



Why Did I Ask That Question? Bilingual/ESL Pre-Service Teachers' Insights

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Questioning techniques have historically been considered the measurement by which teachers challenge and gauge student learning. Much has been said about questioning strategies used by teachers; yet little is known about the strategies used by pre-service teachers, especially those that are working with English language learners. This study presents findings from a qualitative study that explored what types of questions pre-service teachers use and their reflections on the use of such strategies. Eight bilingual/ESL pre-service teachers in South Texas were videotaped during a math and a language arts lesson, attended focus groups, and participated in an exit interview. The findings revealed the type of questions used by the participants, how they made sense of their teaching, and how accountability measures influenced their teaching. This research recommends education programs to prepare future teachers to comply with what is required by the current reform without compromising their students' learning and thinking skills.

Key Words: Pre-service Teachers, Questioning Strategies, English Language Learners, Teacher Preparation, Bloom's Taxonomy

INTRODUCTION

A critical role of education is to develop and promote thinking. Researchers agree that questioning strategies are essential when encouraging, extending, and most importantly challenging students' thinking (Klem & Connell, 2004; Marzano, Pickering, & Pollock,

2001). Unfortunately, this might not be the experience for many children in public schools. Fisher (2005) argues that “traditionally schools have been places where children receive rather than give information and thoughts” (p. X). Many teachers tend to ask questions that require the recall of factual information (Hill & Flynn, 2008; Marzano et al.) thus limiting students to memorize rather than analyze or interpret information.

The lack of promoting higher order critical thinking has called into question why student achievement outcomes in school are problematic. The National Assessment of Educational Progress (NAEP), also known as the Nation’s Report Card, revealed that in 2009, fourth grade students in the United States were mastering basic level of achievement or partial mastery of prerequisite knowledge and skills needed to complete grade level work, in reading and mathematics while fewer were reaching high levels of proficiency in the areas that require high levels of thinking skills (U. S. Department of Education, 2009b, 2009c). In particular, 66% of all fourth grade students in the United States mastered basic reading skills, while 82% of all fourth graders mastered basic mathematics skills. However, only 8% of all fourth graders achieved at the advanced level or superior grade level performance in reading and 6% of all students attained the advanced level in mathematics. Latino students, or Hispanics as labeled by NAEP, did not fare as well. More than half (51%) of Latino fourth graders scored at the below basic reading level, while only 3% achieved at the advanced level. As for mathematics, 29% of Latino fourth graders scored at the below basic level, and only 1% attained at the advanced level. In the case of English language learners (ELLs), results are even less promising. Seventy-one percent of fourth graders scored at below basic level in reading, and 0% score at the advanced level. As for mathematics, 43% of ELL fourth graders obtained below basic, and only 1% reached the advanced level. When comparing the achievement of Latinos and ELLs in reading and mathematics to the overall achievement of the fourth grade population, it is obvious that Latinos and ELLs are lagging behind in achieving at least basic skills in the areas of reading and mathematics; even more so in reaching advanced proficiency in the academic areas that require high levels of thinking skills.

This level of achievement by Latino students and ELLs is alarming, given that one out of five children in the United States is now Latino (Mather & Foxen, 2010) and that about 11% of U.S. students are ELLs (U.S. Department of Education, 2009a). It is projected that in 2050, one-third of the overall U.S. population will be Latino (Mather & Foxen, 2010). Given these demographic projections, immediate attention to this matter is critical for our nation’s economy, as Latinos and ELLs will become our future taxpayers, consumers, and workers.

It could be argued that Latino students and ELLs have been educationally underserved or as Ladson-Billings (2006) alleges have been victims of *educational debt*. There are even scholars who claim that Latino students receive a *pedagogy of poverty* (Haberman 1991; Padron, Waxman, & Rivera, 2002), which focuses on low level skills and passive learning. Approximately 60% of Latino children come from low-income families and live in poor neighborhoods, and as a result, their educational opportunities are limited

(Mather & Foxen, 2010). These children experience unchallenging curricula, prescriptive programs, less experienced and qualified teachers, low quality education; and their teachers have less freedom for teaching because of the pressure to raise scores on state mandated assessments (Gandara & Contreras, 2009; Orfield & Lee, 2005; Padron, Waxman, & Rivera, 2002).

