

How pre-service teachers' beliefs and assumptions about diverse students change through their reflections on a study-buddy program

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Abstract

Fifth-three pre-service teachers participated in a study-buddy program and wrote reflective journal entries and a field experience paper in which they analyzed their study-buddy's learning dilemmas and proposed possible solutions. The pre-service teachers' writings were then analyzed for assumptions they made about their study-buddy. The results of the study documented the nature of pre-service teachers' assumptions about the diverse students they tutored and how these assumptions changed over time. In addition, this study illustrated how reflective assignments, in conjunction with participation in a study-buddy program, can serve to facilitate change in pre-service teachers' preconceived notions about diverse students.

While research has been conducted on pre-service teachers' knowledge and attitudes toward diversity (Wergin, 1989; Larke et al, 1990; Ross & Smith, 1992), only a few authors have studied the use of constructivist approaches in the transformation of pre-service teachers' thinking relative to diversity (Larke et al, 1990; McDiarmid, 1990; Colville-Hall, 1996). The current literature also provides little information about how reflection tasks undertaken by pre-service teachers in conjunction with a field experience, such as those described in this study, can impact pre-service teachers' views about diverse students. Thus, the purpose of this study is to document how a constructive assignment, in which pre-service teachers interact with diverse students and continually reflect upon their set of experiences, may lead to changes in pre-service teachers' beliefs and assumptions about diverse students and affect their desire to continue to work in diverse school settings over the course of time.

Specifically, the issues the present investigation addressed were the following: (1) to describe the learning dilemmas of students reported by pre-service teachers participating in a study-buddy program as well as the solutions to these dilemmas proposed by pre-service teachers; (2) to examine the beliefs and assumptions held by pre-service teachers relative to the diverse students they work with in a study-buddy program; (3) to trace how pre-service teachers'

these dilemmas proposed by pre-service teachers; (2) to examine the beliefs and assumptions held by pre-service teachers relative to the diverse students they work with in a study-buddy program; (3) to trace how pre-service teachers' beliefs and assumptions may change over time and in what ways they may change as a result of participation and reflection in the study-buddy program; and (4) to examine the durability of the impact of the program.

Theoretical Framework

While the student population in the United States is becoming increasingly more diverse, the profile of pre-service teacher education students remains constant. Pre-service teachers are predominantly White, female, monolingual, from a rural or suburban community, and have little experience with intercultural encounters (Ukpokodu, 2002). The well documented lack of teachers of color in American schools makes it likely that most students, including the growing number of minority students, will be taught by White teachers (Swartz, 2003). Since the demand for teachers is highest in schools that are poorly funded, where large populations of minority students are often educated, beginning teachers are likely to be hired to teach diverse students with whom they have little knowledge and little experience.

Pre-service teachers' lack of experience with diversity has been found to lead to beliefs that minority students, in particular, have cultural backgrounds and abilities that are substandard; as a result, pre-service teachers come to believe that minority students' cultures have less value and worth on which to build a classroom (Ladson-Billings, 2001). This is especially alarming because research has found that teachers are slow to change their pre-existing beliefs about minority students and their families which can, in turn, negatively affect their evaluation of minority students' academic achievement (Gomez, 1996).

This scenario creates the need to understand how pre-service (and especially White pre-service) teachers view diverse students as well as what types of pre-service experiences can best facilitate transformations in the preconceptions held by pre-service teachers. Pre-service teacher education has been criticized for its insufficient preparation of a culturally competent teaching force. Part of this insufficiency has been traced to the use of conventional, teacher-centered pedagogy (Barrett, 1993; Diaz, 2001). Therefore, it seems important to design high quality, constructivist educational assignments in which pre-service teachers interact with diverse students and continually reflect upon their set of experiences (Perry & Power, 2004). This is especially important in view of research that has shown that even after completing multi-education courses, pre-service teachers continue to have negative and low expectations for the success of minority students (Irvine, 2003). Furthermore, others have suggested that providing pre-service teachers with field experiences alone are not enough; field experiences that occur without a reflection component can reinforce existing biases and stereotypes, or even create new ones (Garmon, 2005).

