Engaging in Diverse Classrooms

Using a Diversity Awareness Survey to Measure Preservice Teachers' Preparedness, Willingness, & Comfort

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Introduction

Many teacher education institutions share a concern about assessing their preservice teachers' knowledge, skills, and dispositions related to teaching diverse P-12 students. This case study describes the iterative and sometimes difficult process involved in the development of a diversity awareness survey at one institution.

The survey discussed here, administered each semester to approximately 400 preservice teachers in a college of education, produces a large amount of rich data that can be examined in relation to variables such as age, gender, intended certification level and discipline, and life experiences.

Working with data from the survey we have articulated a hierarchy of six developmental levels that characterize participants' responses in relation to awareness/knowledge, skills, and dispositions. Initial findings indicate that most pre-service teachers in the program are at a developmental level of three or four with regard to the open-ended questions about teaching diverse students.

The six general developmental levels defined for this study are:

1. Uncomfortable/negative/resistant/no meaningful answer/no answer.

2. Uncomfortable/uninformed/superficial understanding/overconfident.

3. Open to learning, but still somewhat uninformed.

4. Beginning to make changes in teaching/develop new ideas/learn from students. Not yet empowering students.

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5. Embraces diversity; willing to empower diverse students/culturally responsive.

6. Willing to promote transformation and social change/views teaching diverse students as a privilege.

The focus of this article is on the challenge in designing a high-quality survey for this purpose. This survey and other similar institutional research studies are valuable tools for assessing program effectiveness as related to stated university goals, and in making programmatic and curricular decisions as a result.

Background

Today's classrooms call for teachers who are well prepared to instruct diverse students. Unfortunately, classroom teachers often have life experiences that are dissimilar to those of many of the students they are teaching.

For instance, a significant number of those students speak a first language other than English. In 2006, the U.S. Department of Education estimated that more than five million children in U.S. schools, or more than 10 percent overall, are English Language Learners (National Clearinghouse for English Language Acquisition, 2006). As an example, in the Fairfax, Virginia, public schools, at least 41% of the students are from homes in which a language other than English is spoken (Dale, 2010).

In addition, some students live in poverty, experience tumultuous home lives, are undernourished, and in many other ways are underrepresented in U.S. society. Some belong to non-mainstream religions and some are GLBTQ (Gay, Lesbian, Bisexual, Transgendered, Questioning).

Assessing preservice teachers' readiness to teach these diverse students is not easily accomplished. Short of spending extended time observing them in diverse teaching settings, our task was to design a valid instrument that eventually will alert administrators and faculty about

the degree to which the teacher preparation program cultivates the appropriate awareness, skills, and dispositions to teach diverse students.

This case study captures how a team of diversity researchers constructed an instrument to gauge future teachers' preparedness, willingness, and comfort with teaching diverse students. A review of the literature before development began produced a few similar surveys, beginning with the *Cultural Diversity Awareness Inventory*, created by Gertrude Henry (1986).

Henry's questionnaire was designed to be used as a self-assessment of attitudes, beliefs, and behaviors toward culturally diverse children. While the items on that questionnaire could help reveal bias about racial and ethnic diversity, it does not appear to address other types of diversity such as gender, religion, age, or sexual orientation. This is important because each type of diversity creates its own culture.

A few years later, Henry's survey was administered again with few changes by Larke (1990). Thirteen years later, it was modified slightly and administered again by Milner, Flowers, Moore, Moore, and Flowers (2003). The research team for the current study found that this cultural diversity awareness inventory had not changed appreciably since 1986. To a large degree, it was still asking the same questions. Meanwhile the world was changing.

Given that this previous survey was now 20 years old, we believed it was time for a more contemporary survey. The demographics of today's classrooms are very different from those of two decades ago. Teachers being prepared now must be ready for these new changes, and posses the awareness, skills, and dispositions appropriate to teach diverse students of this new century successfully. They need to understand a broader definition of diversity, and they need skills such as culturally responsive teaching strategies.

Case Description

To create a more updated survey, the research team included questions that relate more directly to important contemporary diversity issues, such as immigration, English Language learning, and sexual orientation, along with more common diversity topics such as race and culture. They developed a draft that included demographic questions, Likert scale questions, and open-ended questions.

Because the academic department would use this survey for program assessment and it needed to reflect the input of multiple faculty members, the initial draft was sent out via e-mail to colleagues for their feedback. The researchers received very few responses, perhaps four to six. But they did invite those few people to offer extended feedback. These colleagues shared many suggestions, many questions, and conflicting advice.