Given these limited educational opportunities and academic achievement trends, a change in teaching practices that fosters higher order thinking skills is warranted. This is even more critical for teachers who will be instructing Latino students, and most specifically, for those educating Latino ELLs. In order to instill pedagogical practices that promote higher levels of thinking skills, teachers need to start using them from the beginning of their teaching career. The best place to foster these practices is in teacher preparation programs and in particular during field experience opportunities. Clift and Brady (2006) reviewed 105 empirical studies and found that field experience can impact pre-service teachers' teaching practices. However, none of these studies addressed how pre-service teachers foster higher order thinking skills.

REVIEW OF LITERATURE

Teacher Preparation

Research has revealed that teacher preparation, skills, knowledge about teaching, and attitudes do indeed impact students' learning (Darling-Hammond, 2006; Haycock, 1998). As a result, the student teaching experience is a critical component of teacher preparation programs; this is the culminating time when theory and practice come together. It is the time when they can "integrate and use their knowledge" in the classroom (Darling-Hammond, 2006, p. 305). In fact, many researchers agree that knowledge about teaching and learning is improved when pre-service teachers have multiple opportunities to apply these in meaningful contexts (Allsopp, De Marie, Alvarez-McHatton, & Doone, 2006; Pryor & Kuhn, 2004). Given that high-stakes testing climate is often regulating education, many pre-service teachers are placed in school settings very different from those discussed in their teacher preparation courses. They find themselves in a predicament, trying to "implement methods advocated in university coursework while also being expected to fit into the classroom to which they are assigned" (Ferguson & Brink, 2004, p. 55). As a result, conflicting ideas emerge impacting their knowledge and delivery of best practice for teaching and learning.

Other factors could impact the student teaching experience and promote the connection between theory and practice. For example: 1) observation, 2) reflection, 3) discussion and support have been found to be useful tools (Perry & Power, 2004). According to Clift and Brady, (2006), when pre-service teachers are given the opportunity to reflect on their actual teaching practices, it "can produce changes in pre-service teachers' ideas about teaching, learning, and the competence of learners" (p.316). These reflective and supportive opportunities allow pre-service teachers to analyze and apply best instructional practices in their actual teaching. It is for this reason that pre-service teachers must be prompted by their professors and supervisors to discuss, reflect, and evaluate their own classroom instruction in order to determine if they are using best

instructional practices that promote high levels of thinking skills. These skills are especially critical in today's classrooms when teachers are expected to prepare all students to meet high academic standards.

Questioning Strategies

Since the publication of *Taxonomy of Educational Objectives, The classification of Educational Goals, Handbook I: Cognitive Domain* in 1956, better known as Bloom's Taxonomy, educators and researchers have been using the taxonomy as a guide not only for writing and evaluating objectives and assessments but also for the use and evaluation of questioning strategies. Bloom's Taxonomy outlines six levels of cognitive processes: knowledge, comprehension, application, analysis, synthesis, and evaluation (Bloom, Englehart, Furst, Hill, & Krathwohl, 1956). These levels were ordered from concrete to abstract and have been categorized between lower- and higher-order thinking skills. According to Thompson (2008), "lower-order thinking (LOT) is often characterized by the recall of information or the application of concepts or knowledge to familiar situations and contexts" (p. 97); these are the skills required at the levels of knowledge, comprehension, and in some cases application. While higher-order thinking (HOT) calls for more cognitively complex processes that require conceiving, manipulating, and dealing abstractly with ideas; which are the skills needed for analysis, synthesis and evaluation, the highest levels of Bloom's Taxonomy.

The original taxonomy did not take into consideration all knowledge modalities; therefore, forty-five years later, the taxonomy was revised (Anderson & Krathwohl, 2001). Unlike the original taxonomy, which was one-dimensional, the new *Revised Taxonomy* is two-dimensional involving knowledge and cognitive processes. In addition, the categories for the *Revised Taxonomy* changed from noun forms to verb forms and the synthesis category became the "create" category; and the "create" category was moved from the fifth level to the sixth level of the Taxonomy.

There are scholars who questioned the interpretation and uses of the taxonomy in K-12 curriculum and classrooms (Booker, 2007; Wineburg & Shneider, 2009/2010). For example, Booker (2007) argues that Bloom's Taxonomy has been used "to devalue basic skills education and has promoted 'higher order thinking' at its expenses" (p. 348). He attributes the low performance of U.S. students when compared to international students to the overuse of Bloom's taxonomy. His arguments stem from the idea that many educators and teacher preparation programs expect students to think critically about concepts when they have no or limited factual knowledge. As educators, we have to take into consideration Booker's argument. It is necessary that students build a strong foundation on the knowledge and comprehension of basic concepts before asking them to analyze, evaluate, and to synthesis the new information; but at the same time, it is imperative that instruction does not stop at the lower levels of cognitive processes.