Method

Participants

The participants were 53 pre-service teachers from a mid-size, southern university. They were enrolled in an *Educational Psychology* course during the Fall semester; as a course requirement, they participated in a study-buddy program where each tutored an assigned child, known as a study-buddy, from an urban elementary school for about one hour every week. Of the 53 pre-service teachers, the vast majority of them self-reported they were middle-class. Forty of the pre-service teachers were female and 13 were male; the majority of these pre-service teachers were White (46) while five were African-American and two were Latino. Of the 53 pre-service teachers, 30 were elementary education majors and 23 were secondary education majors in either their first or second semester of the university's education program.

With regard to the Title I urban elementary school where these pre-service teachers tutored, about 20% of the approximately 500 children spoke a language other than English. These languages (other than English) included: Spanish, Swahili, Hindi, Pushtu, Korean, Nepalese, and Tagalo (Philipino). The children selected by their classroom teacher to participate in the study-buddy program included students in single-parent households, minority students, students who were learning English as a second language, students with learning disabilities, and students identified as having behavioral problems. Over 80% of the participating children had received free or reduced lunches in the last school year. Of the 53 children assigned to these pre-service teachers, 25 were male and 28 female. The children ranged from kindergarten through fourth grade; of the 53 children, 28 were African-American, 14 were Latino, one Pakistani, one Jamaican, and the remaining nine were White.

Procedures

In terms of the procedures entailed in the study, during the first week of the Fall semester, the study-buddy program was introduced as a course requirement to the pre-service teachers. The study-buddy coordinator from the elementary school visited the class; at that time, each pre-service teacher was assigned a child to work with under the guidance of the study-buddy's classroom teacher over the duration of the semester. The pre-service teachers were required to complete at least 10 hours of tutoring as well as observe the study-buddy in his or her classroom. They were also required to keep a reflective journal; the journal had two separate entries with one entry done in the beginning of the semester and another one done in the middle of the semester. In addition, the pre-service teachers were required to develop a field experience paper that served as a summary of the study-buddy program experience and an expansion of the earlier journal entries.

For the reflective journal entries and the field experience paper, the pre-service teachers were encouraged to make meaning from their experiences and write in ways that elaborated upon their experiences beyond just retelling. They were also instructed to connect concepts and themes they learned from the *Educational Psychology* course to their tutoring experience and observation.

In the first reflective journal entry and the beginning portion of their field experience paper, the pre-service teachers were required to write what they knew of the background of their study-buddy and then include a description and analysis of the student's learning dilemma as well as possible solutions relative to the learning dilemma. As they analyzed the learning dilemma, the pre-service teachers were asked to discuss what factors they believed may have caused or contributed to the learning problem. Then they proposed solutions to the learning dilemma in which they were required to discuss what they were going to do to help make a difference in the life of their study-buddy and to describe what things they felt they could not do to help, even though the study-buddy may benefit from them. In the second reflective journal entry, pre-service teachers continued to describe their study-buddy experience with the same guidelines described for the first reflective journal entry. In the final field experience paper, pre-service teachers were asked to re-evaluate their analysis and solution(s) to the dilemma and design an optimal learning environment for the child.

One year after writing the field report, these pre-service teachers were also asked to complete a written questionnaire in which they reflected upon their experience in the study-buddy program.

Data Sources and Data Analysis

Primary data sources were the following: (1) two reflective journal entries from each pre-service teacher; (2) the final field experience paper from each pre-service teacher; (3) an information form completed by the pre-service teachers that contained general background information about themselves; and (4) written questionnaires completed one year after the study-buddy experience.

To establish the trustworthiness of our study, we used the techniques of peer debriefing, member checking, and triangulation. The two authors both are faculty in a teacher education program at two different universities. In addition, they both have taught *Educational Psychology* courses that are similar to the course taught in the present investigation. At the beginning stage of this research, after independently analyzing the data, the two authors acted as expert peers to each other to review the preliminary and interim themes and constantly examine each other's biases and meaning-making processes (Lincoln & Guba, 1985). As a form of member checking, we presented our analysis to the research participants for comments and feedback in a group meeting after the written questionnaire was collected, a year following the study-buddy program.

