and experience with student diversity, a precondition for a viable Q study on their attitudes toward student diversity (Addams & Proops, 2000; Brown, 1980).

To understand preservice teachers’ attitudes toward student diversity, a group of elementary education students taking an advanced undergraduate educational psychology class were invited to participate in the study. Thirty-two preservice teachers participated in the study, all of whom had various degrees of exposure to student diversity and had self-rated their multicultural experiences ranging from fair to many and varied. Most of these preservice teachers were in their twenties and had significant amount of student teaching experiences. Besides, eleven teacher educators participated in the study, all of whom had considerable experience in teaching students from diverse backgrounds. The teacher educators ranged in age from 35 to 70 years old, and had significant teaching experiences of 5 to over 20 years.

2.3. Concourse development and instrumentation

We developed a statement concourse by using a combination of literature review and informal interviews to enhance the reliability of the study (McKeown & Thomas, 1988). Stage one of the concourse development involved a thorough review of literature on multicultural teacher education (Boyd, 2002; Fields, 2003; Howard, 2006; Nieto & Bode, 2011; Phinney, 1992), among which both Nieto and Howard argue that an effective multicultural education necessitates a close look at teacher attitudes toward student
diversity which includes but is not limited to race and ethnicity, language, and culture. In particular, it is generally considered that positive attitudes in dealing with students’ native language and culture (Nieto & Bode, 2011) and the willingness to put in efforts to learn and respect other cultures (Howard, 2006) play a core role in teachers’ acquisition of cultural competence. Therefore, statements on cultural and linguistic diversity were included in the concourse. The criteria for statements being included in the development of the concourse were: statements that center on student diversity issues from the review of literature and reflect attitudes of pre-service teachers and teacher educators.

Stage two of the concourse development involved informal interviews with preservice teachers and teacher educators to collect less formally presented attitudes toward student diversity. Stage three comprised of analyzing the response from the interviews. Based on the analysis, items were modified or discarded and additional items added to diversify the attitude statements from literature review to cover a fuller spectrum of attitudes toward student diversity.

It is important to note that in Q methodology, the Q statements or Q set form the sample, which is distinct from more prevalent statistical analyses where participants are the sample. The structure of the sample Q statements must represent the population of statements or concourse (Brown, 1980). In our study, the structure of the final Q set was selected to reflect a three-dimensional theoretical model derived from NCATE diversity standard (2008) and Sue et al.’s model, namely, beliefs, knowledge, and skills. Sample Q statements about (1) recognizing personal values and beliefs about student diversity are “I like it that the students at my school are diverse” and “I think a student’s academic performance has nothing to do with his color;” about (2) acquiring knowledge about student diversity are “I am knowledgeable about which common values most cultures share” and “I am curious to learn in what ways White students and students of color differ from each other;” and about (3) identifying effective skills in dealing with student diversity are “learning to teach means learning to deal with issues of ethnicity” and “I do not feel that I have the skills to interact with students of color effectively.” The final Q set consisted of 47 statements representing the three theoretical dimensions, although it’s important to keep in mind that the theoretical framework of the Q set does not necessarily carry much weight in participant’s interpretation of the Q statements in the sorting process.

2.4. Procedure

Upon Institutional Review Board approval, permission was obtained from the instructor to use a scheduled class meeting to collect data from preservice teachers who agreed to participate in the study. Meanwhile, the teacher educators known to the researchers were solicited to participate in the study. Those who agreed to participate were given a random stack of 47 Q sort cards, a sorting instruction sheet, and a response sheet with a demographic information form on the back. Participants were instructed to read all the Q statements to get a sense for the range of statements or concourse (Brown, 1980). In our study, the structure of the final Q set was selected to reflect a three-dimensional theoretical model derived from NCATE diversity standard (2008) and Sue et al.’s model, namely, beliefs, knowledge, and skills. Sample Q statements about (1) recognizing personal values and beliefs about student diversity are “I like it that the students at my school are diverse” and “I think a student’s academic performance has nothing to do with his color;” about (2) acquiring knowledge about student diversity are “I am knowledgeable about which common values most cultures share” and “I am curious to learn in what ways White students and students of color differ from each other;” and about (3) identifying effective skills in dealing with student diversity are “learning to teach means learning to deal with issues of ethnicity” and “I do not feel that I have the skills to interact with students of color effectively.” The final Q set consisted of 47 statements representing the three theoretical dimensions, although it’s important to keep in mind that the theoretical framework of the Q set does not necessarily carry much weight in participant’s interpretation of the Q statements in the sorting process.