Purpose of Study

There is a dearth of research on teacher training in the field of bilingual/English as Second Language (ESL) education. Moreover, there is limited research examining the

point of view of pre-service teachers on how and why they encourage or do not encourage higher order thinking skills in field experience opportunities, specifically involving Latinos and ELLs. Thus, in order to address the gap in the research literature, the current study used the experiences of eight bilingual/ESL student teachers to examine their questioning strategies as a means to challenge and to promote thinking amongst their students, in particular Latino students whose first language is not English. The purpose of the study was (a) to identify the types of questions most often used by pre-service teachers during math and language arts instruction and (b) to get insight from the pre-service teachers about their use of questioning strategies.

METHOD

Study Design and Participants

We decided to conduct a case study in order to gain an “in-depth understanding of the situation and meaning for those involved” (Merriam, 2001, p. 19). Our participants were pre-service teachers who were placed in schools located along the Texas U.S-Mexican border; in two specific school districts that offered one-way dual language enrichment education in which academic and language instruction in reading was delivered in Spanish and mathematics instruction was delivered in English to students whose primary language was Spanish. This educational setting enabled us, the researchers, to investigate the types of questions the pre-service teachers most often used with Latino ELLs; specifically, if there was a difference in the levels of questions asked based on the language used. We wanted to examine if the level of questions posed in language arts, the content area delivered in students’ native language, differed from the questions asked in math, the content area delivered in the students’ second language.

The semester before student teaching, the researchers asked the university office of field experience for the names of all student teachers that were to be placed in the targeted school districts. The list was comprised of 18 elementary bilingual/ESL pre-service teachers. The researchers extended invitations to each of them to participate in this study. Sixteen of the eighteen voluntarily agreed to participate. At the start of the study, the participants were reminded of the requirements of the study: (1) video tape self teaching a language arts lesson and a math lesson; (2) attend two focus groups; and (3) attend an individual exit interview. Five of the participants opted out of participating in the study, resulting in only 11 participants. Of the eleven participants, only eight completed all of the components of the research.

All the participants were Latino females, except for one Latino male participant, and ranged in age from 20-35 years old. Each participant was an elementary education major with specialization in bilingual/ESL education. At the time of the study, all participants were completing a required 12-week student teaching internship; and there was no professor-student relationship with any of the participants. For the data reported in this article, pseudonyms have been given to all participants.

Setting

The research took place in Texas, “the cradle of No Child Left Behind”, where the

state-mandated test, for the most part, dictate what schools and teachers should teach and what students should learn, especially in schools that serve minorities and economically disadvantaged students. More specifically, the research was conducted in an area along the Texas and Mexico border, which has been described as one of the poorest regions in the United States (Lopez, 2006; Maril, 1989) with a “per capita income of \$15,184 a year, less than half the national average of \$31,472” (Lopez, p.11). A major contributor to the economic struggles of the area is the level of educational attainment of the population.

According to the U.S. Census Bureau (2010), the percentage of people in the region who are 25 and older and hold a high school diploma accounted for 50%, in comparison to 75% in Texas. As a result, the schools serve a large percentage of children who are considered by the education system as “at risk for school failure” due to their poverty and ELL status. Because of the close proximity with Mexico, the student mobility between Mexico and United States is high; and English and Spanish is used interchangeably.

The demographics of both districts are representative of the region: District A’s student population was composed of 98% Latino, 42% ELL, and 89% economically disadvantaged. District B’s student population was composed of 99% Latino, 51% ELL, and 96% economically disadvantaged. Most of the elementary schools where the research was conducted typify what has been claimed by the literature in reference to schools serving low income and minority students, the “accountability pressures are often exacerbated by persistent, long-standing elements of school culture that affect teachers’ and students’ experiences” (Lloyd, 2007, p. 330). Consequently, the “curriculum” often mandated by administrators relied on worksheets, Accelerated Reader program, Reading First, and test preparation materials. In addition, some of the schoolteachers in these schools were certified through alternative routes. As a result, participants’ student teaching experience was affected by limited exposure to effective teaching.

