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Exploring connections between emergent biliteracy and bilingualism

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Abstract This article explores the ways in which young emergent bilingual children begin to develop literacy in two languages, Spanish and English. Three case studies of four-year-old Mexican-background children and their families living in southern Arizona are presented from a qualitative socio-psycholinguistic perspective. The children's home and classroom interactions were observed and analyzed for patterns of language and literacy in their two languages. The findings show that these emergent bilinguals learn and develop their own 'theories' and 'concepts' about language and literacy from an early age. The conversational participants and interlocutors were among the factors that directly influenced children's development of language and literacy in Spanish and English. In addition, context was another important factor that contributed positively to the development of their emergent bilingualism and biliteracy. Finally, I discuss the language-literacy strategies that these Mexican-background children use as they try to make sense of their metalinguistic and biliteracy knowledge, while developing additional literacy tools and resources in both Spanish and English.

Keywords bilingualism; case studies; emergent biliteracy; home observations

One of the most important aspects of academic language development for bilingual children is the development of literacy abilities, especially academic reading and writing. Researchers and educators in the fields of bilingualism, biliteracy, and language development continue to investigate how schoolchildren, specifically sequential bilinguals, who learn a first language (L1) at home and a second language (L2) at school, successfully transfer their linguistic and literacy competencies from one language to the other (e.g. Brisk and Harrington, 1999; Cummins, 2000). This process might look different for simultaneous bilingual children who develop two languages concurrently, and in some cases literacy in two languages (Valdés

and Figueroa, 1996). From the literature we know that oral language development is part of emergent literacy development (e.g. Sulzby and Teale, 2003). We also know that bilinguals are faced with the task of developing proficiency in two languages, but what we do not know is what the emergent literacy process looks like for young children who are developing their two languages as they approach the process of reading and writing. The need for attention in this area of research is great given the increasing number of bilingual speakers in the USA (National Center for Educational Statistics [NCES], 2005). In this article, I explore the development of emergent biliteracy in young children in the south-west USA. I follow a socio-psycholinguistic and transactional theoretical perspective, described in the next section, to analyze factors influencing their early literacy development in both languages.

Theoretical framework

In the field of bilingualism and second language acquisition there has been a continuous debate regarding the terminology used to describe bilinguals. Grosjean (1998) has described different types of bilinguals (e.g. early, late, sequential, simultaneous, etc.) and has warned researchers to describe carefully the population's characteristics when making comparisons across groups of bilinguals and monolinguals. In the case of young children who learn a second language at an early age, the term currently used by the US Department of Education is 'English language learners', or ELLs. This term is based on a subtractive view that these children are 'lacking' English, the dominant language and the language of prestige in this society (Baker, 2001; Landry et al., 1991). But one could ask, who is not considered an ELL? The term applies to anyone, child or adult, because even adult monolinguals continue to develop knowledge of their language throughout their life. Therefore, taking these points into consideration along with Grosjean's recommendation to carefully describe the studied population's characteristics in more detail, I adopt the term 'emergent bilinguals' to describe young children (ages three to five years) who speak a native language other than English and are in the dynamic process of developing bilingual and biliterate competencies (in this case in English and Spanish), with the support of their communities (e.g. parents, school, community). Along with other colleagues, I subscribe to an additive perspective that children's native languages should be viewed as a resource, not as a problem, and that regardless of the L1, they should be used when helping children develop competency in a second language (Ruiz, 1984).

The term biliteracy has been used to describe children's competencies in two written languages, developed to varying degrees, either simultaneously or successively (Dworin, 2003b). De la Luz Reyes (2001) describes 'spontaneous biliteracy' development in four young girls who had different levels of proficiency in reading and writing in English and Spanish. In her case studies, the children were receiving literacy instruction only in their L2, but developed literacy in their L1 without 'formal' instruction.

Another case study presented by Dworin (2003a) described a second-grade boy's literacy abilities in his two languages, Spanish and English, and his teacher's role as a mediator in supporting his development of biliteracy. The findings from this study support the role of the teacher in creating 'additive' conditions for children to develop biliteracy in the classroom. Specifically, Dworin recommends that use of both languages should be encouraged and that they should have comparable status in the classroom (Dworin, 2003a).

The present study involves young Mexican-American children who are simultaneously developing literacy in English and Spanish. I call this ongoing process emergent biliteracy, following others in the field (Edelsky, 1986; Moll et al., 2001), but adding a specific meaning to 'emergent' since these four-year olds have not yet developed conventional writing and reading competencies. Throughout this article, I use 'emergent biliteracy' to refer to the ongoing, dynamic development of concepts and expertise for thinking, listening, speaking, reading, and writing in two languages. From a sociocultural and transactional perspective, the term also encompasses the children's use of their cultural and linguistic experiences to co-construct meaning with parents, teachers, siblings, and peers in their environment (Whitmore et al., 2004). The children's emergent understanding of how to approach and represent ideas in writing is socially constructed and supported by the adults and expert writers around them¹ (Vygotsky, 1978).

At the theoretical level, emergent biliteracy in very young children has hardly been described or explored in the literature. In part this is because these children have not yet developed conventional literacy in either language. Consequently, the challenges of trying to make sense of their 'writing' and 'literacy activities' are considerable. As researchers, we need to adopt both bilingual and developmental lenses when analyzing children's language and literacy competencies. Only in this way can we hope to understand how children's knowledge is intertwined within their two developing linguistic systems (De la Luz Reyes, 2001) while exploring and recognizing how their abilities progress with time.