Two statisticians had concerns about the quantitative measures and the construction of some questions. The research team learned from those colleagues and made improvements in the instrument. The outcome was a survey with 21 demographic items, 20 six-point Likert scale items, and eight open-ended items.

Some of the individuals who provided feedback were opposed to references to specific racial or ethnic groups in the survey questions. For example, some opposed the Likert scale item to which survey takers indicate their level of agreement with this statement: "African American males are often inappropriately referred to special education." Others advised that the survey *must* refer to specific groups to produce valid responses.

The research team included this collective feedback as best they could and revised the survey, but not without a nagging concern: By trying to incorporate the suggestions of multiple reviewers, it seemed that the original questions were losing some of their clarity and purpose.

Initial Piloting

Next, the research team piloted a pencil and paper version of the survey with students in several summer school classes. They invited the students' comments immediately after taking the survey. An interesting comment came from a student of Middle Eastern origin. He said the survey lacked a demographic choice that represented his ethnicity and suggested adding "of Middle Eastern descent, American of Middle Eastern descent, or Middle Eastern origin." This seemed to be an excellent idea and that new option was added. The research team also asked for general feedback, receiving suggestions about questions that weren't clear, and they made some small revisions.

The next step was to create an online version of the survey in *Select Survey* software, housed on a server in the researchers' college. Doing so presented some challenges in securing IRB approval. The IRB reviewers were concerned about the security of the survey and the anonymity of survey respondents. With some information provided by the college's Institutional Research Coordinator and a conversations with the president of the university's IRB, the researchers were able to reassure the reviewers that the survey, created with *Select Survey* software (www.selectsurvey. net), would be secured behind a firewall on the college's own server and, although students would use their university usernames to log into the survey software, the usernames would not be recorded in the data to be analyzed.

Since then, the researchers have moved the survey to other survey software that provides an even better platform: *Qualtrics* (www.qualtrics.com). It is possible for students to take a survey in this software without logging in with a username at all. It should be noted that *Select Survey* has recently made some changes that provide a similar option. One disadvantage to complete anonymity, required for IRB approval, is that individual student's pre- and post-survey data cannot be compared. At best, the pre-and post-survey data of a cohort of students can be compared. The research team's realization that the precise composition of the cohort changes between program entry and completion provides continued discussion and rumination.

Electronic Piloting

During the fall semester after the summer hard-copy pilots, the research team piloted the new electronic survey, choosing to do this with incoming students who were taking a required instructional technology course. They wanted to capture all of the students entering the teacher certification program, and although they realized this was a bit of an imposition on the course instructors, they believed this might be the only way to do it since all of the new students were taking this course, and would all have access to a computer in that class, which meets in a computer lab.

The research team secured permission from the course instructors to use 15 to 20 minutes (which turned out to be 30 minutes) of their class time near the beginning of the semester to administer the new online survey. Over the first few weeks of the semester they piloted it with approximately 200 students, worked out a few technical bugs related to user authentication by the server, and received more feedback. It didn't work quite as smoothly as they had hoped, so they corrected the technical issues and conducted a third pilot.

At this point the two original survey designers, who are qualitative researchers, added a third member to the research team: one who specializes in quantitative research. This has enhanced validation of Likert scale questions and improved analysis of the quantitative questions.

First Administration

In the first official administration of the survey (n=225), participant characteristics were as reported in Table 1:

The new member of the research team conducted a factor analysis of the Likert items of this first official administration. The following three factors emerged from the analysis:

1. Level of inclination toward *social action* in education.

2. Level of awareness of realities (well-intended vs. well-informed).

3. Level of desire for insulation from diversity and multiculturalism.

Descriptive Statistics

Descriptive statistics for each factor in the survey are reported below. The responses were recorded on a six-point Likert-type scale and are reported here

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Table 1
Participant Characteristics

Gender:
Females - 186
Males - 39

Ethnicity:
American Indian/Alaskan Native - 1
Asian or Pacific Islander - 2
Biracial or Multiracial - 3
Black, not of Hispanic origin - 1
Mexican American - 18
Other Hispanic Americans - 5
White, not of Hispanic origin - 190
Other - 5

Intended Teacher Certification Level:
Early Childhood, Grade 4 - 109
Early Childhood, Grade 6 - 4
Middle Level, Grades 4-8 - 35
Secondary, Grades 8-12 - 76

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using scores from 1 (Strongly Disagree) to 6 (Strongly Agree).

Social Action

The mean response for all survey respondents (n=225) on the level of inclination toward social action factor was 4.84 (SD=.57). This indicates that the students responding to the survey expressed general agreement with survey statements advocating social action in education.

An example survey statement in this area was: "I plan to encourage my students to critique society and work for social change."