Data Sources and Data Analysis

To examine the type of questions asked by pre-service teachers and the reasons why they are utilized, various sources of data were collected: (1) videotapes of pre-service teachers teaching a language arts (in Spanish) and a math lesson (in English); (2) two semi-structured focus groups conducted at the university, which lasted about 90 minutes each; and (3) a two-hour semi-structured exit interview.

After each videotaped lesson was transcribed, the researchers viewed the videos and along with the transcripts coded the questions asked by the participants, using the six categories of Bloom’s Taxonomy: knowledge, comprehension, application, analysis, synthesis, and evaluation. The inter-rater reliability among the researchers in classifying the questions was 80%. For those items on which there were disagreements, the coders reached consensus. Frequency count and percentages were used to determine which questions were most often used.

During the two semi-structured focus groups, the researchers asked some guided open-ended questions to lead participants in reflection and discussion of their experiences

during student teaching, their challenges and successes when using questioning strategies, and some of the roadblocks and pitfalls they encountered promoting higher order thinking skills.

In addition to the focus groups, an exit interview was conducted in where the participants observed their videotaped lessons, reflected and commented on their teaching, their use of questions, and the reasons why they used those questions. To help participants share their reflections, all were asked the same set of questions, although probing questions were added.

The focus groups and exit interviews were videotaped and the data were transcribed verbatim. Traditional qualitative analysis was used to analyze the data from these two sources (Bogdan and Biklen, 1998; Merriam, 2001). Each researcher, independently, conducted multiple readings of the transcripts to understand participants' experiences in challenging students' thinking. For various weeks, the researchers went back and forth sharing and comparing salient topics and concepts they found within the data. They agreed to use some of the suggested categories given by Bogdan and Biklen (1998): (a) situation and setting; (b) subjects' way of thinking about people; and (c) perspectives held by subjects.

To develop themes within the categories, the researchers followed Guba and Lincoln's (1981) suggestions; they looked for phrases and words that: (a) were repeated by a number of participants; (b) were deemed important by participants; (c) stand out because of their uniqueness; and (d) were supported by the literature. The identified themes centered on prescribed curriculum, state-mandated assessment, bilingual students' instructional experiences, and lack of time and preparation.

FINDINGS

Types of questions pre-service teachers use during math and language arts instruction

An analysis of the data from the videos indicated that the type of questions most often asked by the participants, in either the language arts or the math lesson, were lower order thinking (LOT) questions. Evidence from the video data shows that only 18% of the total questions asked by all the participants during the language arts instruction were aimed to the highest three levels of Bloom's taxonomy (analysis, synthesis, and evaluation); while 82% of the total questions asked by the participants were aimed toward the three lowest level of Bloom's taxonomy (knowledge, comprehension and application). As for the math lesson, only 4% of the total number questions asked by all participants were higher order thinking (HOT) questions and 96% of the total number of questions asked by all of the participants was LOT questions (See Table 1).

Table 1: Types of questions asked by participants

<i>Types of questions</i>	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Percentage of total questions asked by all participants</i>
Language Arts					
Knowledge	8	2.00	37.00	15.2500	47%
Comprehension	8	3.00	25.00	10.1250	31%

Application	8	.00	5.00	1.3750	4%
Analysis	8	.00	15.00	4.8750	15%
Synthesis	8	.00	3.00	.5000	2%
Evaluation	8	.00	2.00	.2500	1%
Lower Order Thinking Questions (LOT)	8	10.00	62.00	26.7500	82%
Higher Order Thinking Questions (HOT)	8	.00	17.00	5.6250	18%
Math					
Knowledge	8	7.00	32.00	18.1250	46%
Comprehension	8	1.00	26.00	16.0000	41%
Application	8	1.00	7.00	3.5000	9%
Analysis	8	.00	5.00	1.1250	3%
Synthesis	8	.00	.00	.0000	0%
Evaluation	8	.00	3.00	.6250	1%
Lower Order Thinking Questions (LOT)	8	10.00	58.00	37.6250	96%
Higher Order Thinking Questions (HOT)	8	.00	6.00	1.7500	4%
Valid N (listwise)	8				