2.5. Data analysis

Q methodology is distinctive with its unique ways of handling validity and reliability issues. The validity in Q studies is assured by the completed sorting procedures from the participants, with each one representing a valid perspective (Brown, 1980). In particular, the forced choice method in Q sorting means that the participants have to consider their attitudes more carefully, which is more conducive to the reflection of true feelings in response. While it’s true that Q statements are typically selected based on a theory or factorial categorization of literature review and interviews etc., the supposed a priori meaning of the statements does not necessarily carry much weight in Q sorter’s considerations when evaluating them: the participants are free to judge statements with their own understandings (Brown, 1997).

The reliability in Q studies typically lies in the stability of Q data results, meaning enough participants sorted in the same manner to interpret the results as representative. Second, the use of item group loadings over 0.40 assures reliability of the data results (Brown, 1980). Third, in order to represent the attitudes of the participants more accurately and not solely on the decision of the researchers regarding the decision making in choosing the final selection of statements, it is advisable to include statements derived from interviews or focus group discussions on the subject matter in the final Q sort. Therefore, the concourse development process involved informal interviews in our study as described earlier.

The purpose of the data analysis was to determine if there is a smaller number of families of Q sorts that constitute patterns of attitudes among the participants toward student diversity. As described previously, Q methodology has the power to surprise, in that the array groups emerge from a Q study are a result of the sorting activity of participants rather than presumed built-in
definitions, theories, or researcher views. The goal of array group interpretation with Q data is to understand what opinions or attitudes the array group represents. In Q data analysis, the array group represents operant combinations of perceptions with the differences in persons accounted for or removed. Put differently, the array group represents shared perspectives while weeding out idiosyncratic perceptions. An examination of the individual state-descriptions from each theoretical Q-sort provided the basis for interpretation of the system of attitudes toward student diversity. These array groups represented the combination of like-minded people’s responses with specific individual differences removed.

The data were gathered from each Q-sort and analyzed using PQMethod software, version 2.11 (Schmolck, 2002). The Q analysis software is available for free download at http://www.qmethod.org. Forty-three valid sorts were entered for analysis. A correlation matrix was generated with each Q sort correlated with all other sorts. The correlation matrix was then submitted to principal component analysis with varimax rotation to find the simplest structure in the data that can explain the greatest amount of variability (Brown, 1980). After examination of a one, two, and three-array-group solutions, a two-array-group solution was retained based on explained variance (45%), size and pattern of array group loadings ($\alpha \leq 0.01, r > 0.40$), and interpretability of array groups.

3. Results

Hand flagging was done to select sorts with defining loadings, i.e., sorts that were statistically significant at $\alpha = 0.01, r > 0.40$ and were not cross-loaded (McKeown & Thomas, 1988). Out of the 43 participants, 30 participants produced Q sorts with defining loadings. The final solution identified two significant array groups, with 22 sorts on Array Group A, accounting for 28% of the variance, and eight sorts on Array Group B, accounting for 17% of the variance (Table 1). The remaining 13 sorts consisted of seven confounded sorts that loaded on both array groups and six sorts that failed to load on either array group. The demographic characteristics of the sample (i.e., P-set) with defining loadings, cross-loadings, and non-significant loadings are provided in Table 1. Participant characteristics are typically reported as frequencies instead of percentages in Q methodology, as the participants are not necessarily representative of a target population.

Each array group represents the attitudinal system of the participants toward student diversity in that group. Each statement sorted by the individuals in the study gained meaning by turning into a collection of self-referent statements of attitudes. The sort for the group (also known as the emergent array group) becomes self-referent system of attitudes for the particular group. Tables 2–4 includes an entire Q set of statements with rank positions across the two array groups in line with the three theoretical dimensions from NCATE diversity standard (2008) as well as Sue et al.'s model.

