Using an Epistemological Framework
to Explore a
Bilingual Education Teacher's Beliefs and Practices

Belinda Bustos Flores, Ph.D.

University of Texas @ San Antonio
Division of Education
6900 N. Loop 1604 W
San Antonio, Texas 78249
(210 458-5405
bflores@utsa.edu

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Introduction

Of late, several studies have begun to explore the notion of teachers' beliefs and the construction of such beliefs (See Calderhead, 1996; Pajares, 1992; Richardson, 1996). While the construct of teachers' beliefs has not always been clearly defined in the literature and continues to be a slippery construct (Pajares, 1992; Hofer & Pintrich, 1997) and limited in scope (Calderhead, 1996), research in this arena has continued to broaden our understanding of this topic. Hofer and Pintrich argued that teachers' beliefs are not formal theories, but rather informal theories of learning and teaching. Nevertheless, Fenstermacher (1994) suggested that teachers' implicit theories or beliefs may constitute an epistemological stance if justification is incorporated in the exploration. In this study, examining how a bilingual education teacher constructs what she believes about bilingual children's cognition fulfills this requirement.

Various studies have explored teachers' beliefs through qualitative methods (Anning, 1988; Guadarrama, 1995; 1996; Irujo, 1998). Nevertheless, investigations are needed to specifically examine the bilingual education teachers' beliefs (See, Lindholm & Gavlek, 1997). We must not assume that bilingual education teachers' beliefs simply parallel those of generalized teachers. A teacher's local knowledge can limit her ability to think beyond a certain belief or theory (Greeno, 1989; Goldenberg & Gallimore, 1991). Moreover, few studies have explicitly investigated bilingual education teachers' implicit beliefs. Further, few studies have examined the bilingual teachers' beliefs from an epistemological framework (Flores, 1999)

Assuming a socioconstructivist framework, we recognize that knowledge is socially constructed; further that knowledge is both situated and distributed (Resnick, 1991; Wertch, 1991). Since teachers often create learning opportunities in their classrooms based on their own experiences as learners and knowers (See Fox, 1983; Lyons, 1990), it is also plausible to conceive that our epistemological stance also influences how we view others' capacity for learning.

Schommer (1990; Schommer, Crouse, & Rhodes, 1992; Schommer & Walker, 1995) suggested that there are five epistemological stances an individual can take in

regards to learning: (a) certainty, (b) control, (c) source, (d) speed, and (e) structure. Although Schommer's use of Perry's (1970) framework in relationship to learning has been criticized (Hofer & Pintrich, 1997), Gonzalez (1997) used this framework to explore the cognitive-ethical development of teachers' beliefs. Furthermore, a review of literature appears to support Schommer's stances in relation to teachers' beliefs (see Ames, 1992; Kember & Gow, 1994; Rueda & García, 1996; Samuelowicz & Bain, 1992). Additionally, Hofer and Pintrich (1997) clearly confirmed:

> Schommer's central contributions have been in three areas: (a) suggesting that
> epistemological beliefs may be a system of dimensions that are relatively
> independent of one another, (b) initiating an empirical investigation of the study
> of several proposed dimensions, and (c) initiating an important and insightful line
> of research that links epistemological beliefs to issues of academic classroom
> learning and performance (p. 108).

Thus, Schommer's (1990) epistemological stances were judged as practical for understanding the nature of this bilingual teacher's implicit beliefs.

The *certainty of knowledge acquisition* is dependent on whether knowledge is seen as from either a duality or a relative perspective. The *control of knowledge acquisition* is defined as the beliefs of learning as either being perceived from an incremental or an entity perspective. The *source of knowledge acquisition* is the belief that knowledge is either acquired from experts or socially constructed. The *speed of knowledge acquisition* is defined relative to the predetermined amount of time required for learning. Depending on how the *structure of knowledge acquisition* is perceived, learning is believed to be simple or complex.

A sixth stance was derived from a Vygoskian framework in which we assume the socioconstruction of language, culture, and thought. Felix-Holt's (1995; Felix-Holt & Gonzalez, 1999) study also revealed that bilingual teachers believed there was a relationship between language minority children's language and culture and their cognition. This epistemological stance can be identified as *interaction of knowledge acquisition* and can be defined as the individual's beliefs regarding the interaction between language, culture, and thought. Individuals who believe that there is an

interaction between language, culture, and thought will view language and culture as mediation tools in the creation of knowledge. Individuals who believe that there is no relationship between language, culture, and thought will view these as different processes. Possibly, this interaction stance in regards to learning and teaching may be unique to bilingual education teachers. Thus, these six epistemological stances were useful in analyzing the data.