Early research on emergent literacy

Although research has been undertaken on emergent literacy in many languages, most of these studies have focused on monolingual children (Clay, 1975; Dyson, 1983; Ferreiro and Teberosky, 1982; Goodman, 1990; Harste et al., 1984; Taylor, 1983; Teale and Sulzby, 1986; Tolchinsky, 2003; Vernon and Ferreiro, 1999). Sulzby (1989: 24) defined emergent literacy as 'the reading and writing behaviors of young children that precede and develop into conventional literacy'. Some of these 'behaviors' include learning how to hold a book and turn pages, telling a story from a picture book while pretending to 'read' it, and using drawings and scribbled letters to 'write' messages to Mom and Dad (Goodman, 1984).

There is, however, little research on literacy development among young emergent bilinguals (but see e.g. Kenner et al., 2004; Reese et al., 2000; Romero, 1983; Schwarzer, 2001; Tabors et al., 2002). These studies have pointed in particular to the complex connections children need to make between their home and school knowledge when becoming biliterate. The study by Tabors et al. (2002) suggests that young Spanish-dominant bilingual children develop a variety of abilities in their two languages across different tasks (e.g. narrative production task, book task) in cooperation with their primary caregivers. These preliminary findings, however, point to the great need to do systematic research on emergent biliteracy development and its transition into conventional literacy (i.e. understanding print, letter identification, early writing) in two languages during the early years.

In the field of emergent literacy, researchers from a sociocultural perspective point to 'function' as key in the development of children's literacy. When young children participate in different activities where there is a meaningful reason to use print and symbols, they develop literacy knowledge as a natural process that is part of their daily activities (Kliever, 1994; Van Kleeck, 1990; Whitmore et al., 2004). Rowe (2003) has also studied the development of 'intentionality' in children's early literacy. She defines intentionality in two-year olds as shared knowledge constructed as part of the social and literacy practices of the classroom. As emergent bilinguals develop literacy knowledge in their two languages, they soon learn to use this knowledge for specific functions in both of their languages. In a supportive environment, emergent literacy may be a 'natural' process, but it is not a simple one for any child, particularly one who is bilingual; emergent bilinguals need continuous support in both languages from parents and teachers if they are to become fluent readers and writers in their two languages.

Emergent writing

Writing, like other aspects of human communication and language, develops over time. Children develop expertise and master it through experience and practice in their communities. One aspect of this process involves learning to produce the symbols that make up different writing systems. The initial 'scribbles' that children produce become 'recognizable words that tell a story or give information' (Hasenstab and Laughton, 1982: 129). Ferreiro (2003) has described these initial 'scribbles' and drawings as being comparable to babbling in the development of oral language. It is also important to consider these scribbles within the context of all the modes of communication that children use throughout their early years. Specifically, a young child is developing all of her 'ways' of communicating through a variety of semiotic systems (Wetton and McWhirter, 1998). For example, Kendrick and McKay (2004) interpret drawings as a representation of the knowledge that children are constructing and developing within their everyday interactions in their communities, with their families, and in school. They call on researchers to make use of visual and graphical forms of representation to help young children represent their 'multi-literacy' knowledge.

Clay (1975) was one of the first researchers to point out that early on children realize that a mark on paper can convey a message or meaning. In addition, they realize that what people say can be written down. Through these realizations, they develop knowledge about the continuum between oral language and literacy. I identify these realizations as being a component of metalinguistic and 'metaliteracy awareness', in that children become aware of the functions of various written symbols and the ways these could be used. Moreover, Clay suggests that these realizations may help the child reinforce hypothesis-testing strategies while developing literacy.

Ferreiro and colleagues, through extensive research in several languages (i.e. Spanish, Portuguese, Catalan, Italian, and Hebrew), have described in detail how children move through different levels of emergent writing (Ferreiro, 1984, 1990; Tolchinsky, 2003). First, the child learns to distinguish between drawing and writing, becoming aware that drawing and writing represent different things; she or he comes to understand that writing is 'outside' the iconic domain (Ferreiro and Teberosky, 1982). During the second level, the child constructs the quantitative and qualitative knowledge necessary to deal with the written system (e.g. that in general a word must have at least two letters [quantitative aspect], and that the letters must be different [qualitative aspect]). In her theory and research Ferreiro has learned that children in the second level treat written words as

objects whose visual properties indicate their meaning (e.g. children think that big things are written with big words and small things with small words). As they move to the third level, children come to differentiate between three principles: syllabic, syllabic-alphabetic, and alphabetic. By this level, children treat written forms as representational objects (Ferreiro and Teberosky, 1982). They have moved beyond treating letters as visual objects and recognize the symbolic relationship between letters and sounds – they have acquired the alphabetic principle.