3.1. Array group interpretation

Unlike traditional factor analysis using factor loadings to interpret factors, Q methodology mainly bases array group interpretation on the statements that define the group (also known as distinguishing statements). An array group is generated using a weighted average of the z-scores for the Q sorts associated with that array group. In the present study, several areas of information were used to assist in the interpretation of the emerging array groups. Each group’s distinguishing statements as well as consensus statements formed the foundation of array group interpretation. Further, the source of each statement in the Q-sort, along with the theoretical framework was accounted for. Finally, demographic data and the sorters’ responses to the open-ended question in the study were also considered.

In our study, the participants split into two array groups with varied attitudes toward student diversity while sharing some commonality. Areas of the distinguishing statements as well as shared consensus between the two array groups are depicted in the graphical abstract. In general, there appears to be a wide gap in attitudes toward how student diversity should be treated but substantial agreement about the importance of multicultural education and the role of teacher in achieving racial equality and helping all students to succeed.

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<td>P</td>
</tr>
<tr>
<td>38</td>
<td>0.23</td>
<td>0.04</td>
<td>20–30</td>
<td>F</td>
<td>White</td>
<td>P</td>
</tr>
<tr>
<td>39</td>
<td>0.30</td>
<td>0.17</td>
<td>20–30</td>
<td>F</td>
<td>White</td>
<td>P</td>
</tr>
<tr>
<td>40</td>
<td>0.23</td>
<td>0.33</td>
<td>20–30</td>
<td>M</td>
<td>White</td>
<td>P</td>
</tr>
<tr>
<td>41</td>
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<td>0.36</td>
<td>41–50</td>
<td>F</td>
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<td>F</td>
</tr>
<tr>
<td>42</td>
<td>0.14</td>
<td>0.30</td>
<td>31–40</td>
<td>M</td>
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<td>F</td>
</tr>
<tr>
<td>43</td>
<td>0.19</td>
<td>0.25</td>
<td>31–40</td>
<td>F</td>
<td>Asian</td>
<td>P</td>
</tr>
</tbody>
</table>

Note. *Denotes a significant loading at 0.01. G—Gender, F—Female, M—Male, R/E—Race/Ethnicity, P—Preservice Teacher, T—Teacher Educator, ME—Self-rating of Multicultural Experience on a Scale of 1 (none)—7 (many and varied), U—Unknown.

The array group correlation coefficient $r = 0.40$. Number of defining sorts 22 8 % of variance explained 28 17
3.1. Array Group A: students are students (22 sorts)

The sorts of 22 preservice teachers loaded on Array Group A best described as Students Are Students. The highest z-scores in absolute value were ordered in Table 2, demonstrating the theoretical sorting distribution representing the dominant attitudes of this group. From this table, we can see that the group boasts a collection of statements that relate to their attitudinal propensity of seeing similarity among students. Although they like student diversity (statement number 7: +3, z-score 1.16), dismisses racial stereotypes amongst students first and foremost (11: +4, 1.69), To them, students share common identity as students no matter where they come from. In particular, this array group strongly believes in racial equality (28: +5, 1.71), dismisses racial stereotypes.
students’ origin, but their individuality that matters. Responses to the open-ended question by some participants loaded on the array group reiterated their attitudes that students may come from different cultures, but they are all students when they go to class. They stressed that students should be treated alike regardless of their race, culture, or ethnicity, believing that all students will have great potentials if given proper opportunity. One preservice teacher commented, “I don’t think kids of color are any different. They may come from different backgrounds, but when they come to my classroom they are all the same.” This attitude is reflected in another preservice teacher’s comment that “I don’t believe it affects my teaching when a student is from a different culture.”

Overall, this group holds a one-dimensional teaching orientation that students are student despite their diverse backgrounds. They do not believe a student’s academic performance should have anything to do with skin color. In their eyes, students share more similarities than differences as students, hence should be treated alike. This is a group of young female pre-service teachers with a relatively novice view of multiculturalism in the classroom who tend to focus on students as individuals regardless of where they come from. They see student similarities, teach to similarities, and value fairness in education as equal treatments and same responses.