Rationale

The purpose of the this study was to explore this bilingual teacher's (a) prior experiences in relation to her beliefs, (b) epistemological stance in relation to her beliefs about how children learn, and (c) approach to teaching based on her beliefs of how bilingual children learn.

Research Design

A case study design was employed for this study (Stake, 1995). Data was collected through archival reports, tape-recorded interviews, and participant-observation of a bilingual teacher's teaching practices. The assessment of the teachers' implicit beliefs was explored through the use of open-ended questions. The teacher was interviewed using the following structured questions: *(1) How do you believe bilingual children learn? (2) Do you believe bilingual children learn differently from monolingual children? If so, how? (3) Do you believe that there are some effective teaching techniques that can assist bilinguals in learning? If so, what are these techniques?* This interview was recorded, transcribed, and coded. The primary role of the researcher as an interviewer is the human as instrument (Lincoln & Guba, 1985). Member-checking was employed to verify the transcriptions (Miles & Huberman, 1994). The teacher's classroom was observed for over a two-month period. The transcribed and coded interviews were utilized to measure teachers' knowledge beliefs of bilingual children's cognition. Through the use of field notes, a systematic observation sampled instructional behaviors across content areas. The interview and the participant's archival files were used to reveal emerging themes (Coffey & Atkinson, 1996). The observations and the participant files were used to triangulate the data (Coffey & Atkinson, 1996). The review of literature assisted in grounding the researcher's theory about the importance of epistemology in relation to teacher behavior.

Rainbow Elementary School was purposefully selected because of its location, school population, and bilingual program. The selection of the bilingual education classroom teacher was based on the following specific criteria: (a) a minimal three years teaching experience in a bilingual classroom, (b) a preference for a Mexican American female, (c) a preference for fully certified bilingual classroom teacher, (d) a former or current Title VII trainee from the local university, and (e) a successful bilingual education teacher identified by the principal's recommendation. The first selection criterion of a minimum of three years teaching experience in a bilingual classroom was selected because the researcher wanted to include a teacher beyond the novice stage. The second selection criterion is based on the fact the most bilingual teachers in the state of Texas are Mexican American females. The third selection criterion for preference of fully certified bilingual teachers was justified based on the fact that some bilingual teachers are not fully certified and assumptions regarding teacher-preparation program would be limited. The fourth selection criterion was used because archival files were available to the researcher. The final criterion was to assure that an impartial party to the study had identified a successful bilingual education teacher.

The Setting

Rainbow is located in a low socioeconomic neighborhood surrounded by one of the oldest public housing in the city. The school's self study revealed that their bilingual program was being poorly implemented and that children were being rushed into English instruction. In the last two years, Rainbow has undergone transition from a low performing school on the Texas Assessment of Academic Skills (TAAS) to a school with improving performance. The principal suggests that the improved performance has been due to the implementation of a dual language program, "a real bilingual program, not a program in name only" and the commitment of the teachers. Of the 548 students enrolled at Rainbow, most children are Hispanic (98.7%) and are economically disadvantaged (92%) (Rainbow Elementary School, Campus Improvement Plan, p.1).

From the moment you enter the building, it is very evident that you are in a bilingual community. The colorful, attractive, and creative bulletin boards and hallways are purposeful and communicative in that they clearly define and exude the philosophy of this school. My own interpretation of this philosophy is as follows: All children can learn

and can be successful in an enticing bilingual environment which is print rich, values bilingualism, and has high expectations. An examination of the school's belief statement confirms this interpretation:

> *All students will become independent thinkers and lifelong learners through a student-centered environment that promotes participatory learning and enriches their native language* (Rainbow Elementary School, Campus Improvement Plan, p. ii).

Large rocking chairs, colorful pillows, and attractively organized baskets filled with English and Spanish books allure the passerby to the reading areas in the hallways or stairwells. Creative displays are neatly organized and with each step you take you hear a voice inside tell you, "Come closer I have secret to share with you." As I walked up the stairwell, I was drawn to the children's art. The children's interpretations of Picasso's cubism and Matisse's fauve period were truly intriguing. Other hallways and bulletin boards proudly display children's work in Spanish and English. The small school library is filled with English and Spanish books; moreover, the librarian proudly and creatively displays the collection of books. Hallways and classrooms in the school are immaculate and are clearly well maintained by the staff and children. There is no evidence of graffiti around the school or on the school grounds. This school is clearly a caring, bilingual community of learners, teachers, and parents. I also felt "el respeto" (respect) that is often expressed in Spanish speaking communities; this sense of respect is evident by the children's manner, friendliness, and the pride exhibited. A metaphor to describe this school is communidad (community). In this communidad lives a caring, supportive, bilingual familia in this case the notion of extended family within the Hispanic community. La familia believes their children can succeed if given the proper nurturing in the native language and culture.