During the interviews and focus groups, participants had the opportunity to reflect on the type of questions they used during math and language arts. Six out of eight of the participants responded that it was easier for them to ask a variety of questions during language arts lessons. In particular, Marta declared, "I think, for me, I feel more comfortable teaching language arts because it has more things that you can show and ask questions; more things to do when you are teaching that content." Other participants agreed and went on to explain how they went about promoting higher order thinking. For example, Juanita said, "I ask them: how would you do this? How can you implement it in other ways?" Julie added, "I relate the questions to their family, things that they can relate to." On the other hand, the participants found it difficult to ask HOT questions in math. Adriana's comment exemplifies this difficulty, "HOT questions are easy to ask for reading and social studies, but for math, it's hard to ask those types of questions." Angelina stated that in her classroom the questions she asks the most in math "would be more comprehension and knowledge and like applying it. It was more difficult for me to get to the higher level because it was more concepts, numbers." The participants regard math as mainly numbers and algorithms, so they underestimate the importance of developing mathematic literacy, which is "the ability to reason, analyze, formulate and solve problems in a real-world setting" (Martin, 2007, p. 28).

Moreover, the "curriculum" limited the opportunities for analysis, problem solving, and the use of higher order thinking skills. The majority of the participants who were placed in grades third to fifth, which are testing grades for the state-mandated exam, were required to use prescribed test-preparation materials as the sole guide for instruction; the typical math class called for the following routine: first, the pre-service teacher read the word problem from the test-preparation packet; second, the students followed a

specific step-by-step problem solving strategy in order to understand and solve the problem; then the students selected the correct response from the given choices, and finally, the students chanted the response. Due to this prescriptive mode of teaching, the participants found it difficult to place emphasis on the teaching and promotion of higher-order thinking skills, especially in mathematics.

Pre-service teachers explanations for use of questions

The data suggests that most participants were not aware of how many and what type of questions they asked. During the exit interview, the participants watched the videos of their lessons. Before they watched them, they were asked: "About how many questions do you think you ask?" Seven out of the eight participants answered: "Around 10 or 20;" when the actual average was about 35 questions. After watching the videos, they were surprised that they did most of the talking and at times even answered their own questions. After having the opportunity to observe themselves teach, the participants not only realized that most of their instruction was teacher oriented but also that their questions targeted, for the most part, low levels of thinking skills. When confronted with this reality most of their responses fell into the following themes: (a) elementary students were not accustomed to answer HOT questions, (b) lack of time, (c) test preparation prescribed curriculum required by administrators, and (d) lack of preparation on the participants' part.

Seven out of the eight participants mentioned that their students were not accustomed to answer questions that required analyzing, synthesizing or evaluating information. Juanita mentioned, "I didn't see a lot of challenge;" while Julie noted, "children are very smart, but the teachers do not use their full potential. They limit them and ask them only yes or no questions." The problem lies with the fact that because the students have not been exposed to this type of questioning, they might encounter problems answering these questions; and as a result many teachers and pre-service teachers react like Vilma:

I think I do the lower level, maybe because when I go a little more above, I lose them sometimes. It happened one time. I was barely starting teaching them. I was trying to get them to do a little up higher of what they were doing; because they were never exposed to it before, it was too confusing for them.

Another common response among participants centered on lack of time during the school day. All of them conveyed that they were pressed for time. Thus, they could not ask as many questions as they wanted nor were they able to expand on the topic as much as they would have liked. Margarita mentioned that many times effective instructional strategies need to be suspended and even a whole lesson cannot be "completed the way it's supposed to; or teachers have to run- it too fast so they can continue with the next class or topic." Due to this lack of in-depth coverage of the concepts, students are not granted a quality education. Adriana shared her frustration on this matter: "Sometimes I get frustrated because they are pressuring me that I have to finish the topic and I would like to do more activities, but they don't let me. They just rush you to finish because next week you have to cover another lesson. You cannot teach at the students' pace." The rushing of the concepts leaves many "children behind."

Many researchers have argued, teachers in low socioeconomic schools have little flexibility and input regarding what to teach and how to do it (Palmer and Wicktor-Lynch, 2008; Orfield and Lee, 2005). The participants and their mentor teachers in this study faced the same fate. The district and administrators dictate what curriculum and materials are to be used in the classroom. This is notable in Adriana's comment, "they are just watching you to make sure you are following what the district wants or what the principal has ordered." They not only did not have the freedom to choose the instructional practices and curriculum most appropriate for their students, but they were also watched over to make sure they followed the required prescribed curriculum designed to "prepare" students for the state mandated assessment. For example, Jose mentioned:

I can see a big difference in the instruction and even the amount of subjects the students are introduced to when the TAKS test [Texas Assessment of Knowledge and Skills, the state mandated test] is around the corner. During my first week, there was a fair share of time spent on different subjects, but recently math and reading seem to be getting most of the time. I do realize that they want to cover everything that could come out on the test, but I think it is important for the students to be exposed to all the subjects.