The research of Ferreiro and colleagues has influenced in very significant ways what we understand about how young children explore written language (for a recent review of Ferreiro's work, see Goodman et al., 2005). For example, we now recognize that children who have acquired the syllabic principle represent this knowledge differently in English and Spanish. English-speaking children tend to use more consonants to establish the relationship between letters and syllables, while Spanish-speaking children tend to use more vowels in their spelling, as shown in the following examples:

English-speaking children tend to spell

(1) *vacation* as VKN

Spanish-speaking children tend to spell

(2) *mariposa* (butterfly) as AIOA

In languages where letters represent sounds (as is the case for English and Spanish), comprehension of the alphabetic principle is essential for reading and writing. Through exposure to writing and experiences in making these connections, children begin to develop metalinguistic awareness and notice the different aspects of print and written language. How do young emergent biliterate children learn about these differences? We know that even when languages share the same writing system, as do English and Spanish, the emergent bilingual child needs to pay attention to specific orthographic information to determine which language is used in a particular writing. In contrast, when children have different writing systems available in their repertoire – as with English versus Bengali, Chinese, Hebrew or Japanese – they must pay close attention to different types of characters and the sequence of strokes that make up these characters (Datta, 2000; Minns, 1990, cited in Hall et al., 2003).

Although adults may not recognize them, early encounters with print in both languages help young children begin this differentiation process. Schwarzer (2001), for example, noticed that Noa, his multilingual daughter, was able to discern between the different language texts she was

exposed to from an early age – namely, English, Hebrew, and Spanish. In addition to learning the different writing genres she was taught at home and school, she also made hypotheses regarding the orthography used for each of the languages. In the case of writing Spanish versus English, although the differences are subtle, children learn that words are written with different markers in the two languages. In Spanish, words may have accents, ñ is distinct from n, and punctuation marks occur in pairs (¿ ? ¡ !) at the beginning and end of a sentence. (None of these diacriticals or initial punctuation occurs in English.)

Children growing up in different bilingual communities tend to have access to a variety of texts and literacy practices in several contexts. Of these contexts, the one that has been least explored is the home, where children spend their first three to four years (before they start attending pre-school) exploring print and other symbols and writing systems around them (see, however, work by Heath, 1983; Taylor, 1983; and, with African American families, see Taylor and Dorsey-Gaines, 1988).

Learning from home literacy practices

In order to understand children's biliteracy development and identify the most effective educational strategies to support it, educators and teachers must understand the strategies that parents use at home to encourage their children's literacy development. These strategies might not be recognized readily because often they may not match those used by the average middle-class family (e.g. reading children's books). For example, Reese (2002) describes the strategies low-income Mexican immigrant parents used with their six- to eight-year-old children in contrasting cultural settings (comparing children who immigrated to the USA with children of relatives who stayed in Mexico). Families in both cultural contexts were involved at some level in school activities and supported schoolwork through encouragement and supervision. US-resident mothers also tried to help their children with their homework in English. Often the mothers and children sought the help of the fathers, who usually were more proficient in English because they worked outside the home. In an influential ethnographic study with African-American and White working-class families, Heath (1983) found that parents used reading and writing to share much of their knowledge with their children and with members of their community in various ways. For example, some families shared literacy embedded in their daily routines such as group reading activity in the front porch with other members of the community.

In this article, I share findings from a study that is part of a larger

longitudinal project, whose main goal is to explore (1) the development of emergent biliteracy in young pre-school children, and (2) Mexican families' language and literacy practices at home. First, I report on the data collection and describe three selected case studies.² The data provide evidence that emergent biliteracy is a complex process but can be achieved successfully when children are provided with opportunities to use both of their languages in different genres and for different functions while speaking, thinking, writing, and reading. There is a great need for baseline data and studies that will provide the basis for a working theoretical model that explains how emergent bilingual children make use of their two languages to become fluently bilingual and biliterate. I hope to contribute to this endeavor by providing evidence in support of a developing theory of emergent biliteracy.

Method

Data collection

The data collection took place in both home and classroom contexts during the first year of the study, when the children attended a local pre-school in the Southside of Tucson, Arizona (Reyes, 2004). This particular pre-school was selected because it was originally designed as a bilingual/bicultural program for Latino children. Moreover, the case study children were selected because they have the potential to develop bilingualism and biliteracy, since they live in a dominant bilingual and bicultural community with a strong presence of Mexican culture.

We gathered data through participant observations, field notes, collection of 'writing' samples, and informal conversations with children, their parents, and their teachers throughout the first year of a three-year longitudinal study. During classroom and home visits, we gathered video recordings of the children's interactions in different contexts and with different family members, peers, and teachers. The observations reported here include a combination of methods, including naturalistic observations at home and at school, and information elicited from the children in a 'writing activity' about their concepts of emergent writing (the English version of this task, which appears in Owocki and Goodman [2002] was translated and adapted into Spanish).³ The activity included a request for the child 'to write' something and 'to draw' something for me. It also included a sorting card game where children had to organize some cards according to language.

The case study scenarios were constructed for each child using transcribed interviews, field notes, and recorded observations. These data

sources were examined and coded by topics to gain information about the children's emerging patterns and concepts about biliteracy. In the next section, the three selected case studies and their families are described within their community context.

Children and their families

Here I report three case studies of two four-year-old girls and a four-year-old boy, all attending a pre-school program for the first time. The girls, Jimena (J) and Katia (K),⁴ are native Spanish speakers who are exposed to Spanish primarily at home with their families and who started formally learning their L2 when they began attending pre-school. The boy, Adam (A), grew up speaking predominantly English; however, he is exposed to a bilingual home environment since both parents are fluent bilinguals and use both languages with each other. In addition to becoming bilingual, all three children are simultaneously developing biliteracy because of their exposure to print in two languages. All of the children were born in Tucson, and the two girls' families are first-generation US immigrants; while Adam's family are second-generation immigrants.