The Classroom

As I opened the door to enter into this bilingual 5th grade classroom, I immediately had a sense of an inviting learning environment. Bulletin boards are attractive, colorful, and bilingual. Centers are clearly defined and organized around the room. Along one side, a reading center is separated by a sheer shower curtain that is neatly hung from the ceiling and some shelves. Inside this center is a rug area with

colorful pillows. Books are neatly and attractively displayed. Next to this center are the social studies and science areas. On the opposite wall, the teacher has covered the shades with different colored fabric in bright hues of blue, orange, red, and yellow. Other areas are separated to define the language arts and mathematics centers. The back wall is used as a computer station. Children's work areas are organized for small group interaction.

A metaphor of which could be used to described this classroom is home and family. Within this classroom, there is a great deal of respect for the teacher. Children are friendly and warm with the teacher. As the children leave the classroom, it is not uncommon for them to hug their teacher. There is also a sense of pride in their classroom. When I complemented the teacher about how beautiful the classroom looked, her students beamed with pride. On one occasion, the students were working on a project when Carlos asked the teacher: *"Are we going to put these up? Miss?"* Carolina responded affirmatively. Then Carlos stated, *"that's why I am trying to do my best, so that my class can look nice, Miss."* Some students told me later that they felt very lucky to have their teacher. They felt she really cared about them. On another occasion while the students were completing their math exam, the teacher passed out cookies. She later told me that she wanted the students to feel comfortable and relax while they took the test.

The Teacher

Carolina is a young, articulate Mexican American 5th grade bilingual teacher. She completed her bachelor's degree in Interdisciplinary Studies with a specialization in bilingual education at the local state university. As an undergraduate, she received financial assistance and academic support from the Title VII Bilingual Teacher Training program. As an undergraduate, Carolina was an active member and executive officer of the Bilingual Education Student Organization. Although Carolina had average to above average grades during her first two years in college, her grades steadily improved her final two years. Moreover, she demonstrated leadership skills. Her commitment to bilingual children resonated in the types of activities in which she engaged within the community. Furthermore, she was selected as "Outstanding Undergraduate Student" and was awarded the *University Life Award* by the College during her senior year. Upon completing her degree, Carolina applied at one of the largest inner-city school districts

and was immediately hired. She has taught four years in the district and this is Carolina's second year at Rainbow Elementary. Last year, Carolina was selected to be a mentor teacher for a Title VII project at the local state university and was awarded a Title VII scholarship to pursue a Master's degree in bilingual education.

Discussion and Findings

In a summer graduate class on restructuring, Carolina had included her personal teaching philosophy in her portfolio. With this philosophy, we begin our journey in discovering this bilingual teacher's beliefs:

My philosophy of teaching is the foundation of my teaching style. I believe that all children have the ability to learn. Therefore, I must take the time and responsibility to understand how each child learns so I can better facilitate this process. Part of my philosophy is that there is always room for improvement and more learning. By reading current articles and attending conferences, symposiums and workshops, I can better help my students become motivated life-long learners.

In order to learn from others, I must be able to accept change. I am accepting of other's ideas, yet I feel I have the capability to be a change agent myself. My ultimate goal in teaching is to provide my students with the ability to learn about learning and to have fun while accomplishing this. The knowledge they acquire will empower them and help them to see themselves and their community as valuable resources. Their success will make me a successful teacher.

We note the confidence and the strong beliefs that Carolina expresses in her philosophy. Only in examining how Carolina's beliefs were constructed can we understand how this philosophy is reflective of her epistemological stance, which form the underpinnings of her teacher behavior.

What prior experiences influence Carolina's implicit beliefs?

In order to explore the relationship between prior experiences and teacher epistemology, the researcher examined this teacher's archival file, transcribed interviews, and other interactions that transpired between the researcher and the participant. The review of literature also assisted in triangulation of the findings. Emergent themes did

reveal a connection between prior experiences and this bilingual teacher's implicit beliefs. Carolina's experiences were defined as sociocultural personal, educational theory and teacher preparation, and professional teacher experiences.

