Abstract

This study was conducted to examine the influence of prior preschool attendance, culture, and language socialization on early literacy success in drawings and dictated stories for Navajo kindergarten students at risk of school failure due to low socioeconomic status. The main findings of this study included the sociolinguistic impact of preschool education on young children's growth in literacy development that incorporated the cultural values, attitudes, and beliefs of the home and heritage language. While all drawings reflected the influence of culture, several differences were found in the complexity and depth of the drawings. Early education programs designed to promote the heritage culture in conjunction with academic abilities, especially for children from disadvantaged backgrounds, were linked to lasting effects on indicators related to student achievement. Literacy achievement has been consistently and positively associated to preschool attendance, and a positive transition to kindergarten.

Keywords: early literacy, preschool attendance, culture and language

Literacy Connections: Linking Preschool to Language and Cultural Competencies in Navajo

Kindergarteners' Drawings

An increase in the use of performance and accountability measures through the No Child

Left Behind Act of 2001 has resulted in greater academic pressure for schools and for individual

students at young ages (Silliman, Wilkinson, & Brea-Spahn, 2004). With these increased

expectations came the widespread recognition that children arrived at the critical kindergarten

juncture with variable states of readiness and that the quality of early learning experiences and

environments contributed substantially to that variability (Shonkoff & Phillips, 2000; Snow,

Burns, & Griffin, 1998). Early language and literacy skills have been critical to success in

school and essential for developing proficient reading and writing skills as well as overall

success in school (Teale & Sulzby, 1986; Whitehurst & Lonigan, 1998).

Early literacy has been defined as the process of learning to understand and use language

for functional communication. Functional communication has been defined as the ability to

communicate and share ideas with others, and considered to be a forerunner to later success in

reading and writing. Children have first learned to use oral forms of language, which were

comprised of listening and speaking, and then to explore and implement the written forms of

language, reading and writing. The process of early literacy development has been considered to

be a greater challenge for the young English Language Learner (ELL).

As more attention was focused on children's readiness to begin kindergarten (Justice,

Bowles, Pence Turnbull, & Skibbe, 2009; Rimm-Kaufman, Pianta, & Cox, 2000), readiness

skills became increasingly important to understand the unique effect of preschool on children's

school readiness. For preschoolers at risk of educational failure due to risk factors such as low

socioeconomic status or learning the English Language, increasing early literacy skills could be

vital to closing the achievement gap between them and their more advantaged peers (Klein &

Knitzer, 2007). Temple, Reynolds, and Miedel (1998) found poor reading skills during

preschool and early elementary school were predictors of later lower academic success and

increased high school drop-out rates. Preschool advocates argued that providing early exposure

to text and print concepts supported literacy development and resulted in long-term academic

success (Barnett, Young, & Schweinhart, 1998; Bryant, Peisner-Feinberg, & Clifford, 1993;

Burchinal, Peisner-Feinberg, Pianta, & Howes, 2002; Campbell, Pungello, Miller-Johnson,

Burchinal, & Ramey, 2001).

The influences of childhood poverty on development have been multiple, diverse, direct,

and indirect (Huston, McLoyd, & Garcia Coll, 1994; Lemer, Castellino, Terry, Villarruel, &

McKinney, 1995). Campbell and Ramey (1995) found that children's early learning

environments were affected by socioeconomic status. For example, compared with

kindergarteners from families in the bottom fifth of the socioeconomic distribution, children

from the most advantaged fifth were four times as likely to have a computer at home, three times

as many books, the opportunity to be read to more often, and less television time than children in

families of lower socioeconomic status. Poor children were more likely than their affluent peers

to experience poor physical or mental health, to be raised by parents who had completed fewer

years of education, and to grow up in households that were less cognitively stimulating, which

might negatively affect children's cognitive and academic attainment (Anderson-Moore, 2009).

The association has been strong between poverty and poor cognitive, social, and

academic outcomes for children. Children born in poverty, especially children who have been

exposed to multiple risks (e.g., single parenting, minority status, health problems, chronic

poverty, very-low-income neighborhood, and high levels of incidental stressors), were more

likely to have measured IQs lower than middle-class peers (Campbell & Ramey, 1994), to be

slower in developing language and literacy skills (Hart & Risley, 1995), and to show poorer

performance on academic tests and in school contexts (Korenman, Miller, & Sjaastad, 1995).

The influence of early childhood education on the healthy development and future well-

being of children who are economically and socially disadvantaged has been a vital policy

concern with important implications for families, communities, business, and government.

Young children living in poverty have faced substantial education deficits and were less likely to

enroll in preschool than their counterparts from higher socio-economic backgrounds.

Implementing curricula that has provided high quality preschool experiences and academic

supports could begin to close the achievement gap.

DISCOVER Theoretical Framework

Discovering Intellectual Strengths and Capabilities while Observing Varied Ethnic

Responses (DISCOVER) —based on the constructivist educational philosophy—was designed to

enhance learning and to assess problem solving abilities in ethnically, culturally, and

linguistically diverse young children. (Reference withheld) developed a problem continuum

based on the creativity research of Getzels and Csikszentmihalyi (1967). The problem

continuum consisted of 6 problem types: Type I Problems were simple and closed; both

presenters and solvers knew the formula but solvers needed to find the solution. Type II

Problems were simple and closed; presenters knew the problem, method and solution, but only

solvers knew the problem solving method. Type III Problems were known to the solver but were

more open and complicated, and several formulas could be used to solve the problems. Type IV

Problems were known, but presenters and solvers did not know either the method or solution.

Type V Problems, methods and solutions were not defined clearly for presenters and solvers; the

problems were open and complex. Type VI problems were completely open-ended and ill-

defined.

The problem continuum, in conjunction with (reference withheld) principles of

curriculum development provided the framework for the DISCOVER program. The principles

of DISCOVER early childhood programs were integrated with students' culture by incorporating

ideologies of successful bilingual education programs (Cummins, 1984; Nieto, 1996; Ramirez,

1991; Tharp, 1989), and developmentally appropriate practices (Bredkamp & Rosegrant, 1995;

Maker & King, 1996). This was accomplished by incorporating (a) arts integration—especially

visual arts, music, creative dance/movement, and theater arts; and (b) development of a wide

range of problem solving abilities.

Literacy and Culture

Children have begun to understand the graphological features of written language, an

early decoding skill, even before preschool (van Kleeck, 1998). Young children have developed

a strong desire to use all of the communicative tools available to them within their families,

cultures, and learning environments. They desired to do all of the things that the powerful

people they admired could do, including talking, writing, drawing, using the computer, and

otherwise creating and sharing ideas and memories (Edwards &Willis, 2000). As children

developed speaking and listening skills, they built foundations for literacy and made sense of

visual and verbal signs and ultimately for reading and writing. Children have required frequent

opportunities to interact with others as they developed these skills and used a wide variety of resources for expressing their understanding, including mark-making, drawing, modeling, reading, and writing. Therefore, the choices children have made as they drew were influenced, in part by their specific sociocultural contexts.