Awareness of Realities of Teaching

The mean response for all survey respondents (n=225) on the level of awareness of realities factor was 4.02 (SD=.66). This indicates that the students responding to the survey agreed only somewhat with survey statements about realities pertaining to diversity and multiculturalism.

An example survey statement on this topic was: "Low-income minority students need empowerment more than sympathy."

Desire for Insulation

The mean response for all survey respondents (n=225) on the level of desire for insulation from diversity and multiculturalism factor was 1.95 (SD=.65). This indicates that, in general, students disagreed with survey statements expressing a desire for insulation from diversity and multiculturalism.

An example survey statement in this area was "I am uncomfortable discussing diversity."

Interestingly, quantitative analysis of Likert scale items in this mixed methods study indicated more openness to diversity than do responses to the open-ended questions. The research team is reviewing all survey items to determine if the two types will yield equally valid results, or if the Likert scale items allow students to predict an "acceptable" response, while some open-ended questions reveal generally less openness to diversity.

Gender

MANOVA revealed multivariate significance for gender, as indicated by a Wilks' Lambda value of .933, $F(2, 223)=5.29$, p<.01. Univariate tests revealed that females (M=4.89) indicated stronger agreement with survey statements advocating social action in education than males (M=4.55),

$F(1, 222)=12.15$, p<.01. In addition, males indicated stronger agreement (M=2.22) with survey statements suggesting a desire for insulation from diversity and multiculturalism than females (M=1.89).

Taken together these results suggest that females have stronger attitudes toward positive social action in education than do males and that males have a greater desire to be insulated from issues pertaining to diversity and multiculturalism than do females.

Other Ethnicities in the Home

MANOVA revealed multivariate significance for the survey item soliciting how often the survey respondents' families entertained guests of other ethnicities in their home, as indicated by a Wilks' Lambda value of .916, $F(2, 223)=3.27$, p<.01. Univariate tests revealed that those who never entertained guests of other ethnicities showed more agreement (M=2.15) with statements expressing a desire for insulation from diversity than did those who frequently entertained guests of other ethnicities (M=1.59).

This finding suggests that students whose families, when they were children, entertained guests from a variety of ethnic groups have less desire to be insulated from issues pertaining to diversity and multiculturalism than those students whose families never entertained other ethnicities.

Qualitative Analysis

The original two members of the research team conducted qualitative content analysis of the open-ended survey items, creating and using unique rubrics to categorize responses to each item. Due to the high volume of data, this proved to be an efficient means of interpreting responses and producing a profile of the cohorts of respondents.

A brief narrative report of the results to three of the eight open-ended questions follows. Because the focus of this article is on the *process of developing and implementing* a diversity awareness survey, this report of results is not meant to be comprehensive.

"List as many types of diversity as you can"

Almost half of the survey participants listed four-to-six types of diversity. While even some faculty members who were asked the same question could not list more, the research team had hoped that students who had taken a diversity course

would be more informed. Most listed socio-economic status first, followed by learning style, race, culture, ethnicity, and language. Very few mentioned religion or sexual orientation.

Table 2 shows the breakdown of responses. These levels vary from the level descriptions shown above due to the numerical nature of the response analysis. Correlation to the previously given descriptions could perhaps be inferred.

Examples of Level 1-2 responses include: "I don't really understand the question," "I don't know off the top of my head," and "All." Some responses seemed defensive. For example, one participant wrote the following, rather than listing types of diversity:

> I am Asian, an international student with a master's degree in communications. I've been teaching a speech course. Through teaching, I have had students from many countries and ethnicities. I have friends from all over the world too.

Some participants listed several examples of *only one type* of diversity (i.e., religion or race), such as "Christian, Catholics, Jews, Buddhist" or "White, African American, Hispanic, Asian." These were categorized as Level 2 responses and reflect a limited understanding of diversity.

An example of a Level 6 response is

> . . . religion, disabilities, ethnicities, race, socio-economic background, families (single-parent homes), intellectual ability, social skills, talents/interests, sexual orientation, cultural practices, beliefs, traditions, personal style/personal expression, income, social status, educational background, behavioral tendencies, learning styles, learning abilities, number of siblings.

Table 2
Breakdown of Responses on Types of Diversity

Level	Description of Response	%
1	No meaningful response, or no response at all.	.03
2	1-3 types	.19
3	4-6 types	.48
4	7-9 types	.22
5	10-12 types	.05
6	More than 12 types	.03

What should multicultural education in grades P-12 include?