Sociocultural Context. The sociocultural context includes experiences within the home and community as well as experiences in K-12 schooling. The sociocultural context in which Carolina was raised contributed greatly to her beliefs about bilingual education and bilingualism. As an undergraduate applicant to the Title VII bilingual training program at the local university, Carolina wrote:

> *Yo considero la educación bilingüe muy importante en la vida. Esta es mi razón porque yo quiero ser maestra en educación bilingüe. Mis padres y familia siempre me han enseñado que mi cultura y mi gente son bellas, y que debo ser orgullosa de lo que soy, no solo una Hispana, pero una Mexicana. Como maestra yo quesiera darles la opportunidad a todos esos niños hispanos y no hispanos que no saben español de aprender y comprender este bello lenguaje.* (I consider bilingual education very important in life. This is my reason why I want to be a bilingual teacher. My parents and family have always shown me that my culture and my people are beautiful and that I should be proud of who I am, not only Hispanic, but also Mexican. As a teacher I want to provide for Hispanic and non-Hispanic children who don't know Spanish the opportunity to learn and understand this beautiful language.)

Five years later, Carolina's graduate application also confirmed these profound beliefs in bilingualism and bilingual education:

> *Quiero que estos niños, que son nuestro futuro tengan la opportunida de desarrollar como personas bilingües. Para mi es y será un gran orgullo compartir lo que considero una gran ventaja, saber dos idiomas y el orgullo que acompaña este gran regalo.* (My desire is that children, who are our future, have the opportunity to grow up bilingually. For me this is and will be what I consider a great advantage, knowing two languages and having pride is the gift that accompanies this great gift.)

During the structured interview, Carolina's revealed the continued impact of those sociocultural influences on bilingualism and bilingual education:

> *As for me my first language was Spanish. I went to school in Mexico for Kinder and First grade. When I came to the United States, I was not in a bilingual program. I am one of those sink or swim people. I began losing my first language, but because of my mom. I respect my mom, and her culture and she always told me that I needed to speak Spanish. That being bilingual was important. In order to get ahead in this world, you must be bilingual.*

Calderhead and Robson (1991) revealed that family members, who are currently teachers, often influence incipient teachers. In the case of Carolina, this was also found to be true.

> *I had a lot of support from my family who had been and are in the bilingual field. My uncle and aunt especially were very supportive of me and my goals to become a bilingual teacher. I used to volunteer at my aunt's school where she was a bilingual teacher. I knew then that is what I wanted to be.*

<u>Teacher Preparation Program</u>. Often, educators are weary whether education theory and field experiences assist in the formation of teachers' approaches to learning and teaching (McDiarmid, 1990, 1993; Rodríguez, 1993). Carolina believes that language minority children and bilingual children learn best when they are given opportunities to learn in a supportive bilingual environment. The impact of educational theory and teacher-preparation is also evident in Carolina's beliefs and teaching practices. However, she claims that the theory merely confirmed what she already knew:

> *But also when I got to school, especially (the University), cuz when I first got to (the other university), I was just starting with just basics and (the community college) also. But when I got to the (University), and I got accepted to the Title VII program-I was in the Title VII program and everything just changed. There was so much support... All the classes I took with the professors--wonderful professors--I saw a connection with my--personal experiences to my professional preparation to the real world with these children that I was going to be working with.*

Now as a graduate student, Carolina also notes how having a strong bilingual preparation assists her in her bilingual classroom. Carolina and another colleague, Angela, have been very instrumental in the development of the dual language program at Rainbow. The principal is very grateful to their roles in the implementation of the dual language program. This finding is consistent with Tatto's (1998) study that demonstrates the link between type of teacher preparation program and teachers' beliefs about role and practice.

Professional Teaching Experience. Several researchers have indicated that teaching experience also influences teacher's implicit beliefs (Jackson, 1992; Lyons, 1990). Rubin (1989) posits that the classroom is the arena where pedagogical intelligence is cultivated. The reciprocal relationship between teacher and student result in "nested epistemologies" (Lyons, 1990). Likewise, in Carolina's case, her beliefs about how bilingual children learn are supported by theory, but more importantly by her observations of children experiencing success.

