

# Native American Children and Youth: Culture, Language, and Literacy

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This paper first reviews the research on the influence of culture, notably differences in discourse and interaction characteristics between children's homes and classrooms (Au, 1980; Au & Mason, 1981; McCarty, Wallace, Lynch, & Benally, 1991) on the academic engagement and performance of Native American children. It then turns to an examination of instructional approaches to promote literacy that have been used with Native American children (Anderson & Watts, 1996; Au & Carroll, 1997; Bacon, Kidd & Seaberg, 1982; Doebler & Mardis, 1980-81; Fayden, 1997; McCarty, 1993; Rosier & Holm, 1980; Tharp, 1982).

With regard to the research on discourse and interaction characteristics, the descriptive studies provide evidence that norms and expectations for social interaction differ between the home and conventional school environments of Native American children. Further, one study (Au & Mason, 1981) indicates that culturally compatible instruction had positive effects on native Hawaiian speakers' level of engagement and participation during reading lessons. The few programs that examine instruction suggest that Native American children benefit from culturally-based instructional approaches designed to align schooling with students' cultural background, but additional research is needed. Many of the programs reviewed combine many elements, some of which are not culturally-rooted, so it is difficult to determine exactly what it is about the programs that made them effective. Moreover, most of the studies are case studies or non-experimental comparative studies and thus the findings about effective practice are suggestive only.

## Methodology of the Review

The review focused on Native-American children aged 3-18 acquiring literacy in English or their native language. While three distinct groups comprise the Native American population—American Indians, Alaska Natives, and Native Hawaiians (Demmert & Towner, 2003)—studies were located only for American Indians and Native Hawaiians. The paper incorporates research published in peer-reviewed journals and technical reports dating back to 1980. Book chapters and literature reviews were used to provide context for the findings presented; these are used in the discussions, but not in the findings. To be included, studies had

to report data; no thought pieces were included. Studies whose goal it was to compare the use of native language instruction to English-only instruction had to include pretest scores related to the outcome of interest. To identify studies for use in this review, we conducted a series of electronic and hand searches of the literature. A systematic interpretive procedure (Fitzgerald, 1995) was used to examine the research and summarize findings across studies. Studies were categorized by major themes or foci. Studies in each group were reread and classified with regard to similarities, differences, and results to determine cross-cutting themes, as well as methodological strengths and weaknesses.

### **Influence of Differences in Discourse and Interaction Characteristics between Children's Homes and Classrooms**

Many educators have suggested that minority children are socialized to interact with others at home and in their community in ways that may be at variance with expectations for interaction in school. These interaction or discourse differences may interfere with school achievement, as children are required to interact with other children and with the teacher in ways that are strange or difficult for them. By extension, minimizing the interaction gap between home and school could help promote higher levels of literacy attainment by removing obstacles to interaction and making the classroom more familiar and comfortable.

#### Native Hawaiians

Several key studies are based on research and development conducted at the Kamehameha Early Education Project (KEEP) in Hawaii (see Tharp, 1982, for additional description of the KEEP project), a research and development effort aimed at improving the literacy achievement of students of Native Hawaiian ancestry. Most of the children in the school are part-Hawaiian, native speakers of the local dialect, from families on welfare, and living in urban Honolulu. Au (1980) analyzed a sample reading lesson in a second grade classroom, focusing on interactions between the teacher and four children (although there were 20 children in the classroom at the time). The teacher was Hawaiian and "a very capable reading instructor" (p. 95). An analysis of a twenty-minute reading lesson indicated there were nine different participation structures that could be placed on a continuum ranging from those that resembled conventional classroom recitation to those that resembled the Hawaiian talk story. The major similarity of the KEEP lesson and talk story was that both entailed a high degree of joint performance (for example, more than half of the turns in the lesson involved the joint performance of two or more children). Subtle differences were the absence of a lead speaker in certain participation structures and far less co-narration in the lesson. The teacher's role also "struck a balance between a conventional lesson and talk story." Au attributes this to the teacher's need to "exert some authority over the group to ensure that the verbally productive talk story-like contexts are channeled toward academically constructive ends" (p. 110). Two other attributes of teaching that were culturally compatible and helped the teacher

establish herself as an authority were: “breathing room—the teacher’s willingness to let children respond as best they can at the moment, without criticism that reflects on their abilities, and equal time—the teacher’s ability to equalize the distribution of turns among the children” (p. 111). Au maintains that that the underlying assumption is that “interaction in reading comprehension lessons directed by an adult teacher would promote the academic achievement of young minority students, if the contexts in the lessons were structured in a manner consistent with the children’s culture” (p. 112). She asserts that for “students who received reading lessons of the type described for a period of two more years, the notion was supported” (p. 112), and refers to Klein (1981) for data on the fourth grade achievement of KEEP students compared with students who had attended conventional programs, but this article does not present data on student outcomes.