Vygotsky (1978) emphasized social interaction and the influences of culture, peers, and adults on the developing child in his sociocultural theory of emergent literacy acquisition. Vygotsky theorized that children increasingly understood the purposes of oral and written language as they observed how adults employed literacy to construct and communicate meaning, and as they have engaged in literacy activities themselves. Children's creations of micro-communities, or literacy partnerships, during unstructured play and shared literacy activities, such as reading together, have provided opportunities to rehearse the construction and communication of meaning and to engage in representational competence. A child who has experienced difficulty writing letters might be able to demonstrate progress with the help of an adult who wrote sample letters or helped the child trace letters. Children could build new concepts by interacting with others who either provided feedback about their hypotheses or helped them accomplish a task (McGee & Richgels, 1996). Children have entered school systems with literate practices that have been acquired within dynamic cultural systems with structure, roles, scripts (alphabetic, pictographic), modes of reasoning, and tools.   More ethnically diverse native born and immigrant students have entered classrooms with literacy practices that might operate under different assumptions and cultural norms than the assumptions and norms that characterized school-based literacies.

Children's Drawing as Literacy

As children have made connections between spoken and written language, they have extended their understanding to include symbolic forms used to capture speech. Preliterate children developed visual literacy by assimilating new skills such as picture and letter recognition and have taken first steps toward learning to decode and write simple messages. Edwards and Willis (2000) defined visual literacy as the ability to recognize and understand ideas conveyed through images or pictures. As young children have begun to grasp the basic functions of visual literacy and became engaged in creating meaning that combined oral language, written and print symbols, and drawings. These early experiences with symbolic media that shaped their orientation toward all aspects of reading and writing followed a developmental continuum. The developmental stages of children's drawings or pre-writing skills have been the (a) Scribbling Stage, (b) Pre-symbolism Stage, and (c) Symbolism Stage. These stages of pre-writing were represented in Figure 1.

Scribbling Stage

The Scribbling stage was the random stage of making a mark. Children at this stage of pre-writing focused on the act of moving the writing tool on the surface with some awareness of cause and effect. Children's first disordered scribbles were simply records of kinesthetic activity, not attempts at portraying the visual world.

Pre-symbolism Stage

During the Pre-symbolism stage, improved motor control and eye hand coordination has allowed for more manipulation of materials and more controlled scribbling. Children at this stage enjoyed the result of repeating similar actions, of creating shapes such as circles, spirals, and lines. They may have expanded their shape repertoire to include ovals, squares, and

rectangles, as well as wiggly and jagged lines. As children explored basic circles and lines at this

stage, they also began to experiment with simple shapes that represented letters to them. They

might also have made a few familiar letters repeatedly and *read* them to you.

Symbolism Stage

During the Symbolism stage, children started experimenting with simple representational

drawings. Favorite subjects may have included self-portraits, their family, house, pets, vehicles,

and nature. At this stage some children have begun to include more detail in their drawings.

Drawings might reflect personality and relationships, and were used to communicate feelings

and ideas. As drawings have become more representational, writing has become increasingly

recognizably letter-based.

Review of Current Literature

Empirical research in the area of early literacy intervention for the preschool population

at risk due to socio-economic status has been more prolific as educational accountability is of

increasing public interest and policy concern. Researchers examined the influences of prior

preschool experiences.   Skibbe, Conner, Morrison, and Jewkes (2011) researched the effects of

preschool experiences on early literacy and language growth during children's first and second

years of preschool for children who experienced different amounts of preschool (i.e., one or two

years), but who were essentially the same chronological age. Children (n = 76) were tested in

the fall and spring of the school year using measures of decoding, letter knowledge, and

vocabulary. Using a repeated measure ANCOVA multi-level model, researchers found children

finishing their second year of preschool had higher scores, although both groups of children grew

similarly during the school year. The first and second years of preschool were both

systematically associated with decoding and letter knowledge gains, and the effects were cumulative (i.e., two years predicted greater gains overall than did one year of preschool).

(Reference withheld) developed and conducted an enrichment program for cultivating problem solving abilities and multiple intelligences for preschool students. The assessment and curriculum were based on the DISCOVER model, which included the Problem Continuum. The researchers developed an identification model designed to identify young children from diverse ability levels, ethnicities, or economic levels as gifted. Children (n=61) were screened in a three-stage process that included checklists, interviews, portfolio assessment, group intelligence tests, structured observations, and individual intelligence tests. Researchers found that most students performed well on all five kinds of problem solving types. Children had scientific thinking characteristics, such as rich knowledge with fascinating imagination and the ability to seek many approaches to solving problems. Children identified as twice exceptional demonstrated progress in social skills and group adaptability.

Research that pertained to the sociolinguistic impact of bilingual education and literacy on young children's growth in literacy incorporated the cultural values, attitude, and beliefs of the home and heritage language to ensure continued understanding and preservation of family ties and cultural heritage. These included maintaining heritage language at home, religious rituals, correspondence with relatives overseas, and participation in cultural celebrations. Diversity was viewed as an asset rather than a liability, with differences between home and school practices as alternate beliefs and legitimate forms of practice (Fluckiger, 2010).

Ashton, Woodrow, Johnston, Wangmann, Singh, and James (2008) attributed children's success at school to the congruence between the practices of home and school, while identifying

differences in values, skills, and learning styles—described as cultural dissonance—as inhibiting

success. These claims were supported by studies that revealed children from minority cultures

generally did not achieve the same success in literacy learning as children from dominant

cultures (Purcell-Gates, 1993). As a result, minority children have been left to cope with

linguistic and cultural differences on their own, struggling to negotiate between home and school

cultures. Culturally Relevant Teaching has been defined as a pedagogy that empowers students

intellectually, socially, emotionally, and politically by using cultural referents to impart

knowledge, skills, and attitudes (Ladson-Billings, 1992).

Fluckiger (2010) provided a rich description of culturally relevant literacy practices

viewed from a sociocultural lens. She conducted qualitative case study analysis of the

experiences of 5 preschool girls and their families, who spoke their heritage language in their

homes. The researcher conducted interviews with the families and field observations of the

girls' classroom literacy experiences. The classroom teacher attempted to build on the rich

diversity of resources the children brought to school and to appreciate the complex cultural and

social history revealed through their pictures and stories. These stories provided an insight into

the lives of the children and the things that were important to them. Through conversations

around children's pictures and text, the teacher demonstrated interest, acceptance, and valuing of

their experiences and their writing attempts and supported children's identification and

manipulation of the dynamic relationships among worlds. Within the classroom environment,

the children established themselves as competent community members and demonstrated

independent decision making, using writing sessions to provide information and share their

knowledge with others, both verbally and through their writing. They demonstrated a willingness to share their knowledge and ideas, especially in relation to writing.

Fluckiger (2010) found that the culturally diverse families acknowledged aspects of the dominant culture—while preserving their own—and encouraged their children to adopt preschool practices. These included speaking English at preschool, negotiating their participation in activities, and demonstrating independence. In this way, the children acquired the cultural capital perceived as requisite for educational success at preschool while maintaining the practices and beliefs of their heritage culture at home. A second benefit was that parents developed knowledge of the dominant culture through their children's experiences.