The experiences of the participants "in high-stakes classrooms shape their pedagogical development" (Brown, 2010, p.477) resulting in lack of effort and time in the preparation of challenging lessons. About half of the participants recognized that they did not dedicate the necessary time to be "well prepared. I need more challenging questions," as Marta stated. Margarita agreed and went on to advise incoming student teachers to "come prepared, organize yourself, and do the work." At the end of the study, all of the participants came to understand that time and preparation is necessary to conduct a lesson that takes students above and beyond the prescribed curriculum.

DISCUSSION

Even though Bloom's taxonomy was created in 1956 to facilitate the creation of questions that promote all levels of thinking skills and previous research declared that teachers tended to ask questions that require recall and comprehension of the information, we are still witnessing the same patterns in the 21st century. Overall, our results are consistent with the extant literature (e.g., Hill & Flynn, 2008; Marzano, Pickering, & Pollock, 2001; Thompson, 2008); teachers, and in this case pre-service teachers, are continuing to teach at lower levels of the thinking processes. They are providing students with the information needed to build a strong foundation on the knowledge and comprehension of basic concepts; but they are stopping there and are not challenging students to manipulate, analyze, and evaluate what they are learning.

Findings from this study revealed that there was a significant difference between the number of LOT and HOT questions asked not only during language arts instruction delivered in Spanish, the student's native language, but also during math instruction delivered in English, the students' second language. Most of the questions asked during both subject areas were aimed to the lowest three levels of Bloom's Taxonomy: knowledge, comprehension, and application; proving then that the language was not a

variable on the level of questions asked. The participants expressed that one of the reasons why they asked lower level thinking questions was due to test preparation prescribed curriculum required by administrators. Schools in minority segregated low income communities, continue to do what Maril (1989) claimed was happening 20 years ago, students are “been taught that intelligence is the ability to memorize and score well on multiple-choice tests” (p. 126). Questioning and drilling students at the levels of knowledge and comprehension is more pervasive now due to the pressure imposed by state and federal accountability. This study concurs with Palmer and Wicktor-Lynch’s (2008) statement, “single-measure high-stakes accountability has been shown to lead to a range of perverse effects” (p.231).

Results from this study conclude that the state mandated exam leads district and campus administrators to dictate a prescriptive program for daily instruction (Brown, 2010) limiting teachers’ power to make professional and well-informed decisions, forcing them to become “technicians” (Meyer, 2002, p. 37). Participants in this study were required to deliver a curriculum mandated by the district. They spent little time in the preparation of challenging and quality lessons, subjecting students to a regulated curriculum, which encouraged intellectual passivity.

Asking higher-level questions requires practice, experience, and preparation. The participants in the study are learning to be teachers, in order for them to develop questioning skills to the point that it becomes an integral part of their lesson calls for time dedicated specifically to the thought, preparation, and delivery of the questions. The participants in this study alleged that they have some knowledge about Bloom’s Taxonomy since they have learned it during their course work. However, most of them revealed that they lack time, not only classroom time, due to an accelerated prescribed curriculum, but also personal time for planning and preparing challenging questions. This continued the cycle of limiting students’ opportunity to use higher order thinking skills; and as a result, students were not accustomed to answer these types of questions, and this led to lower expectations of students’ capability.

Schools cannot continue to subject Latino students and English language learners to the “pedagogy of poverty” where passive learning is the norm and questions that require higher levels of thinking are nonexistent. The excuse that “it’s confusing or they are not used to being challenged” should no longer be accepted. This attitude produces students who cannot think critically because they have never been exposed to this type of instruction; thus making them victims of the “educational debt” (Ladson-Billings, 2006).

IMPLICATIONS AND RECOMMENDATIONS

The future of our nation will be in the hands of our current students. If we under-educate our student population, our nation and its economy will be negatively affected in the long run. Therefore, it is time for teacher preparation programs to review how they train future teachers for a changing diverse society in the current high-stakes accountability climate. This study makes a case for the need of well-designed training program for pre-service teachers that integrate the demands of a test driven curriculum

with the need to promote high levels of thinking processes, especially for students who are low income, English language learners and Latino.