In a subsequent study, Au and Mason (1981) examined the manner in which two teachers interacted with seven year-old Hawaiian children and related their interaction patterns with achievement-related student behavior. They found that when classroom instructional interaction was compatible with interaction patterns in Hawaiian children’s native culture (i.e., characterized by a high proportion of time overall when the students negotiated turn-taking among themselves, and more than one child could speak at a time), the students demonstrated much higher levels of achievement-related behaviors academic engagement than when instructional patterns conformed to typical U.S. classroom patterns, whereby students wait for the teacher to call upon them and speak one at a time. Au and Mason call this construct “balance of rights”—the extent to which instructional interactions permit self-selected turns by students, overlapping speech, and the absence of the teacher’s explicit and overt control of the interaction. Their study found that when the balance of rights in the KEEP classrooms was such that students could speak freely and spontaneously without waiting for teacher permission, an interaction pattern similar to that at home, students’ achievement-related behaviors (defined as academic engagement, topical and correct responses, number of idea units expressed, and logical inferences) all increased during the reading lesson.

These are potentially important outcomes, particularly to the extent that the achievement-related behaviors documented by Au and Mason actually promote higher levels of student achievement. There is in fact a literature suggesting that academic engagement and other achievement-related behaviors are associated with measured achievement (see, e.g., the review in Wang & Walberg, 1983 and, more recently, Fredericks, Blumenfeld, & Parks, 2004). However, researchers also have shown that the effects of participation and engagement on actual learning are inconsistent (Karweit, 1989; Saville-Troike, 1984). The critical point with respect to the Au and Mason study is that achievement-related behaviors (which Au and Mason measured) and student achievement (which they did not) are not the same thing. Achievement-related behaviors can be influenced by a particular intervention—e.g., culturally accommodating instructional patterns—

but we simply do not know the relationship between these behaviors and actual measured achievement in any aspect of reading.

### American Indians

McCarty, Wallace, Lynch, and Benally (1991) report on the implementation of an inquiry curriculum for Navajo students that they argue is more compatible with the inductive-inquiry learning pattern children experience in natural settings outside the classroom. This study is similar to that of Au and Mason in that the authors hypothesize that when teachers use culturally familiar interaction styles with students, students are engaged more productively in lessons. McCarty and colleagues present a general description of an instructional approach whereby students are encouraged to talk and generate hypotheses using artifacts, pictures, and concepts familiar to them, contrasting this with “basic skills methods emphasizing cue-response scripted drills” (p. 48), described later in the article as “communicative interaction [in] the form of face-to-face assault” (p. 52). The curriculum was developed around the concept of “*k’ é*, meaning kinship, clanship, and right and respectful relations with others and with nature” (p. 46). The curriculum sequence was “organized around concepts relevant to *k’ é*, which expand in spiraling fashion to higher levels of abstraction, generality, and complexity. For example, the concept of interaction in the lower primary levels is framed in terms of the interaction of self with family members and clan relatives;...At higher levels, students have opportunities to develop an increasingly sophisticated and critical understanding of the concept in light of interactions of groups of people, nations, and governments” (p. 46). The curriculum was conducted for part of one school year in four upper-elementary classrooms. In all but one classroom, instruction was conducted in Navajo.

They report that the Native American students in the study responded eagerly and verbally to questioning during the highly interactive lessons, even in their second language (English). Unlike Au and Mason, however, who demonstrated through a comparative analysis with a contrasting reading lesson that students responded more positively to a “culturally familiar” interaction style with the teacher, McCarty and colleagues simply assert that students became more engaged when the inquiry curriculum was used. The only data offered consist of a brief report that a very outspoken critic of the inquiry approach (a staff member at the school) “admitt[ed] that Navajo students will indeed respond, eagerly and enthusiastically, to classroom questioning” (p. 49) and other reports from teachers that students were willing participants in the learning activities. Moreover, no data are reported on any achievement outcomes (but see the discussion of McCarty, 1993, below for achievement data from this project).