Fernandez (2000) examined the role of bilingual education in early childhood settings and found that the loss of children's home language may have developmentally catastrophic effects on children. The loss of children's home language may result in the disruption of family communication pattern which may lead to the loss of intergenerational wisdom, damage to individual and community esteem, and children's potential non-mastery of their home language (Soto, 1991;Wong-Fillmore, 1991). Cummins (1997) found that non-English-speaking children required from 5 to 7 years to acquire academic language skills in English; a process that he advocates should begin gradually in the preschool years while using children's native language for concept formation. Furthermore, Narvarez (1983) suggested that verbal and nonverbal communication patterns used by native-speaking children in a bilingual early childhood increased and were more varied when a supportive native language learning approach was used in the classroom. Garcia (1995) reported an increase in English language proficiency among Native American children, when bilingual instruction occurred. Bilingual education has been

defined as a program of instruction that has used and promoted two languages in the education of

language minority children, children's native language and, in the United States, English as the

second language (Baker & Garcia, 1995).

Despite increased policies, accountability requirements, and pedagogical concerns in

early language, literacy, and culture, a gap has existed in empirical research conducted to address

the relationship between literacy, language socialization and culture, and preschool experience.

The purpose of this study was to examine the influence of prior preschool attendance, culture,

and language socialization on early literacy success in drawing/pre-writing skills for kindergarten

students at-risk of school failure due to low socioeconomic status. The following questions were

answered:

1. What were the similarities and differences between the drawings of Navajo

   kindergarten children who had attended a four week summer enrichment

   preschool program and those who had not?

2. What were the similarities and differences between the dictated stories of Navajo

   kindergarten children in a dual language immersion program and those in an

   English only program?

Method

Research Design

A qualitative comparative research design was implemented using secondary archival

document analysis. Babbie (1997) has defined document or content analysis as the study of

recorded human communications. Document analysis has been a way to systematically

examine instructional documents with a focused, critical examination of the documents rather than simple description, enabling the researcher to obtain the language and words of participants.

Drawings have allowed researchers to compare values across cultures, ages, and genders, and to elicit more open-ended expressions than they might otherwise achieve through traditional surveys (Stiles, Gibbons, & Schnellmann, 1987). For this study, the researcher examined differences and similarities in drawings and dictated stories as secondary archival data. Drawings were collected to better understand children's family life (Fury, Carlson, & Sroufe, 1997; Lev-Wiesel & Al-Krehawi, 2000), friendships and peer interactions (Bombi & Pinto, 1994; Pinto, Bombi, & Cordioli, 1997; Rubenstein, Feldman, Rubin, & Noveck, 1987), and children's many and varied perceptions of the world around them (Alerby, 2000; Barraza, 1999; McLernon & Cairns, 2001; Moore & Kramer, 1993; Walker, Myers-Bowman, & Myers-Walls, 2003). Bishop (2007) defined secondary data as information that has been collected for another purpose, but might be reanalyzed in a subsequent study. Qualitative data reanalysis has provided a unique opportunity to study the raw materials of the past to gain insights for both methodological and theoretical purposes.

Participants

Group A. Participants were 30 purposefully selected kindergarten students who had attended a community controlled Navajo reservation school. 32 students were from a community controlled school district, which had 500 students in grades K-12. The school district provided a dual immersion, Navajo bilingual language model. Students attended a one

month pre-kindergarten summer school program based on the DISCOVER model prior to

kindergarten attendance.

Group B. Group B participants were 35 purposefully selected kindergarten students

from a Bureau of Indian Affairs controlled (BIA) Navajo reservation boarding school located in

the heart of the Navajo Nation. The district serving the educational needs of the community had

7 schools, over four thousand students in grades K-12, and was the largest school district in the

Navajo Nation in both student count and geographic area. The school district provided

instruction in English, implementing an English immersion model.

Setting

Group A. Located in the middle of the Navajo Nation in the Southwestern United States,

English-as-a-second-language instruction was started in 1960 and bilingual instruction in 1967.

Forty-three per cent of students in 1988 were dominant Navajo speakers while only five per cent

were dominant English speakers. Under the bilingual curriculum instituted in 1967, kindergarten

students have been taught reading in Navajo with English reading instruction in second grade. In

1972, to provide quality Navajo education through local community control, the community

elected a school board, which contracted with the BIA to operate it as a K-6 elementary school so

they could have more control over hiring and curriculum. The community continued to contract

to operate the school under Public Law 638, the Indian Self-determination and Assistance Act.

By 1998, the percentage of students who were dominant Navajo speakers had changed to 25 and

those who were dominant English speakers were in the majority (75%). However, to preserve

Navajo language usage in the community, educators have continued to provide a dual-immersion

bilingual program. The bilingual has been described as being both a coordinate and a

maintenance bilingual program. Instruction in the two languages was kept separate but complementary. Instruction was not repeated in each language, but concepts introduced in Navajo were reviewed in English. Some teachers taught only in English and others only in Navajo. In kindergarten, two-thirds of the instruction was in Navajo with the rest of the time spent teaching students oral English. By second grade students were receiving half their instruction in English and half in Navajo. In the upper grades from fifteen to thirty per cent of the instruction was in Navajo with the rest in English.

Group B. The District included seven surrounding communities and school buses traveled over 5,200 miles on daily routes to transport students to and from schools. The high school has been the largest primarily Native American public high school in the United States. Ninety-seven percent of the students were Native American. Due to geographical distance, elementary students attended the Bureau of Indian Affairs boarding school. Students did not attend public preschool.

DISCOVER Summer Enrichment Program

The DISCOVER summer enrichment program was a one month program with a bilingual education model. An English language teacher and a Navajo language teacher served 20 children in a morning session and 20 children in an afternoon session. Teachers involved in the project received in-service education related to curricular objectives and methods on an individual, small group, and large group basis.

The DISCOVER teaching methods and curricula consisted of an integration of language development in two languages using whole literacy, problem solving in a multicultural context, multiple intelligences abilities development, and individual student choice. Curricular and

teaching strategies have been characterized by (a) integrated, interdisciplinary content; (b) higher-order thinking, appropriate pacing, self-directed learning, and complex problem solving processes; (c) development of unique products for real audiences; and (d) student interaction, interaction with experts, and learning environments with physical and psychological flexibility, openness, and safety. Teachers, using DISCOVER, promoted rich learning environments with students making choices based on interest and ability integrated into individual, small group, and whole group formats. Teachers' roles were to be resources rather than dispensers of knowledge (reference withheld).

DISCOVER assessment was authentic as a method to characterize individual patterns of growth and development. Pett (1990) characterized authentic assessment as performance based, realistic, and instructionally appropriate. DISCOVER assessment included observations, anecdotal records, checklists, portfolios, and play-based assessment. A profile of multiple intelligences strengths was created for each child; both parents and teachers learned how to use the child's strengths in developing needed academic skills and creativity.

Data Collection. Data were collected by obtaining students' archived drawings during the kindergarten school year. The drawings were completed during the process of assessing children's giftedness and multiple intelligences strengths. Children drew pictures and told a teacher about them. Children then dictated their stories as the teacher wrote their exact language on or near the page with the picture. Children may have written their own stories using invented spelling. Recording children's exact language allowed a realistic assessment of each child's abilities.

Data analysis. Creswell (2009) found that the process of data analysis involved making sense out of text and image data. The following steps were used to analyze and compare kindergarteners' drawings and dictated text for differences and similarities:

1. Data were organized and prepared by sorting and arranging stories and drawings into categories based on independent variables.

2. Data were reviewed to obtain a general sense of the information and to reflect on the overall message.

3. A detailed analysis was conducted to organize and analyze the data, segmenting images, sentences, and words to derive meaning.