The community and school context

The children and their families are part of a community that is more than 80 percent Latino, predominantly first- and second-generation Mexican immigrant families. The community is bilingual and reflects the influence and presence of the Mexican culture in different places (e.g. stores, churches). Signs and announcements are typically printed in both languages (e.g. at the supermarket, local library, tax offices, clothing store), and in some cases language use and print is predominantly in Spanish (e.g. local butcher shop or *abarrote*, a small food store). Moreover, in terms of the development of concepts of print, these children are exposed to and aware of bilingual print around their environment (Reyes and Azuara, forthcoming).

The children attend a local pre-school program originally designed as a bilingual/bicultural program for working-class children. Children must qualify for free or reduced lunch in order to participate in the program, and about 92 percent qualify for free lunch, an index of low income. Although the Saguaro pre-school is physically part of the local elementary school, the teachers and the program director have much autonomy to make their own decisions separate from the rest of the school. The pre-school has its own facilities and playground, but children eat their lunch at the elementary school cafeteria.

Teachers and the girasol classroom

There are two classrooms at the Saguaro pre-school, and the three case study children attend one of them, the Girasol classroom. This classroom was selected because it is a bilingual setting for the children, because of the teachers' willingness to participate in the study, and because I was invited to return to the classroom after conducting a pilot study there the previous year (Reyes, 2004). The lead teacher is committed to the children's bilingual and bicultural development. This teacher is a fluent bilingual, though non-native, Spanish speaker who previously lived and taught in Mexico for more than 15 years. During an interview she said that the program is a bilingual one, and that in general she uses more Spanish during the fall semester to help the children, who are usually dominant in Spanish, make the transition into school. In contrast, during the spring semester she increases her use of English (from 30% to 70%) in order to facilitate the transition to kindergarten. In addition, a teacher assistant and a parent involvement coordinator, both fluent Spanish-English bilinguals, assist the teacher and children throughout classroom activities. These two teacher assistants grew up and continue to live in the neighborhood where the pre-school is located.

Children are exposed to print and the teacher's writing in numerous activities and locations around the classroom. For instance, each Monday, the teacher distributes a 'take-home folder' to each child with his or her name printed on the front, and several documents for the child and the parents inside it. These documents, which include weekly letters, worksheets, and pictures from field trips, have written messages in English and Spanish to facilitate communication with all families. In addition, several activities during the day demonstrate print and writing to the children. For example, attendance is taken by showing children the name of each classmate on a card and sounding it out. Curiously, the sounding out of letters tends to be a bilingual activity, because some of the children's names are pronounced with Spanish, and others with English pronunciation. Although the teacher did not plan these activities as a direct exercise in emergent biliteracy, they did have an impact on children's observations about print and writing. Another important activity for the day is the selection of centers for the morning activity. Children may choose from a writing center, reading center, building blocks center, science center, puzzle center, and the *casita* drama play center. Each child has the opportunity to spend two to three sessions a week in the writing center (although this was not always the children's first choice) or any of the other centers. In the next section, I present selected examples of the children's work that reflect emergent biliteracy development at school and at home.

The case studies

Katia

Katia (four-year old) is predominantly a Spanish speaker, a somewhat quiet but playful child, and a leader among her classroom friends. At school she likes to participate in different activities and demonstrates a well-developed metalinguistic and phonological awareness around print and text. She clearly is past the first level of emergent writing described within Ferreiro and Teberosky's (1982) framework. During the writing activity at school she was able to distinguish between 'writing' and 'drawing' when prompted to do so (see Figures 1 and 2).

In addition, Katia was aware of her biliteracy and that she could 'write' in both languages. 'Escribo en español . . . [short pause] también en inglés' (I write in Spanish . . . also in English), she responded when asked which language she liked to write in. From Katia's written responses, we could not identify whether she was already recognizing particular grammatical and punctuation markers for Spanish and English; however, when asked in what language she had written the top word in Figure 2, she responded, 'in English'. Then I asked Katia to write the same word in Spanish, and she wrote a very similar word directly underneath (see bottom word in Figure 2). I asked her, 'How do you know this one is written in English and this one in Spanish?', to which she answered, 'porque ésta dice Mom y ésta Mamá' (because this one says Mom and this one Mamá).

Thus, she attempted to write the same word in English and Spanish; clearly, Katia has developed 'phonological awareness' in both of her languages, English and Spanish, and that is how she indicates that she is able to tell one language from the other. During a classroom journal activity, I observed her write the word 'dog', then read it twice, once in Spanish and the second time in English (field notes, 10 March 2005). This example provides evidence that she has noted a basic linguistic principle: that one meaning can be 'read out' in different ways depending on the language code being used (for a similar case with a Chinese-English bilingual boy, see Clay, 1975).