3.1.2. Array Group B: diversity advocates (8 sorts)

The sorts of five teacher educators and three preservice teachers loaded on Array Group B best described as Diversity Advocates. The highest z-scores in absolute value were ordered in Table 3, demonstrating the theoretical sorting distribution representing the dominant attitudes of this group. From the table, we can see that this array group strongly advocates the importance of student diversity in teaching; acknowledge it and more importantly, celebrate it! This array group not only likes, but is also passionate about student diversity (statement number 7: rank position +5, z-score 2.01). However, unlike Group A with a more daring and positive attitude, this group is quite aware of the icebergs brought upon by student diversity, hence harboring a more cautious attitude in approaching student diversity. In particular, Array Group B is characterized by an awareness of the impact of diversity both on teachers’ and students’ world-views, outlooks, and class interactions (33: +4, 1.74; 35: −5, −1.80; 20: +3, 1.27; 40: −2, −0.73; 45: −2, −0.73). This group array sees the potential threats posed by student diversity. While maintaining that they can do something to help improve students’ English language proficiency, they believe limited language ability will always pose as a challenge to students’ academic success (39: +2, 0.86; 23: −3, −1.28; 17: −4, −1.54). Unlike Array Group A that focuses on student similarities, this group advocates the importance of addressing student diversity in teaching. To them, student diversity is too big of a factor to be ignored in teaching (14: −3, −0.83; 34: −3, −0.82). They strongly believe that student diversity is inevitable, and so should become part and parcel of teaching (20: +3, 1.27; 38: +4, 1.47).

As the title of Array Group B suggests, participants sorting on this array group are relatively diverse regarding their demographic background (Table 1). In contrast to the homogenous demographic makeup of Array Group A, Array Group B is featured with a mix of male and female participants who are mostly older with a much wider age range. While Array Group A is purely represented by pre-service teachers, Array Group B is composed of a majority of teacher educators as well as pre-service teachers. Responses to the open-ended question suggest that the sorts defining this group were not only aware, but also appreciative of educational challenges incurred by student diversity. One teacher educator said, “Students from diverse cultures present a challenge, but if there is no

### Table 4

Consensus statements of Array Groups A & B.

<table>
<thead>
<tr>
<th>Consensus statements</th>
<th>Rank; z-score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Array Group A</td>
</tr>
<tr>
<td>Beliefs</td>
<td></td>
</tr>
<tr>
<td>like me items</td>
<td>+5; 1.71</td>
</tr>
<tr>
<td>unlike me items</td>
<td>−4; −1.79</td>
</tr>
<tr>
<td></td>
<td>−3; −0.83</td>
</tr>
<tr>
<td></td>
<td>−3; −1.23</td>
</tr>
<tr>
<td></td>
<td>−2; −0.49</td>
</tr>
<tr>
<td></td>
<td>−1; −0.34</td>
</tr>
<tr>
<td>Knowledge</td>
<td></td>
</tr>
<tr>
<td>unlike me items</td>
<td>−2; −0.76</td>
</tr>
<tr>
<td>Skills</td>
<td></td>
</tr>
<tr>
<td>like me items</td>
<td>+3; 0.83</td>
</tr>
<tr>
<td></td>
<td>+2; 0.75</td>
</tr>
<tr>
<td>unlike me items</td>
<td>−5; −1.86</td>
</tr>
<tr>
<td></td>
<td>−4; −1.58</td>
</tr>
</tbody>
</table>

Note: All listed statements above are non-significant at p > 0.01, and those flagged with an * are also non-significant at p > 0.05.

(21: −2, −0.81), and insists on the insignificance of skin color in student learning (14: +3, 1.17; 44: +4, 1.69; 22: +4, 1.52). By focusing on seeing and teaching to similarities rather than differences among students, this array group is bold in excluding race as a barrier in the classroom (1: +3, 1.43; 47: +4, 1.54; 37: −3, −1.16), confident in dealing with student diversity (43: −5, −1.90), optimistic in ensuring all students to succeed (22: +4, 1.52; 31: −2, −0.76), and fearless in interacting with students from diverse backgrounds (46: −4, −1.57). Over all, this array group stresses that students are students regardless of their differences. It is distinguished from the other array group with its emphasis on the sameness among students: students are students, so they must be treated fairly, the same, with the same expectations.