4. A coding process was employed to generate a description of themes for analysis. Themes were used to code findings in participants' drawings and dictated stories.

5. Descriptions and themes were represented in a narrative format.

6. Data were viewed and interpreted through a sociocultural theoretical lens.

Reliability and Validity. Inter-rater agreement (IRA) was measured to examine the agreement between raters on the assignment of variables. It was an important measure in determining procedural consistency in implementation of coding. To ensure procedural consistency, a second rater independently rated 25% of drawings and dictated stories. Documents that were rated identically by both raters were considered agreements. Documents rated differently were considered to be disagreements. IRA was determined by dividing the number of agreements by the number of agreements plus the number of disagreements and multiplying the result by 100%. IRA was determined to be 98%. Validity of this study was

strengthened by peer debriefing to enhance the accuracy of information (Creswell, 2009).

Colleagues reviewed and questioned the study to provide an interpretation beyond that of the

researchers.

Results

What were the similarities and differences between the drawings of Navajo kindergarten children who had attended preschool and those who had not?

Similarities. Sociocultural influences were evident in the subject content of Navajo

children's drawings who had attended preschool and those who had not. Drawings were inspired

by events occurring outside of the school setting and included topics such as landscapes (42%),

people (23%), prior experiences (23%), and animals (12%). Drawings included landscapes with

elements that expanded across the page in a series of horizontal ground, mountains, or skylines.

A yellow circular sun at the top of the page and a straight line at the bottom were symbolic

representations of the sky and ground. Cultural elements were noted in the drawings of teepees,

rodeo and farm animals, and cacti (see Figure 2). Sociocultural influences also were noted in the

likeness of drawings. Teachers noted that students with similar drawings sat in close proximity

(see Figure 3).

 Differences. While all of the drawings reflected the influence of culture, several

differences were noted between the drawings of Navajo kindergarten children who had attended

preschool and those who had not. These differences were found in the complexity and depth of

the drawings.

Group A. The drawings of Navajo kindergarten children with previous preschool

attendance (Group A) were more complex and included more representational details. Symbolic

representations for human figures included body parts, facial features, and hair, and were not

stick-like. People were represented with varying facial expressions.   Figures of adults were

represented proportionately appropriate to figures of children. Drawings of people were

grounded on the page by a baseline that acted as a horizon line. In Group A drawings (67%),

baselines were used to show distance or topography. This was represented by a drawing of a

teepee in the foreground with mountains in the background of the picture. Group A

kindergarteners (13%) drew a series of pictures, similar to a cartoonist's panes, to sequences the

story over a period of time. Drawings (30%) demonstrated shadows and shading with colors

used to depict landscapes or to signify the importance a specific element (Kress & Van Leuven,

1996). This was shown in the shaded drawings of houses and teepees with a moon and stars

depicting a night sky. Color made these elements stand out in the drawing as a composition (see

Figure 4).

     Group B. The drawings of Navajo kindergarten children who had not attended

preschool (Group B) were often represented as circular or angular forms drawn as symbols to

represent real objects in their environment or to reflect their stories.   Circles and lines were

combined to draw figures of people, houses, or trees. People were drawn with a large head, eyes,

arms, and legs, with other body parts and details omitted (17%). Figures (43%) were drawn

floating in space or without background spatial details. Group A kindergarteners did not include

letters in their drawings. When Group B kindergarteners drew or wrote alphabetic letters, they

used them as a string of one or two letters on the page instead of pictures or figures (see Figure

5). The similarities and differences in the elements of drawings of Navajo kindergarten children

who had attended preschool and those who had not are shown in Table 1.

 Drawings as literacy development. Children's developmental stages of drawings were used to

assist in framing and understanding Navajo kindergartener's drawings as literacy development.

Scribbling stage. Navajo kindergartener's drawings at the Scribbling stage of

development exhibited randomly made marks or an exploration of art materials. Scribbles

progressed from uncontrolled to demonstrating more control. Some scribbles were named.

None of the drawings of Navajo kindergarteners who had previously attended preschool were

representative of the Scribbling stage of development. Of Navajo kindergarteners without

previous preschool attendance,   17% of student's drawings were in the Scribbling stage of

development.

Pre-symbolism stage. Navajo kindergartener's drawings at the Pre-symbolism stage of

development showed some recognizable representations, although they were usually unrealistic.

Children used their favorite colors to draw, rather than represent objects in more accurate colors.

Drawings of people were very simple with few features and drawn with very large heads with

extended arms or legs drawn from the head. Objects were drawn floating in space without an

anchor. Although of varying degrees of complexity, none of the drawings of Navajo

kindergarteners who had previously attended preschool were representative of the Pre-symbolic

stage of development. Of Navajo kindergarteners without previous preschool attendance,   31%

of student's drawings were in the Pre-symbolism stage of development.

Symbolism stage. Navajo kindergartener's drawings at the Symbolism stage of

development was more proportionate and detailed. Colors were more realistic and

stereotypically represented. Skylines and ground lines were visible in drawings and a schema

was shown in figures being similar within the drawing. All of the drawings of Navajo

kindergarteners who had previously attended preschool were representative of the Symbolism

stage of development, with 52% of Navajo kindergarteners without previous preschool

attendance at this stage of development. The stages of drawings as literacy development of

Navajo kindergarten children who had attended preschool and those who had not are shown in

Table 2.

What were the similarities and differences between the dictated stories of Navajo

kindergarten children in a dual language immersion program and those in English only

programs?

Navajo kindergarten children in both a dual language immersion program (Group

A) and an English only program (Group B) were able to bring to the classroom their interests and

experiences by telling their stories or experiences orally—based on their drawings—and having

their teacher record the account using the student's words verbatim. Story elements of (a)

complexity of expression, (b) voice, and (c) fluency were used to categorize and analyze the

themes of the dictated stories.

Complexity of expression. Complexity of expression was the term used to describe the

quality or intricacy of language children chose to label, describe, or express their ideas in the

dictated stories. Similarities and differences were found in the quality and quantity of word

choices used by Navajo kindergarteners.

Similarities. Navajo kindergarten children in both a dual language immersion program and an English only program used word choice to convey messages that varied in complexity. Vocabulary words were limited to known or familiar words, with repetition of known words. When stories were more complex, words were grouped in ways to begin to create a mental image of the message and to convey a complete message. Word choices included common vocabulary words that were used appropriately.

Differences. Differences between the dictated stories were noted in the complexity of expression.

Group A. In Group A, 67% of kindergarteners' dictated stories consisted of variety in parts of speech to convey and enhance meaning, with words used to create memorable phrases or mental imagery (capable). In Group A, 23% of kindergarteners' dictated stories included simple details (developing). In Group A, 10% of kindergarteners' dictated stories labeled objects in drawings (beginning). Group A dictated stories were used more often to recount personal experiences.

Group A Girl: *"The sun shines on the people and they get hot. They sit in the tepee.*

Some kids, they play in the rocks. The brother plays outside. The mom cooks for the kids. She reads to the kids. Then the dad works. The kids were playing in the house. They eat together. They played around. The played. They ride. They did their homework. The put the clothes on. They wiped their face. They play. They try something. They drink. They wash their teeth. Then they go to bed. Then they go to school. They see their teacher and then they go home."