I also visited Katia and her family at home and learned how her emergent biliteracy was being supported in that specific environment. Katia's family lives in an apartment complex right around the corner from the pre-school. She has an older sister (10-years old) and a newborn brother. Mom and Dad are Spanish dominant but understand some English through interaction with people in the community. Dad works outside the home in construction and Mom stays home with the newborn. I learned during my first couple of visits that both daughters help Mom with a home run



Figure 1 Katia's drawing of a flower

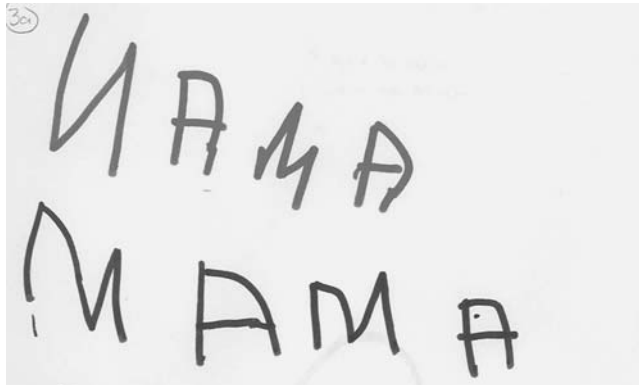


Figure 2 Katia's writing 'mana and mom'

business, *la tiendita* (the little store), in which they sell candies and sodas to neighbors in the complex. This *tiendita* is run from their living room, and Katia and her older sister help customers who come during the afternoon. Throughout my visits I was amazed to observe how much this activity, in which Katia participates every afternoon, relates to concepts of print awareness, biliteracy, and numeracy development (e.g. recognizing the type of

candy she's asked for in either English or Spanish and participating in transactions where she must count the coins she is paid with). For example, Katia helps Mom by telling her what kinds of drinks they have in the refrigerator on a particular day:

Katia goes to the refrigerator, opens it, looks around, and tells Mom all the different types of drinks there are and how many are left. The customer says 'quiero dos, una manzanita y una fanta de fresa' [I want two, an apple drink and a strawberry one], and Katia grabs two, one of each. (Field notes, 12 February 2005)

Katia's participation in these transactions in both English and Spanish, depending on the customer, influences her bilingual development, plus she has become highly aware of numbers and print in both languages. An important lesson from these home visits is that family members play different roles in biliteracy development not only for the young child, but also for each other. This supporting role is bidirectional because the four-year old, Mom, Dad, and older sister are all developing biliteracy as they participate in different interactions with each other.

This point is illustrated by the following example. One afternoon, I observed Katia participating in a literacy event where the father helped Katia to type and spell words in English on the computer. The father would pronounce the letters in Spanish and help her find them on the keyboard while Katia pronounced the same letters in Spanish after her Dad, and in English after typing them. A few minutes later, Katia's sister joined in the activity, and all spelled together in English. The mom, watching from the dining room and intrigued with the activity, asked what they were doing, what word they were spelling, and what it meant in Spanish. Katia and her sister thought about the word and translated it for their mom (field notes, 24 April 2005). In this short exchange, all the family members participated and learned from each other in two languages. The child's learning is mediated through the support offered by family members; however, the child is also mediating the learning of those around her (see discussion section for further elaboration on this point).

Jimena

Jimena was predominantly a Spanish speaker at the beginning of the school year, but her bilingual competencies were highly developed by the spring semester. She is a very vocal and playful child in the classroom. She particularly likes to 'sing' and takes the opportunity to do so during classroom activities,⁵ so it is common to hear her singing in either Spanish or English while making the transition to a new center activity. She also

demonstrates a high level of metalinguistic and phonological awareness around text.

For Jimena, context and interlocutors had the greatest influence on her development of emergent biliteracy. In particular, during our 'concepts of writing' activity in the classroom, Jimena explained, 'Escribo en la casa al perrito Lilo, a un juguete y a mi mamá . . . y les escribo en español' (At home I write to my doggy Lilo, to a toy, and to my mom . . . and I write to them in Spanish). Then when I asked her in Spanish if she writes at school, she responded in English:

R: ¿Escribes en la escuela? (Do you write at school?)

J: Yes #child responds in English#

R: ¿Qué escribes en la escuela? (What do you write at school?)

J: [sighs deeply] Escribo mucho . . . a la Miss Iliana y a ella también
(I write a lot . . . to Miss Iliana and to her too [pointing to the other research associate present during interview])

R: ¿En qué idioma escribes en la escuela? (In what language do you write at school?)

J: En inglés (in English)

For Jimena, the language she used to write in a specific context was clearly influenced by who her audience and interlocutors were in a particular exchange. At home, she writes in Spanish to her pet, doll, and Mom, while at school she writes in English to her teacher and to the researcher. Interestingly, she was clearly identifying school as a place to write and use English although most of our interactions at school were done bilingually (English–Spanish).

Clay (1975) found that of the many words that encompass the child's mother tongue, his or her name is likely to be the first word the child will be motivated to write. When we asked children to write something during the spring semester, most of them wrote their first name. In Jimena's case, she wrote her name and drew a picture of herself (before we had asked her to draw anything). A few minutes later, when I asked her to draw something on a separate piece of paper, Jimena drew a very similar picture (see Figures 3 and 4), except that this time she said while pointing to the picture on this sheet, 'Yo y mi mamá' (me and my mom), then wrote her name on the top of the page again. Jimena, like many other children, has learned the function of writing her name on every sheet that she uses for an activity at school. She has been instructed to do so by her teachers, who have told her it is important to do so because of its function. That is, her name will tell others that the sheet belongs to her. In addition, the child is making her first connections between letter form and sound, which she will use later in constructing words.