As is shown in the demographics (Table 1), all participants whose sort defined this array group are relatively young female pre-service teachers. This is a fairly homogenous group who prefer not to color their students. Rather, they maintain that students are students regardless of their diverse background. To them, it is not
challenge in a job, why do it?” Another teacher educator remarked: “Teaching students from diverse cultures is a challenge, but is also rewarding”.

Overall, participants in the Diversity Advocates group advocate the importance of highlighting student diversity in teaching. This group adopted a constructionist approach that diversity influences both students’ and teachers’ perspectives. In contrast with the emphasis on students’ similarities that young pre-service teachers hold in Array Group A, the respondents in Array Group B are more concerned with the challenges brought about by student diversity. This is a group more educated about student diversity, hence more cautious in approaching the diversity issue. To them, it is crucial to acknowledge and celebrate student diversity in teaching, which makes them a group of diversity advocates on attending to and celebrating student diversity in teaching.

3.2. Areas of consensus

We looked for area of agreement between the two array groups as a springboard for meaningful dialog on student diversity in multicultural teacher education. A major indicator of the similarity in participants’ attitudes is the relatively high array group correlation of 0.40. A total of 17 out of the 47 statements (also known as consensus statements) had high agreements across the two array groups and received statistically indistinguishable scores. Consensus statements demonstrate similar attitudes between the two array groups (Table 4).

The consensus statements resulting from this study indicate that both array groups agree on several issues in multicultural education. First, they both loathe racial inequality and are motivated to eliminate racism in education (See Table 4, Statements 28, 3, 31, & 4). Both groups strongly agree that “I do not believe that any race is better than any other race” (28), and highly disagree that “There is little I can do to prevent racism in my classroom” (4). These preservice teachers and teacher educators feel strongly about racial equality and are determined to prepare all students for academic achievement.

Second, there is a general disagreement with the attitude that multicultural education is less important than other disciplines such as reading and math (13). On the contrary, both groups are willing to accommodate student diversity in their classrooms (17, 45, & 23) and incorporate it in curriculum (6). In particular, they both believe that students should be allowed to speak a different language other than English in school, and that teachers need to make cultural-specific accommodations to student diversity. More specifically, they believe effective teaching necessitates in-depth integrations of student diversity into course curricular.

Third, both groups see the importance of identifying ethnic identity and belongingness in effective teaching (40 & 20). There is a general disagreement with a dismissive attitude that “It’s not important to be identified as a member of an ethnic or racial group” (40). Rather, both groups agree that effective teacher-student communication necessitates teacher’s acknowledgment of student’s ethnic background (20).

4. Discussion

4.1. Instructional implications

From the data results, there appears to be a gap between Students Are Students and Diversity Advocates in regards to their attitudes toward student diversity. But may there also be a bridge? Or better yet, can we find a bridge to close the gap? The divided and consensual attitudes toward student diversity in our study have profound implications for multicultural teacher education and may help us answer these pressing questions.

First, finding the general consensus toward student diversity may serve as a solid baseline, hence a firm bridge in multicultural teacher education. It may help ease the tension involved as a result of potential disagreement or conflict in the course of multicultural education, particularly when compelling yet sensitive diversity issues are involved (Bekerman, 2004). In our study, there was agreement between Students Are Students and Diversity Advocates that multicultural education matters, that understanding and confronting racism was important, and that we need to assist students with language difficulty. These are some obvious points of convergence that can be built upon for meaningful and engaging conversations between preservice teachers and teacher educators. Such endeavor of starting off from convergent attitudes toward student diversity can increase trust and mutual understanding, so that difficult conversations are more likely to occur in the course of multicultural teacher education (Cook-Sather, 2002; Sue, Lin, Torino, Capodilupo, & Rivera, 2009). For an instance, since both Students Are Students and Diversity Advocates in the study believe in racial equality and are willing to make efforts to confront and eliminate racial discrimination, more instruction and dialog on various forms of racism and potential strategies to battle against racism may deepen the understanding of racial discrimination, hence promoting multicultural education (Nieto & Bode, 2011). Another major consensus between Students Are Students and Diversity Advocates was that students with English difficulty should be allowed to express themselves in their native language and that we should provide assistance to help them learn. The consensual attitude suggests a teaching opportunity to create a secure learning environment for preservice teachers to explore and discuss linguistic diversity. Since both Students Are Students and Diversity Advocates believed that all students can learn regardless of their linguistic background, more instruction on the difficulties children go through when faced with English difficulty may increase preservice teachers’ praxis as well as knowledge of linguistic diversity.