Group B. In Group B, 35% of kindergarteners' dictated stories consisted of variety in parts of speech used to convey and enhance meaning, with words used to create memorable phrases or mental imagery (capable). In Group B, 34% of kindergarteners' dictated stories included simple details (developing). In Group B, 31% of kindergarteners' dictated stories labeled objects. Stories dictated by Navajo kindergarteners in the English only program were less complex and more repetitious.

Group B Boy: "*This is my house, then there is a boy. There's ground and a door. That's it.*"

Group B Boy: "*I went to Farmington. I saw a rabbit. I saw a mouse. I spended the night there. I…Then I went back home.*"

Voice of dictated stories. Voice was defined as the author's personality or style in the expression of emotion or commitment to the topic of writing. The author's voice could convey attitude or character and add uniqueness to the dictated story.

Similarities. Similarities between groups were evident in the Navajo kindergarteners' use of personal voice or narrative in the recounting of daily events embedded with cultural references or elements. Dictated stories included simple emotions or actions. Feelings were expressed with familiar words.

Group A Boy: "*I was riding the horse. And I see a smoke. I go in the teepee in the rock. I just jump on the rocks. I picked the horse in the house. I just killed the snake. I My granda was standing by the teepee. My mom went outside and drive*

the sheep. And my mom went to the store. My mom buyed some more pop. I went

outside and drinked the pop. I ate some sandwhich."

Group B Girl: *"There was a big sister. There was a little sister. There's a boat in the*

water. The big sister was playing house. The little sister was crying cause the big

sister made her cry."

Differences. Differences were found in the developmental voice of the dictated stories.

In Group A, 67% of kindergarteners developed four or more dictated sentences related to one

topic with a clear message and a related drawing (capable). In Group B, 54% of kindergarteners

developed four or more sentences related to one topic with a clear message and a related

drawing. In Group A, 33% of kindergarteners developed two to four dictated sentences related to

one topic with a clear message and a related drawing (developing). In Group B, 14% of

kindergarteners developed two to four sentences related to one topic with a clear message and a

related drawing. In Group B, 37% of kindergarteners did not have a developed sentence and a

related drawing (beginning).

   Fluency in dictated stories. Sentence Fluency was defined as the rhythm and flow of

language and the sound of word patterns. Sentence fluency has been referred to as to the way

individual words and phrases sound together within a sentence, and how groups of sentences

sound when read. Sentence fluency was increased by expanding the variety of the sentence

structure and the length of the sentence. Sentence fluency contributed to the readability of the

dictated stories.

Similarities. Navajo kindergarten children in both a dual language immersion program and an English only program were developing sentence fluency and had a limited sample of sentence patterns, with most sentences beginning the same way. Dictated stories were structured with simple sentence patterns (contained a subject, a verb, and a complete thought, with one independent clause).

> Group A Boy: *"This is my house. This is my dogs looking for fox. My horse is in the*
>
> > *car. The cow born a baby cow there in corral."*

> Group B Girl: *"It was sunny. I was playing outside with my sister. It was grassy. My*
>
> > *mom was cooking and I was playing outside."*

Differences. Group A differences in fluency were found in the ability to use connective transitions that served as links between phrases. Patterns and rhythm were present, but were mechanical rather than fluid. Group B sentence fluency was representative of connective words present, but used in a simple way. Patterns and rhythm were choppy and repetitive.

> Group A Girl: *"My mom told me to go outside to get a fish to cook it. My mom said, "I*
>
> > *am going to the store to get some sugar and salt." Then she said, if you caught a*
> >
> > *fish put it in the bucket and put it on the table."*

> Group B Girl: *"A snake, a house, too many snakes, and a heart house, butterfly, tree,*
>
> > *dog, horse, my mom, a house, cloud, hearts."*

In Group A, 67% of kindergarteners used a limited sampling of sentence patterns (capable). Connective words were shown with some variety. In Group a, 33% of kindergarteners used simple sentence elements with some repetition (developing). In Group B,

28% of kindergarteners used a limited sampling of sentence patterns (capable). In Group B, 46%

of kindergarteners used sentence elements with some repetition (developing). In Group B, 26%

of kindergarteners dictated words without connective elements (beginning).

Discussion

Similarities were evident in the sociocultural influences reflected in the subject content of

Navajo children's drawings who had attended preschool (Group A) and those who had not

(Group B). Navajo kindergarteners were inspired by events occurring outside of the school

setting and included topics such as landscapes and homes, people, and animals. This is

consistent with Mills' (1959) findings that Navajo children are influenced by traditional Navajo

images, and predominantly draw representational images of homes, mesas, and animals.

Sociocultural influences are representative of the traditional Navajo way of learning from

observation and imitation (Kravagna, 1971). This practice is reflective of Vygotsky's theory of

social interaction, in which culture, peers, and adults influence the developing child. Children

gain ideas from one another when sitting together to draw. Several Navajo kindergarten

drawings and stories are nearly identical. Pahl (1999) found that children often copy each other

and ideas tend to be shared among children working together. Peer teaching and copying has

been highly regarded in Navajo culture, with children learning from one another and gaining an

early sense of independence from adults.

"Drawing, as spontaneous un-coded language, provides a medium for articulation and

expression. While the verbal codes of literacy are being internalized, drawing is the

primary medium for all language values except practical communication, in other words

for expressing subtle and complex perceptions, thoughts and feelings" (Steel, 1997, pp.

25).

Differences were noted between the drawings of Navajo kindergarten children who

attended preschool and those who had not in the complexity and depth of the drawings. The

drawings of Navajo kindergarten children with previous preschool attendance were complex and

included representational details. All of student's drawings with previous preschool attendance

were in the Symbolic Stage, which is developmentally typical for children from ages 5 to 7. In

students who had not attended preschool, 52% were at the Symbolic Stage of drawing

development. Participation in the DISCOVER preschool summer program for Navajo

kindergarteners at risk due to low socio-economic status was beneficial in student's acquiring

critical early literacy skills by providing a targeted cultural educational enrichment opportunity

to better prepare students for formal reading instruction in kindergarten and early elementary

school.

Campbell and Ramey (1994) found that early education programs designed to promote

academic abilities, especially for children from disadvantaged backgrounds, were linked to

lasting effects on indicators related to student achievement. Children who attended preschool

tended to enter school with increased literacy and language skills and tended to keep that

advantage across the years over peers who did not attend preschool. Literacy achievement is

consistently and positively associated with preschool attendance and resulted in a positive

transition to kindergarten. Similarities in dictated stories of Navajo kindergarten children in a

dual language immersion program and those in English only programs are found in the

complexity of expressions. The dictated stories both Group A and Group B show evidence of

developing or capable skills in complexity of expression. This is developmentally typical of kindergarten students. Students use word choice to convey messages with varied complexity. Vocabulary words are limited to known or familiar words, with repetition of known words. When stories are more complex, words are grouped in ways to begin to create mental imagery of the message and convey a complete message.

Differences between dictated stories of Navajo kindergarten children in a dual language immersion program and those in English only programs were noted in voice and fluency of the stories. Differences were found in the developmental voice of the dictated stories. All of Group A kindergarteners are within the capable or developing range of demonstrating voice in a story while 54% of Group B kindergarteners are within the beginning range of demonstrating voice in a story. All of Group A kindergarten students are within the capable or developing range of story fluency, while 28% of Group B kindergarteners are within the beginning stage of story fluency.