At home I observed Jimena interacting with her mom (bilingual),



Figure 3 Jimena's drawing 'Just me'



Figure 4 Jimena's writing 'me an mom'

grandparents (Spanish monolingual), and cousins (both bilingual) who lived together at her grandparents house. On one occasion I saw Jimena 'write' her name in Spanish and then continue to write her cousin's name and her mom's name (see Figure 5). In this spontaneous writing activity, I saw Jimena's biliteracy competencies 'in action' when she asked her cousin and her mom to help her spell their names for her. She could recognize the sounds of certain letters (like *a*, *e* or *c*) better in English and others better in Spanish. In the next example (see Table 1), Mom is spelling her name and scaffolding this activity for Jimena in the living room (M = Mom, J = Jimena, and R = Researcher):

Prior to this exchange, I also observed how Jimena's older cousin (about seven years of age) provided assistance for her by spelling and drawing the letters in the air just like Jimena's mom did in the preceding example. Then Jimena would confirm and check in Spanish that the word she wrote was correct. When Jimena was done with this activity, I asked her to read everything she had written for her mom (see list in Figure 5). First she repeats her full name, then her cousin's name, and when she gets to her mom's nickname, instead of reading 'Lucy' she says 'má' (short for Spanish *mamá*). Clearly, she is able to identify her mom's name on the page, but the function of the word that she wrote is what helps Jimena recall it when she 'reads' it back in Spanish. The word *má* (mom) is more salient for her to remember than the actual name representation she wrote. Later on during the same home visit, Jimena showed me a letter she had written to her mom. The letter had Jimena's name and other letters on the top of the page, along with a row of flowers going down. She said '*se la escribí a mi má*' (I wrote it for my mom) (field notes, 7 April 2005).

Jimena has also developed some 'theories' about how to tell whether print is in Spanish or English. When asked to separate different labels with words in Spanish and English during a classroom activity, she separated the words into two rows and said that she knew the first were in Spanish '*porque están las letras chiquitas*' (because the letters are small); and that she knew the other words were in English because '*están las letras grandes*' (because the letters are big). During this activity several of the children in the classroom mentioned this characteristic as a way of distinguishing Spanish from English (even when the words were written in small and big letters in both languages). How do young children develop this theory? One possibility is that Jimena and the other children have experienced and observed that in many bilingual books 'one script often takes precedence or is given higher status than the other: presentation of the two languages may differ in font size, boldness, or spacing between the lines' (Ernst-Slavit and Mulhern, 2003: 3).

Table 1 Mom scaffolds spelling of name for Jimena (Field notes, 7 April 2005)

Conversation and (translation in parenthesis)	Clarification and non-verbal behavior
M: L**	#Eng pronunciation#
J: ¿Cómo? (How?)	
M: L así (L, like this)	Mom starts drawing the letter L in the air
J: Ah, no sabo	(I do not know)
M: ¿Cuál es ésta? (Which is this one?)	Mom gets up from the couch and points to the letter L in the word the child wrote previously
J: ¿Oh ésta? Onde ¿aquí? (oh this one? Where, here?)	Child begins writing on the next line
M: u.. u . . .	#Eng pronunciation#
J: u	Child draws in the air what seems to be the letter C
M: No esa es la c.. u así . . . como esta mira (No, this is c, u is like this, look)	Mom points to the letter u on child's t-shirt, which says <i>success</i>
J: Oh	
M: c	#Eng pronunciation#
J:	Child is drawing what appears to be a letter c in the air. Then child writes the letter z in her notebook and Mom corrects her
M: No . . . c así de César (no, c like César)	Mom draws letter in air
J: Oh ¿cuál? ¿ésta? C (oh which? This one? c)	#Spanish pronunciation# Child simultaneously points to the first letter c in the word <i>success</i> on her t-shirt
M: Uhu.. y	Mom continues to spell her nickname in English for the child
J: y	#Eng pronunciation# Child is gesturing and drawing the letter y in air
R: A ver leelo (let's see you read it)	
J: ya? (that's it?) J's name and last name, fabian.. y má (mom)	Child asks mom if she was done, and then reads the list in Spanish
M: Lucy** ni que má (it says Lucy not Mom)	Mom corrects child right away
J: digo Lucy (I mean Lucy)	Child immediately corrects herself

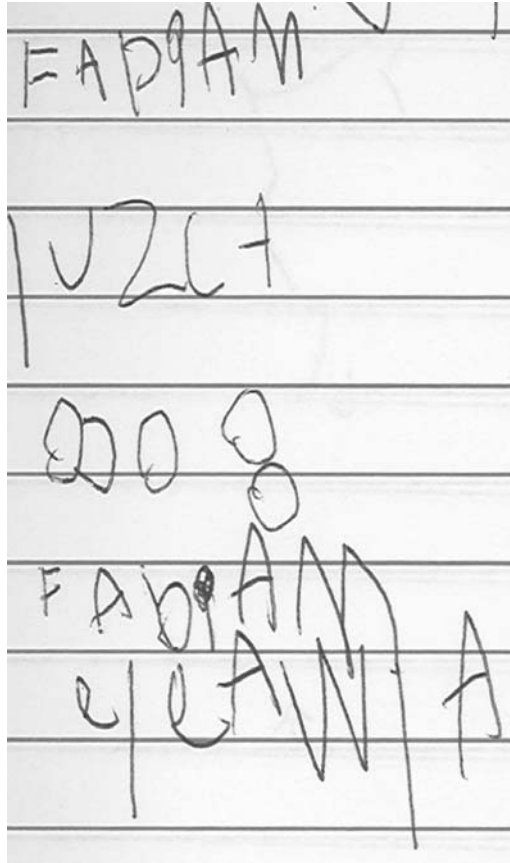


Figure 5 Jimena's list of names

Adam

Adam was an English-dominant speaker when he started attending Saguro pre-school. In fact, according to his teacher, his mom 'wanted him to attend the Girasol classroom and not the other one at the pre-school because she wanted him to become bilingual by developing his Spanish better'. Throughout the academic year Mom and the teacher commented on Adam's progress in both Spanish and English.