It is important to study how prepared pre-service teachers are to challenge students via HOT questioning in the context of an accountability climate, which “appears to increase the difficulty of counteracting the pedagogy of poverty” (Lloyd, 2007, p. 330). As teacher preparation programs find ways to prepare future teachers to comply with what is required from the current reform without compromising students’ learning and critical thinking, the following recommendations, based on the review of the literature and the findings of this study, should be considered:

1. More than merely exposing pre-service teachers to Bloom’s Taxonomy, teacher educators need to be explicit when promoting higher order thinking in their courses and assignments. They need to require pre-service teachers to incorporate and implement questions that promote all levels of thinking into their own created lesson plans or when doing class presentation assignments. This needs to be a continuous process across all teaching preparation courses.

2. During course work, guide pre-service teachers to create units, projects and/or activities based on real life situations, especially for mathematics. For example, pre-service teachers can survey the neighborhood of a given school to find important aspects or places from the community; based on their findings they can create a unit, which incorporates content area skills and knowledge with the community resources (e.g., flea markets, tortillerias, murals, music, etc.).

3. During student teaching, provide pre-service teachers with ideas on how to incorporate higher order thinking questions into their mandated prescribed curriculum. For example, the last 10 minutes of the lesson pre-service teachers could group or pair students and ask them to discuss at least one or two HOT question.

4. During student teaching, require pre-service teachers to videotape their lessons and evaluate the type of questions they are asking and how students respond to them. This will provide pre-service teachers with an opportunity to reflect on their actual teaching practices and the use of questioning strategies.

CONCLUSION

There have been many studies investigating the type of questions asked by teachers, but none examining the questions asked by bilingual-ESL pre-service teachers and how they explain why they asked these questions. As researchers our major purpose of this study was not to claim that pre-service teachers are ill prepared by their programs to challenge and to promote thinking amongst their students, but to get a better understanding of their actual experiences in the field and to examine if these experiences have a direct impact on the type of questions pre-service teachers ask. The results of this study demonstrate that the realities of today’s school do impact the delivery of best practices for teaching and learning. Consequently, we recommend that, as teacher educators, we provide pre-service teachers with ideas on how to comply with the realities of the present accountability reform without compromising students’ development of critical thinking. Moreover, it is critical that pre-service teachers are given opportunities to reflect on their actual teaching practices, so they make sense of

their actions and the reasons behind them. These reflections can serve as the first step for pre-service teachers on the development of auto-evaluation so they can make the needed adjustments when delivering instruction.

REFERENCES

- Allsopp, D. H., DeMarie, D., Alvarez-McHatton, P., & Doone, E. (2006). Bridging the gap between theory and practice: Connecting courses with field experience. *Teacher Education Quarterly*, 33(1), 19-35.
- Anderson, L. W., & Krathwohl, D. R. (Eds). (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. New York: Longman.
- Bloom, B., Englehart, M. Furst, E., Hill, W., & Krathwohl, D. (1956). *Taxonomy of educational objectives: The classification of educational goals. Handbook I: Cognitive domain*. New York, Toronto: Longmans, Green.
- Bogdan, R. C., & Biklen, S. K. (1998). *Qualitative research for education: An introduction to theory and methods* (3rd ed.). Boston: Ally and Bacon.
- Booker, M. J. (2007). A roof without walls: Benjamin Bloom's Taxonomy and the misdirection of American education. *Academic Quest*, 20, 347-355.
- Brown, C. P. (2010). Children of reform: The impact of high-stakes education reform on preservice teachers. *Journal of Teacher Education*, 61(5), 477-491.
- Clift, R. T., & Brady, P. (2006) Research on methods courses and field experiences. In Marilyn Cochran-Smith and Kenneth M. Zeichner (Ed.), *Studying Teacher Education The Report of the AERA Panel of Research and Teacher Education* (pp. 309-423). New Jersey: Lawrence Erlbaum Associates.
- Darling-Hammond. (2006). Constructing 21st-century teacher education. *Journal of Teacher Education*, 57(3), 300-314.
- Ferguson, J. & Brink, B. (2004). Caught in a bind: Student teaching in a climate of state reform. *Teacher Education Quarterly*, 31(4), 55-64.
- Fisher, R. (2005). *Teaching children to think* (2nd ed). Cheltenham, UK: Nelson Thornes.
- Gandara, P., & Contreras, F. (2009). *The Latino education crisis: The consequences of failed social policies*. Cambridge, MA: Harvard University Press.
- Guba, E. G., & Lincoln, Y. S. (1981). *Effective Evaluation*. San Francisco, CA: Jossey-Bass.
- Haberman, M. (1991). Pedagogy of poverty versus good teaching. *Phi Delta Kappan*, 73, 290-294.
- Haycock, K. (1998). Good teaching matters: how well-qualified teachers can close the gap. *Thinking K-16*, 3(2), 1-8.
- Hill, J. D., & Flynn, K. (2008). Asking the right questions: Teachers' questions can build students' English language skills. *Journal of Staff Development*, 29(1), 46-52.
- Klem, A.M., & Connell, J. P. (2004). Relationship matter: Linking teacher support to student engagement and achievement. *Journal of School Health*, 74(4), 262-273.
- Ladson-Billings, G. (2006). From the achievement gap to the education debt: Understanding achievement in U.S. schools. *Educational Researcher*, 35(7), 3-12.
- Lloyd, G.M. (2007). Strategic compromise: A student teacher's design of kindergarten mathematics instruction in a high-stakes testing climate. *Journal of Teacher Education*, 58 (4), 328-347.
- Lopez, J. J. (2006). Dynamic Growth in the Rio Grande Valley. *Southwest Economy*, 2, 11-14. Retrieved February 9, 2011 from <http://www.dallasfed.org/research/swe/2006/swe0602c.html>