Once again, for this question the majority of responses (59%) were ranked at Level 3, indicating a superficial understanding of multicultural education. This level falls short of even describing the 'tourist approach' to multicultural education. Table 3 shows the breakdown of responses.

Examples of Level 1-2 responses include: "Some sort of Spanish training for teachers planning to teach in Texas," "A little bit of everything," "They should be all types," and "Yes." An example of a Level 5 response (the highest in this administration of the survey) is:

> The term multicultural education is as I understand it relating to just the culture of a country. The focus should be DIVERSITY. Students need to be learning about the history and culture of the world; not just the United States. I just completed a lesson on Culture & Communication, it was very surprising to me how many high school students are still not aware of other parts of the world. We put kids into this box and provide everything that they need to live, survive, and grow up to be participating members of our democratic society, this is fine, but we are tricking and holding back a full perspective of the world by not familiarizing them with the effects and impact of surrounding cultures and religions in the world. If we do not choose to teach children multicultural education then we will definitely end up with a very ethnocentric society of youth.

How would you describe culturally responsive teaching?

Thirty-eight percent of the responses to this question were ranked at Level 4. Ideally 100% of teacher candidates should understand this very important approach to teaching. However, since maturing as a culturally responsive teacher is a developmental process that can require years of classroom experience and professional development, Level 4 or 5 may be a reasonable expectation for preservice teachers. Level 6 represents a significant personal transformation and may not occur until much later, if at all.

Table 4 shows the breakdown of responses for this question. Examples of Level 1 responses include: "I have honestly never heard that phrase before now," "An important tool that should be used on a daily basis," "Letting the class have a discussion on a certain topic," "I don't know," and "If you were teaching an economics class you could discuss Obama's bail out plan." Examples of Level 3-4 responses include: "Making learning more relevant to students by using their personal experiences, backgrounds, and finding their strengths," "Teaching that is culturally aware of the students in the classroom; allowing students to maintain the cultural backgrounds and identities while in the classroom," and "Teaching with an awareness of the cultural diversity in your classroom and being able to accommodate it with appropriate language, references, and instructional methods."

Twelve students' responses were strikingly similar in wording: "…using the cultural knowledge, prior experiences, and performance styles of diverse students to make learning more appropriate and effective…" This observation led the researchers to conduct a Google search on "culturally responsive teaching definition" which yielded identical wording in a definition provided by Geneva Gay (2000) on the InTime website (http://www.intime.uni.edu/multiculture/curriculum/culture/teaching.htm). This indicates that the students had no personal knowledge related to culturally responsive teaching and thus had to conduct a Google search.

Many of the respondents described teaching respect and tolerance, or teaching about other cultures, which is clearly not a full and adequate definition of culturally responsive teaching. An example of a Level 6 response, while still not describing how empowerment could happen in a classroom, stated: "As empowering to those who are culturally not the dominant rich White folks."

After examining the overall results to this question, a need to explicitly instruct preservice teachers about the depth of culturally responsive teaching and its specific strategies is evident. There may also be a need to provide professional development for teacher education faculty on this topic, in order to create a common understanding of an approach that each faculty member may value, explicitly or tacitly, but may not be able to articulate to students in a consistent manner.

Table 3
Breakdown of Responses on What Multicultural Education Should Include

Level	Description	%
1	A negative attitude toward diversity is prevalent.	.01
2	No connection whatsoever is made between the idea of multicultural education and the curriculum.	.03
3	Superficial concept is described, reflecting little or no knowledge of how to integrate multiculturalism into the curriculum.	.59
4	Description of a "tourist approach" to MCE, celebrating holidays, foods, traditions, and languages to inform students and create understanding.	.30
5	Multiculturalism can be taught to celebrate difference, connect to the larger moral community, create equal opportunities for diverse students, and prepare students to function in a pluralistic society.	.07
6	A multicultural curriculum will be a vehicle of social and classroom transformation.	0

Table 4
Breakdown of Responses on Culturally Responsive Teaching

Level	Description	%
1	No meaningful response, or no response at all.	.15
2	Promoting awareness respect, tolerance, sensitivity to other cultures.	.19
3	Teaching about other cultures. Celebrating diversity. The 'tourist' approach to multiculturalism.	.26
4	Responding to specific cultures within one's own classroom, to enhance learning. Making lessons relevant to the students' cultures.	.38
5	Transforming the curriculum by bringing in materials/holding discussions that represent diverse viewpoints.	.01
6	Empowering students from non-dominant cultures through social activism (by the teacher and/or the students)	.01

Institutionalizing the Survey

While the goal was to administer this survey twice to every preservice teacher, once when they are entering the program (the pre-survey), and again when they complete the program (the post-survey), devising a way to institutionalize this process became a significant concern. Finding ways to administer it without imposing on other professors and their class time was an important goal.