> *For example, I have a balanced bilingual student-she can read or write in*
> *either language-she is really ahead-there's theories that support that--I*
> *don't want to get into that -but so to me that's proof enough --the children.*

In sum, evidently, prior experience within the sociocultural context indeed influences this bilingual teacher's beliefs. This bilingual teacher's dual language and cultural experience have been a positive influence on her belief system and are evident in her teaching behavior. She often referred to her language learning experiences to help the children understand their own cognitive processes. Thus, language and culture were seen as cultural tools in the construction of knowledge. Teacher-preparation has influenced this bilingual teacher's epistemology when the educational theory affirms her prior beliefs about how children learn. Although some of what Carolina does within her classroom is intuitive, it does reflect sound bilingual methodology. Carolina's graduate preparation has allowed her to extend her theoretical knowledge and has begun to influence her epistemology. Carolina's teaching experience also has influenced her beliefs. As a bilingual teacher, Carolina engages in reflective practices that allow her to monitor the needs of her students. Although she recognizes that her school is low-performing based on TAAS standards, she does not let this interfere with her beliefs. As she affirms,

"TAAS does not measure success." Like the dominance of gangs, gang warfare, and drugs within the barrio, TAAS is seen as another obstacle that she and her children have to confront. Despite these obstacles, this bilingual teacher maintains high expectations of her students. Carolina's success as a teacher and her children's success within the everyday classroom affirm her epistemology. How this epistemology informs Carolina's practice will be explored in the subsequent section.

What is the nature of Carolina's knowledge and beliefs about bilingual children's cognition? And how do these beliefs influence her practice?

As aforementioned, a teacher's beliefs about bilingual children's cognition were explored through the proposed epistemological stances. Schommer's stances were modified to identify the specific teacher epistemology. Thus, this researcher used the six stances of epistemology to classify teacher beliefs about how bilingual children learn. This assisted in uncovering the underpinnings of Carolina's teaching practices.

Certainty of Knowledge Acquisition. The teaching practices employed by Carolina present a mixture of both duality and relativity. Subject matter like math and science appeared to be presented from a duality perspective. It was important for Carolina that the students learn the math and science facts. Thus, some facts were to be memorized. Nevertheless, Carolina did recognize that the science curriculum restricted students' thinking. In the summer graduate course on restructuring, Carolina wrote:

> *The science curriculum has become obsolete. Students must learn how to use higher order thinking with the capability to question the validity of different sources.*

This type of critical thinking approach towards science may be emerging in Carolina's teaching of science. She used a KWL lesson to approach the teaching of the reproductive system of conifers. She also had the students construct a Venn diagram to compare the similarities between conifers and flowering plants.

Contrastingly, the language arts subject matter was always presented from a relativity perspective. Students were allowed to be free-spirited and creative in their work within the language arts block. Thus, Carolina operates out of dualistic framework in relationship to certainty of knowledge.

Control of Knowledge Acquisition. Carolina also approaches learning from an incremental perspective. When explaining a new concept, she uses different examples to demonstrate the concept. She will then ask, *"Do I need to give you more examples? If you later don't understand, ask me or your peer."* She encourages students to map out a plan of what they are going to write; the children are not intimidated by writing because they know that they are engaging in a writing process in which several drafts are written before the final product is produced. Students attempting to write in their non-dominant language were also encouraged:

> *¡Que bien! Me da mucho orgullo que estás escribiendo en español.* (Very good. I am very happy you are writing in Spanish). *You did a good job, Patricia. Your writing in Spanish has greatly improved. I'm really am glad that you are trying to write more and more in Spanish.*

Rueda and García (1996) suggest that while many constructivist's teachers view learning as being incremental, their assessment support a more innate posture. Carolina's belief that knowledge acquisition is incremental is also evident in her approach to assessment. Carolina provides her students the opportunity to demonstrate mastery learning on their tests. Students are allowed to re-take test in which their performance does not demonstrate mastery. Students are given encouragement, Carolina will state, *"I can tell you have been studying hard; I know you will be successful."* Thus, Carolina's approach reflects the incremental perspective from Schommer's (1990) notion of control.

Source of Knowledge Acquisition. Carolina believes her primary role is to be a facilitator of knowledge; she further acknowledges that the construction of knowledge is reciprocal. Carolina's graduate application, interview, and some classroom practice confirmed this belief. As an applicant for the graduate program, Carolina wrote:

> *Part of my teaching philosophy is that not only am I a teacher that helps her students' learn, but that I am a teacher that loves to learn from her students.*

During the interview Carolina expressed the following regarding her role:

> *I think I am just the go-between that knowledge -and the kind of knowledge that these students will need as adults.*

Carolina's classroom structure is designed for small group interaction. When children are working on different assignments, they are encouraged to work with each other to find a solution to a given problem. Children were observed asking each other for help in solving math problems and working together to edit each other's papers.