The influence of education in a dual language can be viewed in these results. Dual language immersion programs create an environment in which two languages and cultures are valued equally, the minority language and culture are assigned a status equal to that of the majority language and culture. According to Genesee (1999, n.p.), "Dual-language programs...conceptualize non-English languages as a resource for English learners and as enrichment for English speakers. Thus, by valuing other languages, dual-language programs give these languages, and their speakers, greater prestige." Students in dual language immersion programs develop full oral, reading, and writing proficiency in two languages. This allows them to see their first language in a comparative perspective, which in turn helps them analyze and refine their language use (Cazabon, Lambert, & Heise-Baigorria, 2002). Students not only

achieve at levels that are similar to or higher than those of their peers enrolled in other programs

on standardized tests of reading and math in English, but in addition they are able to read and

write at grade level in another language.

Implications for Practice

Research on improving the early literacy achievements of students at risk for educational

failure has implications for educational policy. State and local policymakers can allocate

resources to ensure that new knowledge about curricula and professional development is used to

improve instructional practice. The need for all young children to be better prepared to enter

school ready to learn is evident. Researchers found that the literacy learning strategies thought to

be most effective were consistent with conclusions described in the Report of the National

Reading Panel (National Institute of Child Health and Human Development, 2000).   Early

literacy education for young children at risk for educational failure is most effective when

instruction is provided by knowledgeable teachers in collaboration with the family and

community. This requires a program of instruction that is thoughtful and purposeful. Policy-

makers should address the needs of diverse young learners by implementing a systems approach

to early literacy in a culturally inclusive preschool environment that includes the following

components (a) a comprehensive language and literacy based program of instruction to who are

at risk of educational failure, (b) ongoing teacher professional development and mentoring

opportunities, (c) family, school, and community partnerships.

Language and Literacy. Federal and state legislators have emphasized evidence based

practice to guide curriculum and instruction. Evidence must be grounded in scientifically based

research, which is the application of systematic and objective procedures to obtain information to

answer within a field. The purpose is to ensure that the consumers of research will have a high

degree of confidence that it is reliable and valid. Aspects of the summer program designed to

support the development of early literacy skills included (a) dual language immersion; (b)

higher-order thinking, appropriate pacing, self-directed learning, and complex problem solving

processes; (c) parent involvement; (d) integrated, interdisciplinary curriculum content; (e)

student interaction and interaction with experts; and (f) learning environments with physical and

psychological flexibility, openness, and safety.

Professional Development. The need for highly capable teachers is a constant theme in

early childhood education literature (Strickland & Riley-Ayers, 2007). National and government

mandates have increased the expectations and educational requirements of early childhood

teachers for federally and state funded preschool programs (U.S. Department of Health and

Human Services, 2003). Early childhood teachers need to be able to promote a range of cultural

language and literacy practices and strategies to foster appropriate development and assessment.

Family, School, and Community Partnerships. The main goal of parent involvement

partnerships is to raise students' academic achievement. Effects of home environments on

school learning are significant and well documented in the research literature. Convincing

evidence exists that parents make significant contributions to their children's school outcomes

(Fan & Chen, 2001). Parent participation in a child's education is associated with increased

achievement motivation, reduced dropout rate, and improved social behavior and interactions

with peers. Family, school, and community partnerships are important for supporting

competencies in young children and can ensure their school success. When partnerships are

established and maintained, children may have more positive school experiences because these

resources are available (Kraft-Sayre and Pianta, 2003). For example, if parents have positive relationships with their children's teachers, then teachers and parents can work more effectively together to support children's educational progress.

Implications for Research

This study has implications for future research in the area of Culturally Responsive Teaching in a dual language immersion model. Educators implementing Culturally Responsive Teaching recognize the importance of including students' cultural references in all aspects of learning (Ladson-Billings, 1994). Culturally responsive educational systems are grounded in the belief that culturally and linguistically diverse students can excel in academic endeavors. Culturally responsive pedagogy and practice facilitates and supports the achievement of all students. In culturally responsive classrooms and schools, effective teaching and learning occur in a culturally-supported, learner-centered context, where the strengths students bring to school are identified, nurtured, and used to promote student achievement.

Limitations

Participants in this study were limited to Navajo kindergarteners in two schools in the southwestern United States. This may limit the generalizability of the study to other schools on the Navajo Nation.

Conclusion

This study was conducted to examine the influence of prior preschool attendance, culture, and language socialization on early literacy success in drawing/pre-writing skills of kindergarten students at risk of school failure due to low socioeconomic status. The main findings of this

study included the sociolinguistic impact of preschool education on young children's growth in

literacy development that incorporated the cultural values, attitudes, and beliefs of the home and

heritage language. Researchers have found that the preschool years are critical to the

development of emergent literacy skills that will help prevent later reading problems (Pullen &

Justice, 2003). Early literacy skills are the best predictors of later achievement in reading and

oral language (Adams, 1990; Snow et al, 1998). Children who attend preschool tend to enter

school with increased literacy and language skills and tended to keep that advantage across the

years over peers who do not attend preschool. Early education programs designed to promote the

heritage culture in conjunction with academic abilities, especially for children from

disadvantaged backgrounds, are linked to lasting effects on indicators related to student

achievement. Literacy achievement is consistently and positively associated with preschool

attendance, and reflect favorable outcomes for a positive transition to kindergarten.

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Table 1

Problem Types in the DISCOVER Curriculum and Assessment Models

Problem Types	Problem		Method		Solution	
	Presenter	Solver	Presenter	Solver	Presenter	Solver
I	K	K	K	K	K	U
II	K	K	K	U	K	U
III	K	K	R	U	R	U
IV	K	K	U	U	U	U
V	K	K	U	U	U	U
VI	U	U	U	U	U	U

Note. K = Known; U = Unknown; R = Range, by (Reference Withheld)

Table 2

Elements in Drawings of Navajo Kindergarteners

Elements	Percentages	
	Group A (n=30)	Group B (n=35)
Homes & Landscapes	40	40
People	53	34
Animals	27	14
Prior Experiences	43	31
Shadows & Shading	30	14
Series of Pictures	13	0
Topography	67	0
Floating Figures	3	43
Alphabetic String	0	11

Note. Group A consisted of Navajo students with previous preschool attendance in a DISCOVER summer program. Group B consisted of Navajo students with no previous preschool experience.

Table 3

Developmental Stages of Drawings as Literacy Development

Stage	Percentages	
	Group A	Group B
	(n=30)	(n=35)
Scribbling	0	17
Pre-symbolism	0	31
Symbolism	100	52

Note. Group A consisted of Navajo students with previous preschool attendance in a DISCOVER summer program. Group B consisted of Navajo students with no previous preschool experience.

Table 4

Elements in Dictated Stories of Navajo Kindergarteners

Elements	Percentages					
	Beginning		Developing		Capable	
	Group A	Group B	Group A	Group B	Group A	Group B
Complexity of Expression	10	34	23	31	67	35
Voice	0	54	33	14	67	37
Fluency	0	26	33	46	67	28

Note. Group A consisted of Navajo students with previous preschool attendance in a DISCOVER summer program. Group B consisted of Navajo students with no previous preschool experience.