The research team found the answer by embedding the survey in two required online activities. To institutionalize the pre-survey, they embedded it in a required online training course for a software tool called *TaskStream*. All students entering the teacher certification program are required to use this online tool throughout the program to develop lesson plans, rubrics, and instructional units. They also use it to develop e-portfolios, a requirement for graduation and assessment documentation for accreditation purposes.

During the previous few years, students were provided *TaskStream* training in a face-to-face format. But coincidentally, one of the members of the research team had just developed an online version of the *TaskStream* training in *Blackboard*, so she embedded the diversity pre-survey in the last module of this required training. As students completed their *TaskStream* training, the survey data began to flow in. This arrangement has created an ongoing, automated administration of the pre-survey, producing data from incoming students each semester.

To institutionalize the post survey, the research team embedded the instrument in *TaskStream* again, as the final component of the required e-portfolio which is completed while taking the teacher education Capstone course. This has been an exceptionally successful way of institutionalizing the survey. Both the pre-survey and the post-survey are completed by approximately 500 students per semester

In Fall 2008, the research team began formal analysis and presentation of the findings. The first public dissemination of survey results included three preliminary reports:

1. A presentation to the college's Assessment Team of findings that responded to NCATE diversity criteria in teacher education;

2. A presentation of early findings to faculty in the department of Curriculum and Instruction, and

3. A presentation at a University-wide symposium focused on SACS learner outcomes related to diversity.

The survey instrument became a model to other departments across the university as each began to study its learner outcomes systematically.

Improving the Survey Items

Constructs that emerged from the original attempts of two researchers have since been built upon steadily. To assure interrater reliability with the new program cohorts, each researcher wrote a definition for awareness, experience, preparedness, and willingness, after which the research team reached consensus on the definitions and clarified final wording of survey items. After reviewing each survey item as a team, constructs were divided into subcategories.

For example, the construct of willingness was subdivided into willingness to modify instruction, willingness to transform the curriculum, willingness to engage with communities different from their own, and willingness to engage in the political process to bring about change for greater social justice.

The research team also reconsidered the reverse scoring that was required by a number of survey items. Initially, the researchers believed this item construction might prevent respondents from guessing the "desired" response. In fact, it did not appear to accomplish that, so they restructured the items to remove the need for reverse scoring, simplifying the process of data analysis.

Sharing the Data

The data continue to flow in almost more quickly than the research team can analyze it. Because the data is plentiful and rich, and because the demographic questions allow for disaggregating the data in many ways, the researchers are anxious to begin sharing the data with colleagues and doctoral students. For example, bilingual education faculty could look at the data of only their majors. Early childhood faculty could do likewise. Or a researcher could look at the data of one gender, of one ethnicity, of students who have never traveled outside the United States, of those who speak three languages, or of those whose parents never/occasionally/frequently entertained multicultural guests in their home.

The possibilities are many because the

demographic data are so detailed. The data can also be used to evaluate the effectiveness of the overall teacher certification program or of its many sub-programs, and it needs to be shared in this way to achieve optimal benefit to the program. This creates a need for a written agreement pertaining to use of the survey data by others, to protect the intellectual property of the original survey designers.

Current Challenges Facing the Organization

One of the challenges is to document program effectiveness in teacher preparation. While this particular university requires each student to take at least one diversity course, such topics are not adequately integrated into the teacher preparation classes. Such information is often an add-on, rather than integrated strategically into teacher certification courses in curriculum and pedagogy.

Because diversity courses are required of all students at this university, the demand for them is great. As a result, many of them are taught by adjunct faculty, and the consistency of course content is a continual challenge, especially as it relates to teaching diverse students. Furthermore, faculty members often avoid teaching these courses because the inclusion of controversial or sensitive topics often results in low student evaluations of their teaching. In addition, some sections of the course include more thorough treatments of topics such as class, sexual orientation, race, and discrimination than others.

The socio-political context in which the university operates presents further challenges, due to a generally conservative regional climate that tends to draw conservative students from the area and from across the state. This results in a pool of teacher candidates that is less informed about diversity, less exposed to diverse peoples, and less apt to see the importance of developing critical perspectives on diversity.

In spite of these apparent obstacles, the college continues its commitment to preparing teacher candidates for a diverse student population, and this survey offers rich opportunities for self-assessment, reflection, and program improvements. Ongoing data from the survey can be used to remedy the challenges just noted, including fine-tuning the diversity courses and the ways in which diversity is addressed in all courses in the teacher preparation program.

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