Trustworthiness also came from data triangulation of multiple sources and multiple data collection periods. The researchers' collaborative effort also reflected a form of triangulation. As the two researchers worked to identify and develop categories, a variety of perspectives informed our discussions, which resulted in a wider range of categories identified in the data and thus a clearer and more complete picture of the phenomenon occurred (Patton, 2002). Finally, as we analyzed our data and finished our writing, we engaged in negative case analysis with all cases and went back to the original data looking for contradictory examples and gaps in the logic in each case (Lincoln & Guba, 1985; Patton, 2002).

Results

Based on a content analysis of the pre-service teachers' reflective journal entries and field experience reports, the primary investigators independently analyzed the data sources for the nature of the learning dilemmas reported as well as for the nature of solutions proposed, both in the beginning of the semester and later in the semester. Common results between the investigators were then gathered and summarized. Furthermore, the category about beliefs and assumptions pre-service teachers made concerning their study-buddies was further analyzed and both the initial beliefs and assumptions and changes in these beliefs and assumptions were described. Finally, the results of the written questionnaires regarding pre-service teachers' study-buddy experience were summarized.

Learning Dilemmas and Solutions

With regard to the nature of the learning dilemmas the pre-service teachers described, nearly half concerned students with focusing and attention problems and about one-third of the learning dilemmas concerned reading problems. Other common learning dilemmas were in the areas of math difficulty, trouble learning English among the English language learner population, as well as social and behavioral problems, which often accompanied the learning dilemmas.

The pre-service teachers tended to initially propose solutions to the dilemmas from the behavioristic paradigm such as reinforcement; they also proposed initial solutions that had worked for them as students including learning through games and using flashcards. Many also suggested the use of general strategies to address reading problems. Over the course of the semester, with the exception of six of the pre-service teachers, most of the pre-service teachers often proposed additional, research-based solutions to the dilemmas. Over time, they were more likely to propose a wider variety of behavioristic solutions including strategies such as shaping, the Premack principle, and schedules of reinforcement. They were also much more likely over the course of time to propose solutions from cognitive learning theory including goal setting, scaffolding, rehearsal strategies, social constructivist approaches such as having students work together, as well as using learning styles research. In addition, over the course of time, the pre-service teachers were more apt to suggest the use of specific guidelines for working with students with ADHD as well as setting clear rules, expectations, and consequences.

At the end of the semester, we also noticed that the majority of the pre-service teachers were less likely to think that there were quick solutions to the dilemmas. Solutions they could implement once, and without further reflection, were considered inadequate to them. The following quotes illustrate pre-service teachers' shifts in thinking:

I came into this program thinking I would have a child with a few learning problems, I would be able to help them, and they would be cured by end of the study-buddy experience. I was wrong; every child has different needs and you have to adapt to them. As a teacher you constantly have to re-

assess students' challenges, because your thoughts about their abilities could change over time.

The old saying hindsight is 20/20 describes how I feel about my experience with Ana. I wish I had been more patient with her. I must look past what seems obvious and look for the underlying source of the issue. I finally realized what I needed to do; I was able to see that Ana is not a lazy child. She needs lots of repetition to learn and needs to have smaller goals that are easier to accomplish to give her the confidence to attempt larger goals.

My ability to work with Shannyn afforded me the chance to help her focus. With direct guidance and attention, I was able to help keep her on task. However, over the semester in order to encourage a more proactive role in her education, I usually gave her a choice in the order of activities, though completing homework was always first. I hoped giving her a modicum of control would eventually enable her to be more productive without direct guidance.

Beliefs and Assumptions

The data sources were also analyzed for assumptions pre-service teachers made about their study-buddies. About one-quarter of the pre-service teachers initially wrote candidly about their beliefs that factors external to the school were the primary causes of their study-buddies' learning dilemmas. Included among these factors were single-parent household status, perceived lack of parental support, parents working long hours, frequent moving by the family, low socio-economic status of the family, the fact that English was not spoken at home, and being African-American. The following quotes illustrate how some of the pre-service teachers believed these factors affected the students they tutored:

Maria's dilemma is still communication and the proper pronunciation of English words. She also has difficulty remembering her numbers in English. This is caused because the mother has no knowledge of English, works two jobs, and also goes to school on the weekends. Also, her mother can't help her at home as the rest of the students' parents do. The classroom has all the technology a foreign person could hope for - a wonderful teacher, bilingual computer programs, bilingual books, flash cards, and board games.