- Maril, R. L. (1989). *Poorest of Americans: The Mexican Americans of the Lower Rio Grande Valley of Texas*. Notre Dame, IN: University of Notre Dame Press.
- Martin, H. (2007). Mathematical Literacy. *Principal Leadership* 7(5), 28-31.
- Marzano, R. J., Pickering, D. J., & Pollock, J.E., (2001). *Classroom instruction that works: Research-based strategies for increasing student achievement*. Alexandria, VA:ASCD
- Mather, M. & Foxen, P. (2010). *America's Future: Latino child well-being in numbers and Trends*. National Washington D.C.: Council of La Raza (NCLRA).
- Merriam, S. B. (2001). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass.
- Meyer, R. J. (2002). *Phonics Exposed: Understanding and Resisting Systematic Direct Intense Phonics Instruction*. Mahwah, NJ: Lawrence Erlbaum.
- Orfield, G. & Lee, C. (2005). *Why segregation matters: Poverty and educational inequality*. Cambridge, MS: Harvard Civil Rights Project.
- Padrón, Y. N., Waxman, H. C., & Rivera, H. H. (2002). Issues in educating Hispanic students. In S. Stringfield & D. Land (Eds.), *Educating at risk students* (pp. 66-88). Chicago: National Society for the Study of Education.
- Palmer, D. & Wicktor-Lynch, A. (2008). A bilingual education for a monolingual test? The pressure to prepare for TAKS and its influence on choices for language of instruction in Texas elementary bilingual classrooms. *Language Policy*.7, 217-235.
- Perry, C.M., & Power, B.M. (2004). Finding the Truths in Teacher Preparation Field Experiences. *Teacher Education Quarterly*, 31(2), 125-136.
- Pryor, C.R. & Kuhn, J. (2004). Do you see what I see? Bringing field experience observations into methods courses. *The Teacher Educator*, 39(4), 249-266.
- Thompson, T. (2008). Mathematics teachers' interpretation of higher-order thinking in bloom's taxonomy. *International Electronic Journal of Mathematics Education*, 3(2), 96-109.
- U.S. Census Bureau: State and County QuickFacts. Data derived from Population Estimates, Census of Population and Housing, Small Area Income and Poverty Estimates, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits, Consolidated Federal Funds Report, (2010). Retrieved February 15, 2011 from <http://quickfacts.census.gov/qfd/states/48/48215.html>
- U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. (2009 a). Characteristics of public, private, and Bureau of Indian Education: Elementary and secondary schools in the United States. Retrieved March, 9, 2011 from http://nces.ed.gov/pubs2009/2009321/tables/sass0708_2009321_s12n_02.asp
- U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), (2009 b). *Reading 2009: National Assessment of Educational Progress at Grades 4 & 8*. Retrieved March 27, 2010 from http://nationsreportcard.gov/reading_2009/
- U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), (2009 c). *Mathematic Assessment: Grades 4 & 8*. Retrieved March 27, 2010 from http://nationsreportcard.gov/math_2009/
- Wineburg, S. & Schneider, J. (Dec. 2009/ Jan. 2010). Was Bloom's Taxonomy pointed to the wrong direction? *Phi Delta Kappan*, 91(4), 56-61.