Figure 1. Developmental Stages of Children's Drawings

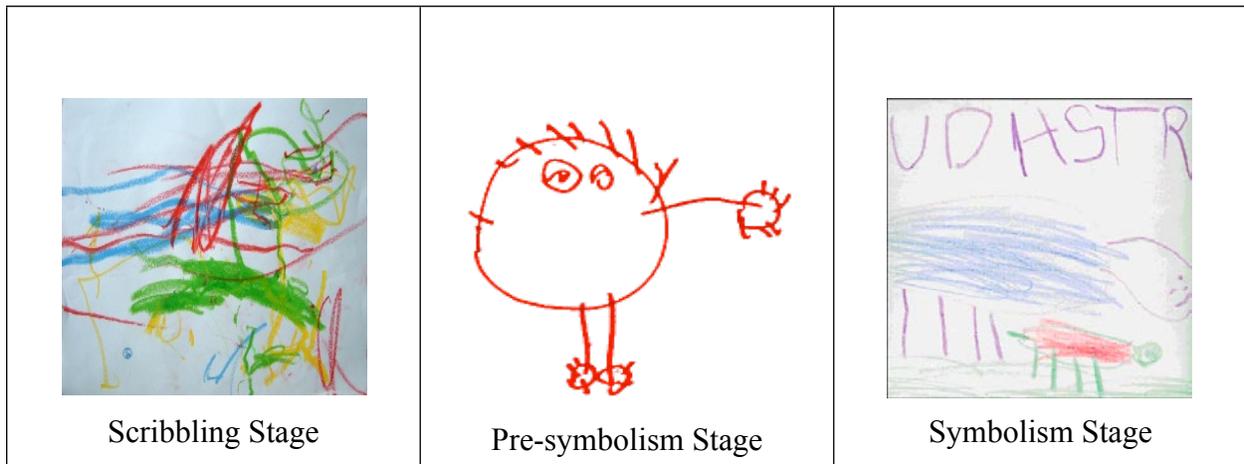| Scribbling Stage | Pre-symbolism Stage | Symbolism Stage |

Figure 1. Pre-writing or early writing stages developed inter-relatedly and concurrently with literacy in young children who were actively engaged in understanding how written language was used. Drawings were analyzed using the stages identified by Schickedanz, J. (1999). Much more that the ABC; the early stages of reading and writing. Washington DC: National Association for the Education of Young Children.

Figure 2. Sociocultural Influences on Navajo Children's Drawings

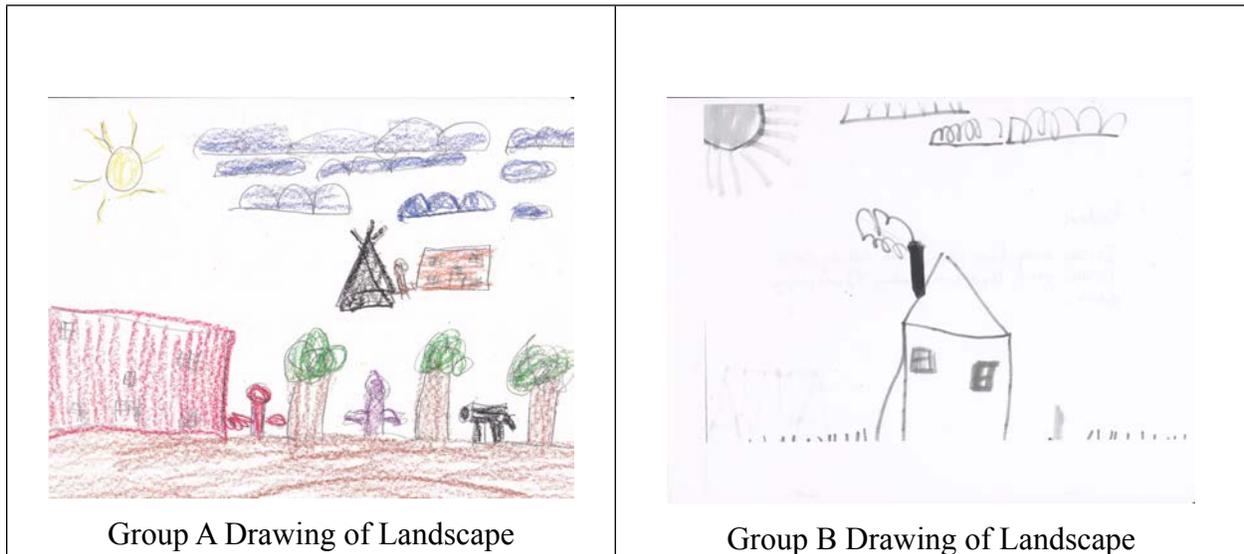| Group A Drawing of Landscape | Group B Drawing of Landscape |

Figure 2. Sociocultural similarities were noted in the subjects of Navajo children's drawings. A yellow circular sun at the top of the page and a horizontal line at the bottom of the page were symbolic representations of the sky and ground. Cultural elements included drawings of homes and familiar landscapes.

Figure 3. Likeness in Navajo Children's Drawings

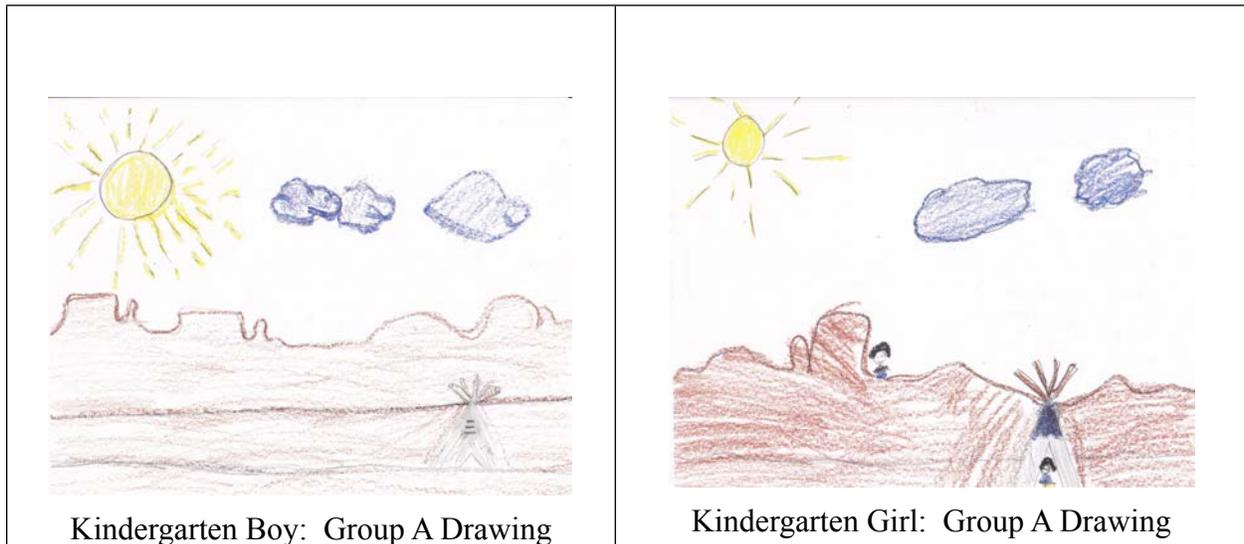|	
Kindergarten Boy: Group A Drawing	Kindergarten Girl: Group A Drawing

Figure 3. Sociocultural influences were noted in the likeness of Navajo children's drawings. Likeness in drawings is reflective of the traditional Navajo way of learning from observation and imitation. Teachers noted that students with similar drawings sat in close proximity to one another.