Second, while the common ground across Students Are Students and Diversity Advocates can serve as a bridge in multicultural education, the divided attitudes of how student diversity should be handled may not be such a big gap as it appears to be. Rather, they can help instructors to set up learning objectives, or a bridge to bring about attitudinal change in such controversial areas. A major gap in attitudes toward student diversity Students Are Students and Diversity Advocates is similarity versus diversity: while Students Are Students highlights similarity among students, Diversity Advocates appeals for the importance of acknowledging and addressing student diversity. As such, instructors in multicultural teacher education may set up learning goals for preservice teachers to be educated about various aspects of student diversity from geographical location to sexual orientation (NCATE, 2008) starting off from student similarities. Another major divide between Students Are Students and Diversity Advocates is the level of confidence they have in dealing with student diversity. Less informed about the challenges and difficulties brought about by student diversity, Students Are Students tends to be more fearless and confident in interacting with students from diverse backgrounds than Diversity Advocates. In this case, perhaps instructors should take advantage of the courage of the less experienced pre-service teachers, and encourage them to adventure all possible means in dealing with student diversity effectively and productively.

Third, looking beyond the distinguishing statements, i.e., statements that statistically distinguished between Students Are Students and Diversity Advocates but loaded on the same side of
the scale may also help bridge the gap and enhance the effectiveness of multicultural teacher education through more subtle interpretations of the potential for common ground building. A distinguishing statement that had a rank position of +4 on one array group and a +2 on the other is statistically different, but is both on the agree side of the scale. While it does reflect a varied order of importance in the context of other statements, it represents a potential that preservice teachers and teacher educators could have a dialog to reach an agreement without a great deal of conflict or tension. For an instance, although statement 8 “I am comfortable discussing the relationship of racism to other forms of oppression” received ranking scores of +1 and +3 for Students Are Students and Diversity Advocates respectively, it is on the agree side for both groups. As such, it appears instrumental to expend efforts in disclosing various forms of racism-related oppression to cultivate meaningful conversations and engaging dialogs in multicultural teacher education. Statement 25 “People of color are adequately represented in most textbooks today” had scores of −1 and −4 for Students Are Students and Diversity Advocates respectively, but both were negative, suggesting an area where class discussions and activities may lead to enhanced awareness of the underrepresentation of minority groups in curriculum.

Fourth, that a closer look at the responses to the open-ended question from Students Are Students and Diversity Advocates may lead to more accurate insights into the divisive attitudes toward student diversity and create an invisible bridge. After all, the two groups’ attitudes toward student diversity may not be as different as they appeared. In particular, it seems that the Students Are Students see treating students alike means treating them equal. One respondent said, “I think color should never be an issue. Children are there to learn and they should be given a fair opportunity. If a teacher can’t treat all children equally, then they should not teach at all!” Another comment reinforced this idea, “All students should be treated equal. Race, culture or ethnicity shouldn’t matter at all. All students do, will and can have great potential if given proper opportunities.” The discrepancy between Students Are Students’ Q sorting results and their comments suggests a misunderstanding of “treating equal” as “treating alike”. A teachable moment as a result of this confusion is for instructors to help preservice teachers distinguish the two ways of handling student diversity by focusing on the differences between the two and cultivating meaningful conversations to help clarify the distinction.