### **Instructional Approaches**

The studies reviewed in this section provide insights into the effects of an instructional model as a whole or of an instructional strategy carried out as one element of a model on the literacy development of Native American students. All

the programs incorporate culturally-based elements. According to Demmert and Towner (2003) culturally-based education programs have six critical elements: “recognition and use of Native American languages; pedagogy that stresses traditional cultural characteristics and adult-child interactions as the starting place for one’s education; pedagogy in which teaching strategies are congruent with the traditional culture as well as contemporary ways of knowing and learning (opportunities to observe, practice, and demonstrate skills); curriculum based on traditional culture that recognizes the importance of Native spirituality, and places the education of young children in a contemporary context (i.e., use and understanding of the visual arts, legends, oral histories, and fundamental beliefs of the community); strong Native community parent participation, and knowledge and use of the social and political mores of the community” (pp. 9-10).

### Native Hawaiians

Tharp (1982) conducted a series of three studies that evaluated the KEEP program in its early years. The first study was an analysis of six successive cohorts of students in the KEEP school “during a time in which the program changed from a decoding (phonics) to a comprehension orientation, but active, teacher-led direct instruction continued. Results from the first study indicated that cohorts that included first through third graders who received more exposure to the comprehension program had better outcomes.”<sup>1</sup> However, the author indicates, “results might be attributed to a concurrent change from large-group self-contained classrooms with some small group work to an entirely small-group system which is compatible in a number of ways with Hawaiian culture” (p. 511). The second study compared students who were in KEEP classrooms with those in control classrooms on two standardized achievement tests and found that KEEP students performed significantly better. The KEEP classrooms differed from the control classrooms in that “they were larger; used criterion-referenced tests more frequently, used small-group instruction formats for all instructional time, not only for the teacher-led instructional period, and teachers devoted substantially more time to the teaching of comprehension (66% vs. 30%)” (p. 512). It should be noted that although the second study indicated positive results, we cannot rule out that differences may have existed prior to the intervention that influenced student outcomes.

The third study was an experiment carried out in public schools in communities densely populated by Native Hawaiians/part Hawaiians. All children in the classrooms spoke Hawaiian Creole. Students were randomly assigned to two experimental and two control classrooms at each of two schools. At one site, KEEP teachers instructed the two experimental classrooms and regular classroom teachers instructed the two control classrooms. At the other site, two regular teachers who had been trained in KEEP instructed the experimental classrooms and two regular classroom teachers instructed the control classrooms. Six critical elements of the experimental classrooms that differentiated them from the control classrooms included: 1) more time spent on reading comprehension and relatively

less time on decoding; 2) more frequent criterion-referenced testing to monitor student progress; 3) classes that relied entirely on small-group discussion for reading lessons in which the “dominant participation structure was highly informal, continuing overlapping speech, mutual participation by teacher and students, co-narration, volunteered speech, instant feedback, and lack of penalty for wrong answers” (p. 519); 4) child motivation maintained through high rates of praise and other forms of positive interpersonal reinforcement; 5) individualized diagnostic prescriptive instruction; and 6) a quality control system in which the program characteristics are measured, rated, and used to monitor program implementation.

On the vocabulary subtest of the Gates-MacGinitie Reading Tests, which, according to the test manual is a measure of decoding at the first-grade level, the experimental groups significantly outperformed the control groups despite the apparent reduction in phonics instruction. On the comprehension subtest of the same battery, the differences favoring the experimental groups nearly reached the .05 significance level. In contrast, full-scale scores on the Metropolitan Reading Tests showed no end-of-year differences. In other words, on one test this approach led to gains in decoding and gains that nearly reached significance in reading comprehension, but the differences were not evident on an alternative reading test.

In summary, the KEEP program did produce positive, if modest, effects on student reading achievement. In addition to instruction accommodating the children’s interactional styles, however, the KEEP program comprised a number of other elements, such as small-group format, emphasis on comprehension, active direct instruction by teachers, systematic instructional objectives, frequent monitoring of teaching, and criterion-referenced assessment of student learning.