Speed Of Knowledge Acquisition. Another of Schommer's (1990) dimensions of epistemology is the notion of speed. For example, individuals attribute a predetermined amount of time to the learning of certain concepts. The speed dimension is evident in the following:

> *So that if you're bilingual or are in a community that is bilingual or ambiance that where the bilingualism is expressed---they can pick up the second language so much faster...*

This notion of speed was also evident in the classroom observations: *I'm glad you have learned this because we discussed this the other day.*

However, speed is not well defined in terms of specific time limits within the observation. It is evident that Carolina allows students to work on topics and on mastering subject matter by extending the time required to complete or master the subject matter. When I asked her about this, she stated that sometimes she just lets the students work on a task as long as the students are interested. However, as all teachers, she is required to cover a number of concepts; therefore these place constraints as to how much time is allotted for the completion of a task. If she notices the students becoming frustrated, she intervenes or tells them to "*put it away for a while*" so that they can move on to another topic. By doing this, Carolina is assisting students in realizing that sometimes problems take time to solve. Thus, Carolina approaches speed from a dualistic perspective.

Structure Of Knowledge Acquisition. As a classroom teacher, Carolina believes learning is made complex when children are not given the opportunity to learn in a manner most appropriate for them. For example, she would tell them that thinking about an idea may be very easy, but that writing-up the story had to involve several steps. She would provide story maps so that the students could think-out their ideas for writing a story. During a spelling test, Carolina told the students that certain words require memorization, because these words were difficult to decipher using phonetic clues. In this way, Carolina

is trying to help student realize that some types of learning require different types of strategies in order to master. On the other hand, learning was seen as being simple if the child had already acquired the knowledge in the other language:

> *They (bilinguals) already have the skills down and all they are doing is transferring the skills to the next language. And that's one of the disadvantages of the monolinguals-I think to me they don't have this frame of reference that the bilingual student has-that just facilitates the process of learning a second language.*

Thereby, again we observe the dualistic nature of structure within Carolina's beliefs and practices.

Interaction of Knowledge Acquisition. Felix-Holt (1995; Felix-Holt & Gonzalez, 1999) revealed that teachers who had been raised in a Hispanic community tended to see a connection between language, culture, and cognition. The sociocultural context in which Carolina was raised also influenced her on how bilingual children learn:

> *I try to help them see the connection between English and Spanish. I know for me when I was growing up it would help me think of the word in Spanish, like you know cognates. It helped me know and understand more vocabulary. I would say to myself, oh ya se lo que significa esa palabra* (I know what this word means*). In this way, I was building my vocabulary.*

The interaction between language, culture, and cognition is evident in the classroom setting and instructional process. Linguistically and culturally relevant teaching materials are part of the everyday classroom and instructional process. Carolina's classroom is filled with bulletin boards, displays, and books in both English and Spanish. Carolina also takes opportunities during the instructional process to assist children in making the connection:

> *Because we are getting close to Halloween, I decide to use leyendas* (legends)...*you know stories that must not die. I'm using the leyendas for making a connection to culture. I try to connect reading and writing with the student's experiences. I also let them write their own leyendas. I encourage them to write in Spanish. I have a lot of children doing this*

now. Les doy el apoyo que lo hagan en español o íngles. (I give them support to write in Spanish or English).

Furthermore, this interaction of language, culture, and thought is evident in Carolina's interactions with her students. Codeswitching is also evident as a conduit for understanding. During a language arts lesson, a child was writing her legend when Carolina approached her to review her first draft. Elizabeth was reading what she had written:

la gente se mudaron porque habia un ruido (the family moved because there was a noise). Carolina asked, *Pero hay siempre ruidos en la casa, ¿por qué se van a mudar? ¿por un ruido?* (But there is always noise in the house; why are they going to move? Because of the noise?) *Tienes que describir el ruido. Piensa de las palabras de vocabulario que estamos usando esta semana.* (Think of how to describe noise. Think of this week's vocabulary words.) Then Carolina asked Elizabeth, *¿cómo puedes describir el ruido?* (How are you going to describe noise?) Elizabeth responded, *¿Espantoso? maestra* (Scary, teacher?). Carolina responded, *Hay, pues espantoso, ¿verdad?* (Oh scary, right?) and then Elizabeth said okay.

Later during the break, I asked Carolina why she had done this with Elizabeth and she responded:

Le dije, tienes que describir el ruido. Entonces, le dije ¿que son las palabras de vocabulario que estamos usando esta semana? A sí, espantoso...no mas en la idioma ellos mismos puede atender a desarrollar esa otra idioma. Si se lo das en Español entonces cuando tiene que describir algo en íngles entonces van a decir, (I told her she had to describe the noise. I asked her to think of this week's vocabulary words. I respond that yes, frightening...they themselves can develop their other language; if you give it (the skills) to them in Spanish, then when they have to describe something in English they will say) *how do I describe the noise--what kind of noise was it --well it scared me--oh it's scary so they*

can see the connection and if they have done that if they discover this in

Spanish, then they will use that in English.