Like Katia and Jimena, Adam decided which language to speak and use according to speaker and context. In addition, he used the same language for writing in that specific context. During the interview, when Adam was asked what language he used for writing at home and at school, he responded (A = Adam and R = researcher):

- R: ¿En qué idioma escribes en casa? (In what language do you write at home?)
 A: Sí, con mi hermano escribo en inglés (Yes, with my brother I write in English)
 R: ¿Escribes en la escuela? (Do you write at school?)
 A: Sí escribo en la escuela (Yes, I write at school)
 R: ¿Qué escribes en la escuela? (What do you write at school?)
 A: Casitas, juguetes (Little houses, toys)
 R: ¿En que idioma escribes en la escuela? (In what language do you write at school?)
 A: En inglés y español (in English and Spanish)

In the preceding example, we can see that Adam associates his writing at school with both English and Spanish, while he associates his writing at home with his brother only with English. My observations during home visits confirmed Adam's assessment of his literacy use at home with his family. He speaks to his brothers predominantly in English and 'writes' with them in English as well. It is important to note that Adam grew up predominantly as an English speaker because his parents use English for most interactions at home. However, during the spring semester, Adam seemed to unleash what he had been learning in Spanish and started to use it more often, and more efficiently. Evidence of this development is that he completed the 'concept of writing' activity mainly in Spanish, with some switching to English; Adam seemed very comfortable in carrying out his conversation mainly in Spanish.

When prompted to 'write' something and later to 'draw' something for us, Adam did not make a distinction between the two activities; the two finished products were very similar. However, when asked if there was a difference between writing and drawing, he responded that they were not the same, 'no es lo mismo'. Although Adam apparently did not distinguish 'writing' from 'drawing' (at least not on this particular event), he made an important distinction in terms of emergent biliteracy. Specifically, when he was asked to sort some cards with words on them according to language, he was one of the few children who could identify all the words correctly by language. He was even able to recognize a Chinese word written in *hànzì* Mandarin and separated it in a different row. When the researcher asked him, 'Why did you separate this one?', Adam responded 'because *está en Chinese*' (because it is in Chinese). This example provides evidence that Adam is aware that words are written with different characters and letters according to language. When asked how he was able to recognize which were in Spanish, he responded: 'Porque este tiene eso' (because this one has this, pointing to double *rr* in the word *perro* [dog]), 'y eso' (and that, pointing to Ñ in the word *NIÑA* [girl]). Adam specifically notices letters used in Spanish but not English orthography (e.g. double *rr* and ñ). The fact that Adam has developed theories about specific language structures demonstrates a high

level of metalinguistic and metaliteracy awareness that should be helpful for developing biliteracy competencies.

Discussion

Children learn and develop their own 'theories' and 'concepts' about language and literacy from an early age. This knowledge emerges through their active social participation in everyday activities with family and community members, and in institutional settings such as the pre-school. It is through active participation and observations of print and writing in their environments that children are able to develop their knowledge about *how, what, and why* they write (Dyson, 1999). Moreover, with the assistance and guidance of their more advanced peers (classmates, friends, siblings) and adults around them (parents, grandparents, teachers), children practice in their 'zones of proximal development', allowing them to achieve through their social relationships higher levels of understanding about written symbols and print in their environment (Vygotsky, 1978). For emergent bilingual children, their zones of proximal development are expanded because they have the opportunity to transact with two overlapping and interacting literate worlds (Moll and Dworin, 1996) and to enhance their learning by *thinking and exploring* their social worlds with others in their two languages.

In analyzing these case studies, we learn that young emergent biliterate children are exposed to different activities in their two languages both at home and at the pre-school. Participants and interlocutors are among the most significant influences that support and determine children's emergent biliteracy. Particularly, the social construct and transactions with adults support children's emergent biliteracy at a range of cognitive and linguistic levels. At school, in particular, we observed that the children made use of their home language while developing competencies in their non-dominant language. At home, we learned that these children participated in family literacy activities mainly in their dominant language (Spanish for the girls and English for the boy). Soon this distinction between dominant and non-dominant language might not be valid for Katia, Jimena, and Adam because of the bidirectionality process involved in developing their biliteracy. Because of their learning experiences at home and school, their language and literacy learning in L2 is influenced by their L1, as their L1 language and literacy development is influenced by their L2. An additional finding here is that children's learning process can also be considered bidirectional in the sense that they are influenced by their parents and more experienced peers (e.g. through the use of

scaffolding), but at the same time their parents' and siblings' experiences are also being shaped by the child's knowledge and interactions with each other.

The processes involved in becoming biliterate are multiple and might be perceived as taxing in comparison to becoming literate in one language. However, when we analyze these children's activities from an emergent bilingual and a transactional perspective, we can understand better that these children are making sense of language and literacy as they bring their knowledge together to organize it in a meaningful way (Owocki and Goodman, 2002). As they try to make sense of all their metalinguistic and metaliteracy knowledge, emergent bilinguals make use of tools and resources available to them in both languages, in this case Spanish and English. The children presented here provide evidence of this functional use of their two languages according to the social and pragmatic context.