Au and Carroll (1997) describe the outcomes of a two-year demonstration classroom project designed to help teachers implement a whole-literacy approach to instruction. The whole-literacy curriculum was developed to improve the effectiveness of services to teachers and students in KEEP that according to the authors had eroded over time, in part because of the use of a mastery learning approach to skills. The project took place in a school district where over 60 percent of the students enrolled spoke Hawaiian–Creole English as their first language. Most of the students came from low-income families. Demonstration classrooms were selected to implement the constructivist approach to literacy education. As part of this implementation, classroom teachers developed their instructional expertise by working with KEEP staff. One element of the project was the placement of KEEP staff members, known as consultants, in schools to provide teachers with in-service training. According to the authors:

[O]wnership of literacy was the overall goal, and the curriculum emphasized reading and writing rather than placing equal emphasis on all the language arts, including speaking and listening. Second, [project] teachers in primary-grade classrooms continued to use ability grouping for reading instruction, at least part of the time. Third, the curriculum stressed the use of culturally

appropriate instructional strategies as described in Au and Mason, 1983. Fourth...the curriculum included grade-level benchmarks designed to focus instruction and facilitate program evaluation. (Au & Carroll, 1997, p. 205).

Instruction in literacy occurred in readers' and writers' workshops and included a portfolio assessment system anchored to the standards. Because of implementation problems,<sup>2</sup> the authors focused on writing, using classroom observations to document the degree of implementation and portfolio assessments to assess student achievement.

A detailed analysis of the implementation data revealed a growth trend in the number of items implemented by teachers from the beginning to the end of the year. In analyzing the four categories of program features, researchers found that "classroom organization items were most readily implemented, followed by items related to student opportunities for learning. The instructional practice items were more challenging to implement because they required teachers to participate as learners and writers in the classroom. Assessment items proved the most difficult to implement" (p. 216). The findings also showed that teachers who had greater experience with the whole-literacy approach and thus were able to implement more of its features had greater success with their students, and ended the school year with fewer students below and more students above grade average.

Student scores were derived from a portfolio assessment system that had been developed by KEEP. This assessment was anchored to standards and described the desired achievement of the hypothetical average student at the end of each grade. Four sources provided information about these standards: "(1) the Hawaii State Department of Education's language arts curriculum guide, (2) the reading objectives of the National Assessment of Educational Progress (1989), (3) the standardized test series used in the state's evaluation program, and (4) recently published basal reading and language arts programs" (p. 205). In areas not traditionally evaluated, such as ownership and voluntary reading, benchmarks were based on published research and observations in KEEP classrooms.

Teachers provided ratings for six students from their classrooms—two representatives of students achieving in the top third of the class, two in the middle third, and two of the lowest third—who had been present for writing instruction for at least half the school year. Students were rated on all the benchmarks for their grade level (and for the grade level above, in the case of advanced students).

KEEP benchmarks fell into two categories—ownership of writing (i.e., enjoys writing, shows interest in others' writing, writes inside and outside of class for own purposes) and writing process (a holistic score for quality of writing, and ratings for carrying out key components of writer's workshop—planning, drafting, revising, editing, publishing, and research strategies). It should be noted that although many of the benchmarks addressed processes, others dealt with products. For example, one benchmark required the holistic quality of students' writing samples to be judged at grade level. Teachers were asked to make these

judgments by referring to a scoring manual that included anchor pieces for each grade level. Ratings were based on evidence in students' portfolios indicating that students had or had not met this benchmark. An audit of portfolio results for each classroom was conducted to ensure that ratings were reliable. The audit team consisted of two KEEP members from outside the school and the site manager. During year one, the auditor's ratings matched those of the consultant 98 percent of the time in the case of writing benchmarks; during year two, the rate of agreement was 94 percent.

Student achievement data revealed a drop in the number of students scoring below grade level for both ownership of writing and writing process. For instance, at the beginning of year one, 42 percent of students scored below grade level for ownership of writing, and 60 percent scored below grade level for writing process. By the end of year one, these numbers had declined to 15 percent and 31 percent, respectively. These numbers were lower still at the end of year two—six percent and 28 percent, respectively.

### American Indians

Fayden (1997) examines the effect of shared reading on 24 primarily low socioeconomic American Indian and Hispanic kindergarteners who had limited experience with books. She defines shared reading as "the teacher uses a Big Book—the reading is directed to a group of children who eventually learn, through repeated readings and other techniques, how to read the book independently" (p. 23). Shared reading took place for approximately 30 minutes a day over the course of ten weeks. Students were also involved in extension activities of the story, including book making, cooking, singing, and choral reading for an additional 45 minutes daily. A repeated measures MANOVA was performed on all the pre- and post-test measures that included Clay's (1985) Early Detection of Reading Difficulties and Clay's (1972) Sand Test.<sup>3</sup> With regard to the measures, it is not clear from the study whether children were being assessed as they read text they had already read or novel text. Results indicated significant improvement. However, as with similar studies cited in this paper, the effects are plausible, but the absence of a control group and lack of information about the assessment procedures attenuates the findings. It is also noted that there are not culturally-based components specifically described by the authors, although these components may have existed.