The data from her undergraduate and graduate interviews all revealed that Carolina values the role of parents within the classroom. She refers to her recent graduate studies to support this notion. When discussing how parents can contribute to the classroom, she states that her beliefs are affirmed by the funds of knowledge as popularized by Luis Moll (1990). In essence, she believes parents play an important part of the learning process and that the funds of knowledge, which they can share, can help students learn. These beliefs about parents also support the interaction dimension.

In sum, the six proposed epistemological stances were appropriate for identifying this bilingual teacher's epistemology in relation to how bilingual children learn. Noteworthy, Carolina's beliefs are not all dichotomous. Only interaction and control of knowledge acquisition appear to be clearly defined. Although Carolina's primary role is to facilitate, direct teaching was observed; thus, source of knowledge acquisition is slightly a mixed orientation. She also does appear to have mixed orientations in the areas of speed, structure, and certainty of knowledge acquisition. Although some of this mixed orientation may be due to constraints, there may be other reasons why this mixed-orientation is evident. Perhaps, as Rueda and García (1996) and Yildirim (1994) concluded, teachers have mixed orientations that are dependent on the context, content, and learners.

Furthermore, effective teaching literature suggests that bilingual teachers employ certain techniques for providing instruction for language minority children (Clark & Pérez, 1995; García, 1991; 1996; Jiménez, Gersten, & Rivera, 1996, Tikunoff, 1983). These were evident in the classroom observations. For example, Carolina employs higher order thinking, communicates effectively, encourages the use of the native language, uses native language instruction, and incorporates the home culture in her classroom. As a bilingual teacher, Carolina's primary role is to be a facilitator of children's knowledge. She mediates children's learning through the active construction of knowledge. Carolina guides children's learning through the zone of proximal development by helping children make connections between prior knowledge and novel knowledge.

Constraints and Opportunities

As aforementioned, bilingual teachers may often face constraints in implementing a bilingual program that matches their beliefs. Such constraints include pressure from state mandates, district central office, and administration. Rueda and García (1996) suggested that constraints present realities in everyday practice. Carolina's frustration was often expressed during classroom instruction which required teaching students "formula" writing. Because Rainbow Elementary continues to be monitored because of its performance on TAAS, there has been much pressure to make sure students are writing exactly what is required by TAAS. Thus the writing curriculum has been closely aligned with the TAAS objectives. Formula writing requires students to write a specific number of sentences per designated section. For example, the introduction should be exactly four sentences long, each section within the body should be fourteen sentences long and the conclusion should have four sentences. After presenting this new format to the students, Carolina expressed her concern that this was going to be difficult for the students:

> *I know this is going to be hard for you. I know you are not use to writing*
> *like this, but this is what is required.*

When I later asked her why she felt that this new formula writing was going to be difficult, Carolina adamantly stated that this was not how children wrote; this type of writing was controlling and limited creativity.

On another occasion, Carolina was teaching math through direct instruction. She later told me that she was feeling pressured to rush through the book:

> *I have so many games that I could use to help the students learn these*
> *concepts. I know (central office) is not too happy with me right now. I just*
> *don't think I should rush through these concepts just to get to the end. I*
> *sometimes get very frustrated and then I think-no-I don't care what they*
> *tell me; I have to help these children learn these skills because they are*
> *important in life.*

Perhaps another frustration with the current writing and math curriculum is that Carolina has yet to be properly trained in either method. She stated, *"they* (the district) *expect us to be teaching these new curricula, but have not even trained us*." Although it appears that Carolina simply wants validation that she is implementing the curriculum correctly:

I just don't want them to come tell me,' why are you doing it this way?'
They   need to be up-front about how they want us to teach. I sometimes feel so
frustrated; I think --why am I here?

In addition, despite all the effort and energy that has been expended at Rainbow, it appears that district officials want instantaneous results. A recent article in State Monthly (pseudonym) also named Rainbow as a low performing school. Carolina asked me,

Have you seen that article in State Monthly?" If only they would come
down here to see all that we have accomplished. They just based their
judgments on the TAAS tests. If they only knew the realities that these
children have to face on an everyday basis...

Because Carolina believes that her primary role is to facilitate learning and that children are active constructors of knowledge, these types of constraints cause her to feel powerless. Conversely, Carolina feels very fortunate for having a supportive administrator who really believes in bilingual education. Carolina reported that the principal actively encourages the use of Spanish and bilingual methodology. This was also evident in my encounters with the principal; she always greeted and talked to me, teachers, parents, and children in Spanish. These types of opportunities support this bilingual teacher's efforts and validate her beliefs.