4.2. Limitations and future directions

While every effort was made to collect attitude statements toward student diversity from literature, the Q set in the current study did not cover all aspect of diversity as described by NCATE standards (2008). For example, such diversity issues as socio-economic status and religious beliefs were not included in the Q statements in the current study. Future research could expand our current Q set to include all aspects of student diversity to capture a fuller panorama of preservice teachers’ and teacher educators’ attitudes.

Second, our study had a female dominant sample (36 females out of 43 participants), a typical characteristic of the teaching profile in the United States (National Center for Education Statistics, 2011). However, it will be interesting to see if balancing gender in future studies in other regions or countries with a different gender makeup would provide insights into the results. It is worth noting, though, that the purpose of Q study is not to generalize, but to understand the phenomenon. Further, our study only examined the attitudes of the preservice teachers and teacher educators who have had experiences and/or trainings of student diversity. Future research may study the preservice teachers and teacher educators who have little to no diversity knowledge or experience and compare their attitudes with those of our study sample.

A previous study suggests that preservice teachers who perceive a higher degree of personal control in the course of multicultural education tend to be more efficacious in praxis (Yang & Montgomery, 2011a). A plausible explanation is that when preservice teachers feel in control in dealing with student diversity, their needs of autonomy and relatedness are satisfied, hence more intrinsically motivated (Yang & Cho, 2011). As Q methodology is a unique research method that allows for preservice teachers’ and teacher educators’ self-referent attitudes, future research may focus on the potential impact of Q study of attitudes toward student diversity on motivation in multicultural teacher education.

Future research could also focus on the potential relationship between attribution and attitudes toward student diversity. Considering the significant relationship between attribution of cultural awareness and self-efficacy beliefs in cultural competence among preservice teachers (Yang & Montgomery, 2011a), could attitudes be a potential mediating variable? In other words, could attitudes be a result of how preservice teachers attribute their cultural awareness, which in turn lead to different learning outcomes in multicultural teacher education?

As cross-cultural experiential education promotes multiculturalism through cognitive dissonance when students’ previous views on diversity issues were conflicted or challenged (Yang & Sanders, 2011), it is important to understand both preservice teachers’ and teacher educators’ attitudes toward student diversity in the course of experiential education in order to gauge teachable moments in resolving cognitive dissonance. Future research could compare the attitudes of preservice teachers and teacher educators toward student diversity using Q methodology to locate cognitive dissonance in the course of multicultural teacher education.

With increasing diversity in schools around the globe, preservice teachers in Western societies need to be prepared to teach in culturally diverse schools and to develop appropriate attitudes toward student diversity. Our findings provide support for two divided attitudes toward student diversity indicative of multicultural versus egalitarian beliefs (Hachfeld et al., 2011). Further investigations may address the nature of the attitudes and examine whether these attitudes reflect preservice teachers and teacher educators’ developmental stages (Bennett, 1993; Brach & Frasereactor, 2000) in the course of multicultural education. Additionally, it will be interesting to conduct Q studies on school principals’ and policy makers’ attitudes toward student diversity given the power they have over multicultural education (Banks, 2004).

5. Conclusions

Studies on attitudes toward student diversity across countries (e.g., Garmon, 2004; Hachfeld et al., 2011; Horenczyk & Tatar, 2002; Symeonidou & Phtiaka, 2009) have provided abundant information on issues related to student diversity in recent years. However, there are mainly two less investigated areas worthy of attention. First, to bring about any attitudinal change in preservice teachers, it is important to study teacher educators’ attitudes toward student diversity in any culture. This is particularly critical when students with a negative or monocultural attitude need teachers who can serve as active role models in creating a multicultural attitude (Elmeroth, 2009). Second, there has been a lack of viable research method to capture attitudes that can circumvent the flaws associated with traditional survey methods, namely, limited response variability, discrete variable-based approach, and social desirability. In contrast, embodying both qualitative and quantitative components, Q methodology has the power to effectively capture
attitudes with its unobtrusive, person-based, and forced Q sorting distribution approach (Brown, 1980; Cross, 2005; Stephenson, 1935). The need to study attitudes of both preservice teachers and teacher educators toward student diversity through a viable research method that could compensate the disadvantages of the current prevalent survey methods called for the present Q study.