Linda's distraction, impulsivity, high activity, and talkativeness may grow into a more serious situation. Her single-parent home environment is a concern. While it is not unusual in the African-American culture for children to live in a single-parent home, it is unusual for the father, in lieu of the mother, to be the custodial parent. This situation may cause the child personal problems due to the fact that her father may not be prepared to discuss those social and physical illnesses as she matures.

About a week before Thanksgiving, Tommy's mother was arrested. I only learned of it from his teacher. This bit of reality slapped some logic into me; his actions and attention deficit started to make sense. I believe his parents (his mother and her boyfriend) use a mixture of permissive and authoritarian parenting styles, leaning toward the permissive. Tommy struggles against control, often getting off task deliberately.

A very important factor in making Jennifer's learning environment ideal would be her getting all the support she needs at home; because the majority of her time is at home she needs it to be a positive and encouraging environment.

I realize Matthew's problems in reading and math could also be a result of his culture. Matthew is a Hispanic boy who knows how to speak fluent Spanish; in school he is forced to speak perfect English. It's probably a struggle for him to read in English, while knowing more Spanish.

Ally lives with her grandmother and little brother. The main reason she is behind others in her class is definitely her home life. I think she isn't being worked with at home as much as a kindergartner should be. She does not have a normal parental figure as typical children do.

Changes in Beliefs and Assumptions

However, over the course of the semester, the majority of the pre-service teachers who had initially blamed their study-buddy's failures on factors external to the school altered their initial assumptions about students and their families. As they began to see the learning dilemmas and solutions in more complex ways, these pre-service teachers were less likely to blame a host of external factors for the academic problems present and were more likely to focus upon school related, teacher-controlled strategies in terms of solutions. In doing so, the pre-service teachers discussed the need to know more specific reading remediation strategies as well as how to address information processing problems. The following quotes illustrate the pre-service teachers' shifts in thinking to school-based factors as opposed to external ones:

I now see that we need to worry about the students' housing environment, but also their school environment. Before seeing the complete picture, I blamed Praise's difficulties on her family, community, or peers. But there is more. The teacher gives off this attitude towards the children as if what she is doing is just a job. It does not seem that Praise's teacher cared if she succeeded. To ensure that her academic progress continues, I think Praise should be placed in a more caring school environment.

One of the biggest things feeding on Lawrence's setback is the school's conditions. Being a Title I school means not having all the necessary needs other schools have, such as having a computer in every classroom or enough materials for everyone to have a set of their own. For example,

only 12 of the 19 students had reading wheels, plus the teacher was sharing these with another class. I brought in flashcards with the alphabet and numbers on them and also a board game with math and sounds, and I have never seen Lawrence pick up a concept more quickly.

Billy's school environment is not very conducive to his learning. Because of lack of funding, the school does not have a special education teacher at the school on a daily basis. He doesn't get the one-on-one intervention he really needs.

Mike spends a lot of time daydreaming and not paying attention. He seems about as smart as the others, but less willing to participate. I have heard of research that says that students who sit in the back of the room may not learn as well as those who sit in the front. This may be exacerbating Mike's dilemma.

I suggested to Calabash that he bring some of his work home that we couldn't finish during study-buddy time. But when I mentioned this to his teacher, she said "No, that won't work". He'll lose it. This is going in my folder and he can work on it tomorrow". In other words, the teacher could not assign homework because she needed the papers to produce grades. Due to NCLB requirements, the teacher has become very paperwork oriented.

The Impact and Its Durability

In terms of these pre-service teachers' perceptions of this assignment, 50 of the 53 participants wrote about the positive value of the assignment. Among the key benefits they reported were gleaning knowledge about themselves and acquiring knowledge about the teaching profession, both in terms of gaining teaching experience and understanding the complex responsibilities involved in teaching.

One year after the completion of the study-buddy experience, 20 of the original 53 pre-service teachers responded to a follow-up questionnaire. Of the 20 respondents, 18 stated that they still felt as though they had learned something from the study-buddy experience that either added to their knowledge of teaching or would better prepare them for a future career in teaching. Of the 20 respondents, 14 reported that the study-buddy experience acquainted them with the complexity of teaching and learning as well as helped them to recognize some effective teaching techniques. When asked for their perception of the major challenges faced by teachers who teach students similar to their assigned study-buddies, 12 of the 20 respondents commented that the lack of teacher time and sufficient teaching skills needed to meet all the students' learning needs were the major problems. Nine respondents believed that dealing with students' language problems (i.e., the fact that English was not their primary language) as well as their disabilities was the major difficulty that confronted teachers. Additional challenges cited by seven respondents were students' behavioral, attention, and/or

social problems while five respondents mentioned students' parental or family situations and four respondents noted students' cultural differences as the major problem encountered by teachers.