In sum, a bilingual teacher may face opportunities and constraints in implementing what they believe enhance bilingual children's opportunities for learning. As noted Gersten (1996), in addition to all the provisos placed on generalized teachers, bilingual teachers also face a double linguistic demand in the bilingual classroom. Although a supportive working environment that promotes dual language is of great importance, bilingual teachers also need to feel that they can control the type of instruction provided for their students. Constraints can cause frustration and leave the bilingual teacher powerless. Therefore, an important issue to consider is how these constraints impair a bilingual teacher's practices.

Conclusions

This statement helps bring closure to this case study investigation of this bilingual teacher's beliefs and practices:

When people find out where I teach at, they usually ask me, 'what is it like working with 'those' kids?' My answer to them is, 'I love it. They have so much potential!' Even though the children that I work with have many issues and odds to deal with, I firmly believe they can be successful in life. However, they require a teacher that can provide patience, dedication, and love. The students at Rainbow Elementary have the potential to be future leaders!

The following conclusions were drawn from the case study and are supported by the review of literature. Prior experiences as a bilingual learner not only influenced this bilingual teacher's epistemology, but also appear to permeate through this teacher's behavior. This confirmed the researcher's proposal that individual's view of self as a learner also influences how this individual perceives others' capacity to learn. In the case of this bilingual teacher, this also influenced her instructional practices.

One important confirmation of this study is that although this teacher's behavior could be classified using effective bilingual teacher research as in process-product research, this classification would have limited the researcher's understanding why these behaviors occur. By examining this bilingual teacher's epistemology, we extend our knowledge of the presage variables that propel this teacher's effective behavior. Carolina's implicit beliefs and theories of bilingualism and bilingual education drive her success within her classroom.

Therefore, as a result of the study, this researcher proposes six teacher epistemological beliefs about how bilingual children learn in relation to teaching practices. This may be used to increase our understanding of the relationship between epistemology and teaching behavior.

C*ertainty of knowledge acquisition in relation to teaching* is defined by the presentation of knowledge as being absolute or relative. For example, when the teacher believes that knowledge is absolute, she may present all facts as never changing. Conversely, when the teacher believes knowledge is ever changing, she will assist students in drawing their conclusions and using problem-solving skills.

C*ontrol of knowledge acquisition in relation to teaching* is defined as the teacher's perspective of bilinguals' learning abilities. The teacher who believes that the

ability to acquire knowledge is incremental will likely have a developmental approach to knowledge acquisition. Teachers who believe that knowledge acquisition or intelligence is innate will not see the need for instructional modifications.

Source of knowledge acquisition in relation to teaching is defined by the teacher's role in the presentation of knowledge. For example, a teacher who believes that knowledge is transmitted from expert to novice will likely present knowledge from a direct teaching mode. The teacher who views his/her role as being a facilitator will provide opportunity for children to construct knowledge.

Speed of knowledge acquisition in relation to teaching is defined by the amount of predetermined time the teacher allows for knowledge to be acquired and demonstrated. A teacher who believes learning occurs within a predetermined amount of time may allow only this time for knowledge to be acquired and demonstrated by the learner. Teachers who believe that learning is dependent on the learners' own time frame will provide the gift of time.

Structure of knowledge acquisition in relation to teaching is defined by how knowledge is presented. For example, when teachers believe that learning is simple, knowledge will likely be presented in isolation or it will be assumed that certain information is easy to learn because of children's prior knowledge. On the other hand, when teachers see learning as complex, knowledge will be connected to different topics, themes, or subject matter.

Interaction of knowledge acquisition in relation teaching is defined by how the teacher uses language and culture as mediation tools in the creation of knowledge. Thus, a teacher who perceives language and culture as mediation tools will provide links between the two language systems for the bilingual learner. Teachers who do not see a link will view these as distinct and differing separate processes.

Due to time constraints, a limitation of this study is that only one bilingual teacher was observed for a short time period. Nevertheless, these findings may have important implications for bilingual teacher-educators and researchers. The following recommendations are provided for teacher-educators: (a) bilingual preservice and inservice teachers should explore their beliefs about teaching and learning, (b) beliefs which may be naive or erroneous should be challenged, and (c) critical reflective

practices should be encouraged. This exploratory study has simply scratched the surface concerning bilingual teachers' epistemological beliefs. Bilingual researchers should continue to explore the issue of epistemology in relation to teaching. This may broaden our understanding of teacher behavior.

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