Furthermore, the optimal time to introduce L2 literacy in young emergent bilingual children has been an important point of discussion in the literature, and this needs to be reconsidered and reconceptualized according to the characteristics of the specific population. As others have proposed (De la Luz Reyes, 2001; Dworin, 2003b), these issues should be considered in light of the specific linguistic characteristics and contexts in which children are growing up bilingually. The conditions for biliteracy development are different for young children who are immersed in two languages from an early age (four to five years of age) than for older bilingual children who have already developed conventional literacy abilities in their L1 before becoming literate in their L2. First, younger children cannot use the strategy of applying L1 literacy knowledge to support beginning L2 literacy because 'formal' literacy in each language is developing simultaneously and supporting advances in the other language. Bidirectionality, in this particular case for emergent bilinguals, seems to play a very important role, not only at the oral level but also in terms of supporting biliteracy development.

Despite the rhetoric of opponents of bilingual educational programs, there is ample documented evidence that young children are able to develop and distinguish between different representation systems (e.g. Datta, 2000; Kenner, 2004). Datta (2000) provides an example of a five-year-old boy, Raki, who could identify and use up to three types of script, Bengali, Arabic, and English, even in one text. Raki learned the different ways to form words in his different languages without any problem.

Finally, the development of writing and reading are not possible without the child's awareness of the purpose of written language (Rowe, 2003). Children's emerging concepts of writing and metalinguistic awareness

about their two language systems, and of how these function in their lives, are developing when they 'write' to their mom and siblings in Spanish or English, and when they write a message in English or bilingually to the teacher and friends. When provided with optimal environments, children are fast and efficient learners of one, two, or more languages (De la Luz Reyes, 2001; Genesee, 2001; Moll and Dworin, 1996; Moll et al., 2001).

Conclusion

One of the challenges for teachers and educators today is to try to understand how we can provide the kind of support that children like Katia, Jimena, and Adam need in order to achieve high levels of biliteracy as they progress through school. As teachers we have not learned to do this, and as researchers we have much to learn from these children and their families. At a time in the USA when English-only laws in some states restrict our options for providing optimal teaching to emergent bilingual children in our classrooms, we must make a constant effort to make these opportunities available outside the classroom context.

Moreover, teachers, educators, and researchers must continue to listen to the children's voices, to read their emergent biliteracy messages, and most of all, to learn critical lessons from them (Whitmore et al., 2004). One important lesson we have learned from these four-year-old children is that they are aware of the importance of becoming literate. Katia responded to the question, '*¿Para qué escribe la gente?*' (Why do people write?), in the following manner:

Te digo porque. Porque si no escriben se quedan burros . . . si no saben leer, si no van a la escuela no saben leer . . . no saben escribir . . . (y) no más. (I'll tell you why. Because if they do not know how to write, they'll be dummies . . . if they do not know how to read, if they don't go to school they don't know how to read . . . they don't know how to write . . . and that's it.)

By exploring and learning from children's development of emergent biliteracy at home and the kind of social constructs and transactions that children participate in with adults and peers who successfully support their emergent writing and reading, we as researchers are able to provide details about some of the ways to support children's development of biliteracy at school. The role and effect of family and community experiences on children's emergent biliteracy development, and how these relate to learning spontaneously or within the formal educational context, need to be explored further in order to make appropriate recommendations based on students' strengths and needs.

An important finding from this study is that when children have access to writing systems and to various literacy activities in both their languages, they are more likely to become biliterate rather than literate only in the dominant language. Children alternate between the languages they use to speak, write, and listen; and they constantly code-switch throughout all their activities. Recent research suggests that code-switching probably contributes to their high metalinguistic and pragmatic awareness (Ervin-Tripp and Reyes, 2005). Most important, if children continue to have access to and opportunities to function in both languages and writing systems, they will be more likely to *maintain* and *continue to develop* their bilingualism and biliteracy, giving them abilities they can draw on for various activities at home and at school.

To learn about how bilingualism impacts emergent biliteracy, we must continue to explore writing and its relationship to other literacy abilities (e.g. decoding in reading). A developing theory of emergent biliteracy is imperative since an increasing number of children in our communities are going through this process. This study moves us in this direction by taking into consideration the sociocultural and psycholinguistic influences impacting children's development of biliteracy.

Just as monolingual children follow many pathways to literacy, children who speak more than one language and become biliterate also have multiple pathways to get there (Dworin, 2003b; Gregory et al., 2004; Moll et al., 2001). Teachers and parents are encouraged to do *kidwatching* (Owocki and Goodman, 2002) and to look closely for 'critical lessons' that connect and reflect children's development of literacy and biliteracy. More generally, we should continuously acknowledge and draw upon a range of children's literacy and linguistic resources available in their day-to-day activities in order to foster their bilingual and biliteracy competencies.

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Notes

1. This observation does not apply to cultures in which knowledge is passed down orally (e.g. some indigenous languages).
2. For in-depth analysis, 3 out of 20 case studies are presented here.
3. The teacher included this 'writing activity' as one of the activities children participated in during a week with the researcher, whom they called 'Miss Iliana'.

4. All names of children, parents, and schools are pseudonyms.
5. On a couple of occasions, Jimena asked the researchers if she could be videotaped while singing.

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