Our study results revealed a seemingly attitudinal gap between Students Are Students and Diversity Advocates, with Students Are Students seeing and preaching upon student similarity, and Diversity Advocates advocating the importance of acknowledging and addressing student diversity. Another gap appears to lie in the level of comfort in dealing with student diversity between Students Are Students and Diversity Advocates. More educated and experienced with student diversity, Diversity Advocates seems to be more vigilant and cautious about diversity issues in the classroom, whereas Students Are Students appears more fearless and confident. These gaps undoubtedly seem daunting in multicultural teacher education, yet they present windows of opportunity for teacher educators to find bridges to close the gaps, or better yet, to turn these gaps into bridges through deconstruction.

The bridges we found in the study include two types: the visible and the invisible. The visible bridge refers to the consensual attitudes toward student diversity between the two groups. Both Students Are Students and Diversity Advocates value multicultural teacher education, loathe racism in its various forms, and sympathize with students with language difficulty. These converging attitudes toward student diversity can pave the way for more in-depth and meaningful conversations with the absence of conflict or tension in the course of multicultural education. With this visible bridge, more difficult conversations to close the gap in cultural competence and bring about attitudinal change become possible (Cook-Sather, 2002; Sue et al., 2009).

The invisible bridge lies in the responses to the open-ended question from the two groups: the discrepancy between the sorting results and comments from Students Are Students betrayed a confusion of “treating students alike” with “treating students equal”. A teachable moment derived from this discovery in our study is perhaps for teacher educators to set up teaching scenarios or workshops to differentiate the two treatments. Another technique may be for teacher educators to refer back to the abundant literature on the difference between treating alike and treating equal (e.g., Howard, 2006; Nieto & Bode, 2011) and make reading and reflection assignments for preservice teachers, so that the gap can be closed with this invisible bridge by clearing up the misunderstanding.

Last but certainly not the least, the gaps between Students Are Students and Diversity Advocates we found in the study may be rendered into bridges if we approach them differently. Rather than focus on the gaps of similarity versus diversity and boldness versus caution, we may look at the gaps from a different perspective and pay closer attention to the foundation making up of the gaps so as to deconstruct them. First, the distinguishing statements that makeup the gaps of the two groups’ attitudes toward student diversity have the potential power to turn the gaps into bridges if they load on the same side (both unlike or like me) of the ranking scale. Undeniably, there is a gap in the level of comfort for Students Are Students and Diversity Advocates to discuss the relationship of racism to other forms of oppression. Nevertheless, since the distinguishing statement loaded on “like me” side of the ranking scale for both groups, efforts can be invested in disclosing and discussing various forms of racism-related oppression and inequality in a progressive manner, so that the gap in the comfort level of dealing with student diversity can close itself eventually. Second, by having both Students Are Students and Diversity Advocates reach out and learn from each other, the similarity vs. diversity gap may turn into a bridge. Previous research shows that human race is more similar than different, and that there can be more similarity among individuals from different populations than those from the same population (Witherspoon et al., 2007). Meanwhile, we cannot turn a blind eye to student diversity. It is there, and will increase its presence due to globalization and worldwide migration. On the other hand, while tackling student diversity necessitates caution, it does require boldness as well. By learning from one another with a less judgmental approach, both preservice teachers and teacher educators can be more open to change, hence turning the gaps into bridges in multicultural education.

Preservice teachers and teacher educators across countries could use the results of this study to enhance their communication and mutual understanding and close the attitudinal gaps toward student diversity. Curriculum design could utilize this information to create more effective courses, workshops or seminars about multiculturalism by discussing and understanding the consensual and divided attitudes toward student diversity. In so doing, teacher educators and preservice teachers may have more meaningful dialogue, bring about attitudinal change toward student diversity, and enhance the effectiveness of multicultural education to help close the gap of homogeneous teaching force and increasing global student diversity.

As a unique research technique in capturing attitudes toward student diversity in a non-obtrusive and non-judgmental manner, we encourage future Q studies on other populations such as school principals and policy makers and in other countries where increasing student diversity has become a compelling issue in the classroom.

References