Despite these perceived difficulties, 15 of the 20 said that they would teach in a school similar to the Title I school they did their study-buddy experience in. Of these 15 respondents, two-thirds said their main motivation to do so was that they felt that they could make a real difference in the lives of the students; four of the 15 commented that they felt as though their personality qualities would fit into the needs of such a school. One additional student remarked that even though she knew many problems lay ahead, she was still determined to teach in such a school.

Conclusions

These data seem to confirm the nature of the preconceived notions pre-service teachers hold about diverse sets of students already documented in the extant literature, at least among approximately one-quarter of the present sample of pre-service teachers (Ladson-Billings, 2001). The data also suggest that these preconceptions are amenable to change, based on the experience of working with diverse students over time and in conjunction with reflection tasks that include the theoretical content from an educational psychology knowledge base. A particularly encouraging trend was that over the course of the semester, these pre-service teachers tended to focus on school-based interventions more often and tended to less often blame academic difficulties on the students and external factors such as their family. This is an important finding in view of the previous literature which indicates that teachers tend to attribute African-American student failure to external factors such as their family (Winfield, 1986). This finding is particularly promising in light of the research that has shown that even after taking multi-cultural courses, pre-service teachers tend to have negative or low expectations for the success of minority students (Irvine, 2003).

Furthermore, this study describes a specific kind of field experience designed for pre-service teachers that created opportunities for self-reflection and the opportunity to exercise complex problem solving in "ill-structured" settings. These data specifically show pre-service teachers' growing sophistication in applying theoretical course content to the practice of tutoring over the course of the semester. While generating a wider variety of possible solutions to the learning dilemmas may be an expected finding in view of the fact that throughout the semester pre-service teachers are exposed to more and more content about a variety of research paradigms and practices from educational psychology, what was not necessarily expected was that these pre-service teachers were less likely to be satisfied with quick solutions to the learning dilemmas. The fact that this sample of pre-service teachers tended to realize over the course of their study-buddy experience that the solutions they generated required constant reflection and re-evaluation suggests that they were beginning to develop some important reflective-practitioner skills, beyond merely learning new course content.

The data also demonstrate the promising role constructivist assignments can play in helping to assess pre-service teachers' growth in terms of the extent to which they are able to apply research findings from the field of educational psychology to how they view and interact with diverse student populations. Such growth is difficult, if not impossible, to assess using traditional exams. Most importantly, this study illustrates how requiring constructivist assignments can serve as a useful tool for facilitating the transformation of preconceived assumptions about diverse students held by pre-service teachers. Such assignments can also serve to acquaint pre-service teachers with the complex realities of teaching in a diverse environment, while at the same time instill in them a positive long-term outlook for teaching in a diverse setting.

Limitations and Future Directions

Although the results of this study contribute to understanding how primarily White pre-service teachers view diverse students, one major limitation of the study is the fact that the data are based on self-reports. As suggested by Hatton and Smith (1995), it is possible that such self-reports may not accurately reflect the extent of change in these pre-service teachers' views of diverse students. An alternative explanation for these findings may be that the pre-service teachers reconstructed their interpretation of the study-buddy experience merely to please their professor, without truly undergoing a cognitive transformation in their beliefs.

Another limitation of the present study is that only 20 of the original sample of 53 pre-service teachers were followed after a year in an attempt to ascertain if they continued to desire to work in school settings with diverse students. In addition, the present study does not provide evidence that pre-service teachers' beliefs are transformed over the course of several years and into their student teaching experience. Longitudinal data that entail following a cohort of pre-service teachers over the course of their teacher training and through their student teaching experience would be especially useful in determining the extent to which beliefs and assumptions relative to diverse students really are transformed over time. Especially helpful would be a line of research designed to document how such transformations actually manifest themselves in terms of teaching dispositions and behaviors.

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