Figure 4.   Complexity and Depth of Navajo Children's Drawings

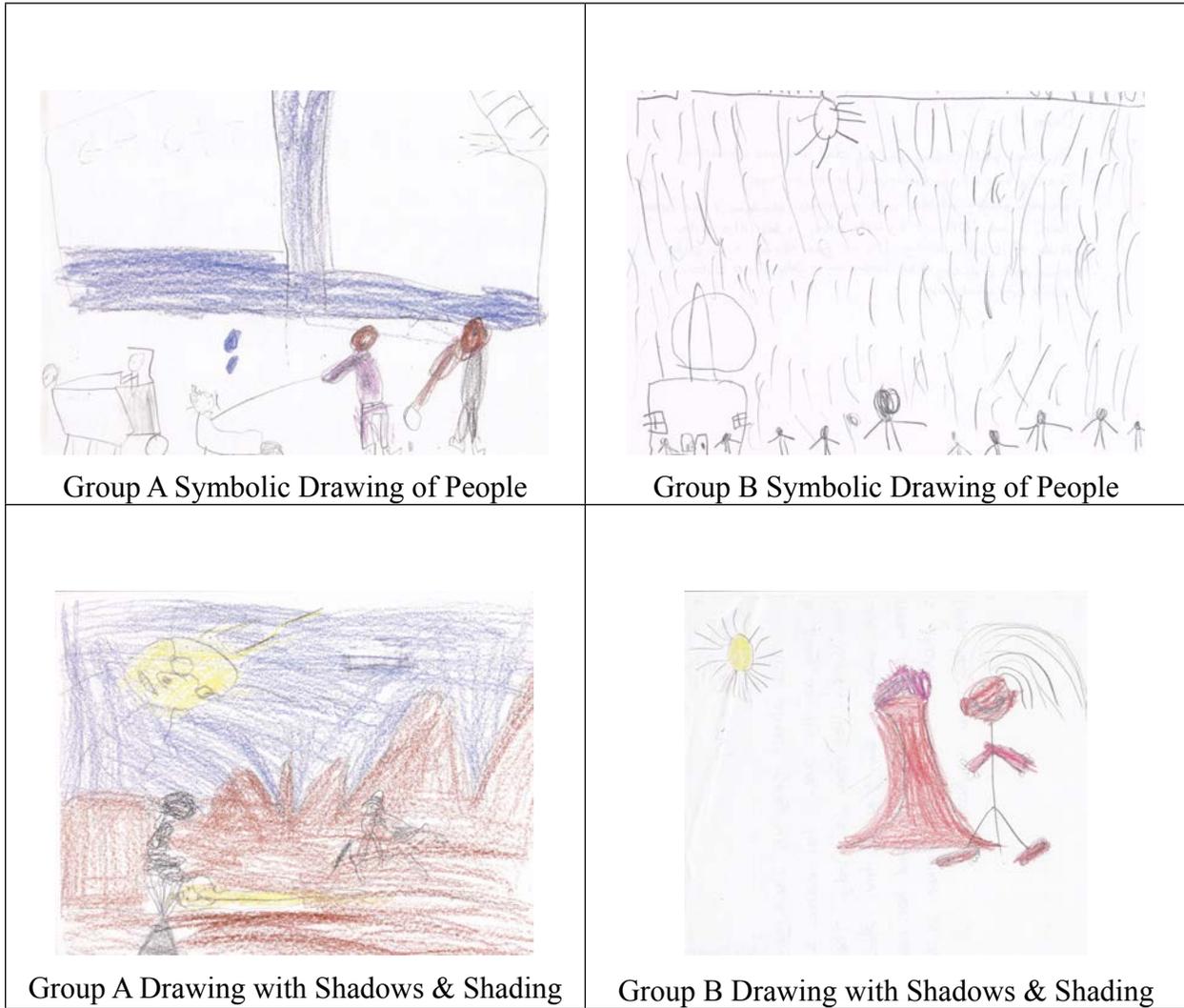|	
Group A Symbolic Drawing of People	Group B Symbolic Drawing of People
Group A Drawing with Shadows & Shading	Group B Drawing with Shadows & Shading

Figure 4.   Shadows and shading were used to depict landscapes or to signify the importance a specific element. Color made these elements stand out in the drawing as a composition.

Figure 5. Alphabetic Letters in Navajo Children's Drawings

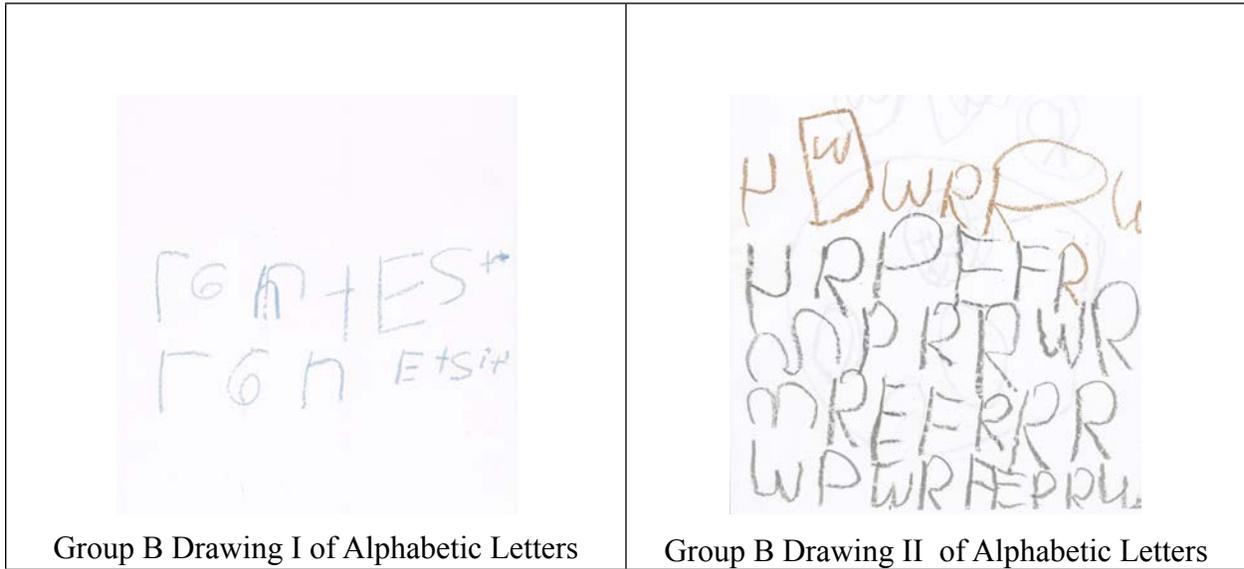| Group B Drawing I of Alphabetic Letters | Group B Drawing II of Alphabetic Letters |

Figure 5. Group B kindergarteners drew or wrote alphabetic letters as string letters on the page instead of pictures or figures.