Anderson and Watts (1996) conducted a year-long case study of the reading development of a primarily American Indian urban first-grade class who participated in a teacher-designed special reading program. All the students began the year as nonreaders and are described as economically disadvantaged. The reading program used in the class is described as a balanced composite of the best of the whole language, phonics, and basal approaches. "Thus, writing was a major component of reading instruction, skills instruction occurred within meaningful primary contexts, a variety of print forms were used, and [the teacher] approached his instruction thematically" (pp. 7-8). In addition, [the teacher] taught systematic



lessons on phonemic discrimination, letter-sound correspondence, and blending, using approaches recommended by Cunningham (1995) (p. 8). The four major components of the program included: “engaging in many types of reading, making connections between reading and writing, using flexible grouping, and assuming the role of diagnostician” (p. 8). In addition to these components, a “Leader Reader” program was created with two primary goals—to reward students for attending to specific beneficial reading behaviors and to provide American Indian community role models who modeled reading and discussed the role of reading in their lives. Standardized achievement and attitude tests were administered at the end of the school year to the students (N = 19) and to a control class in the same school. It was found that achievement scores among the experimental group were at the 55th-56th percentile, whereas the control group had scores at the 12th percentile. The attitude scores ranged from the 69th-72nd percentile in the experimental class compared with the 25th-28th percentile of the control class. The authors attribute the success of the program to (1) the child-centered approach, (2) the accelerated pace and amount of instruction, (3) the focus on specific reading behaviors, and (4) community involvement in the form of the visiting leaders and donated funds for books to give as incentives. While these findings are consistent with program effects, we cannot rule out that differences may have existed prior to the intervention, although the authors indicate that both groups started out the year as non-readers and had had the same kindergarten teacher. The effects might also be related to attributes of the teachers other than those described as the ‘intervention’ since the treatment class was with one teacher and the control class with another.

McCarty (1993) describes a program, whose origins were in collaboration with the KEEP program (see Vogt, Jordan, & Tharp, 1987); the program was designed to tap the language and literacy strengths of Navajo bilingual learners. The classrooms used pedagogy and curriculum associated with whole-language literacy approaches (e.g., children’s literature, authentic reading and writing experiences, cooperative learning, and a language experience approach). To this extent, there was nothing unique to Navajo culture about the program. The primary cultural accommodations included the “specific ways in which teachers and classrooms accessed and made use of the unique linguistic and cultural resources of their students and community” (p. 185). This includes the use of the Navajo language in the classroom; the content selected for the thematic units studied—e.g., wind, sheep, and corn, all of which are prominent in Navajo daily life; and involving parents as teachers in the classroom and taking classroom investigations into the community.

McCarty reports rising scores on both locally developed and nationally standardized tests at the school, although it is difficult to link the curricular and instructional changes she describes with those changes in scores. The KEEP collaboration began in 1983 and lasted five years. Thereafter, a Title VII grant supported continued development and adaptation of the KEEP model with the Navajo children. The achievement data McCarty reports are for spring 1990 to

spring 1991, when the K–3 children in the Navajo language arts program achieved gains of 12 percentage point on locally developed literacy measures. During the same period, McCarty reports, Comprehensive Test of Basic Skills percentile scores “more than doubled in reading vocabulary” (p. 191).<sup>4</sup> McCarty also presents examples of children’s writing, indicating the sorts of written work they were producing in the language arts program. McCarty indicates that the findings are preliminary and indicates a fuller evaluation had been planned for the following year. As such claims of program effects are plausible, but the absence of a strong evaluation design for this study, primarily a comparison group, attenuates the claims.

Doebler and Mardis (1980-1981) compared a bilingual program in Choctaw with English-only instruction study among 63 Choctaw second graders in Mississippi. All the subjects were native Choctaw speakers, and none was fluent in English. Exposure to English occurred in the classroom only in that children spoke Choctaw at home and on the playground. Seven classrooms participated in the study—four experimental and three control. The decision to participate as a bilingual or control classroom was left to the staff at each school. The bilingual program taught mathematics, reading, and science in the Choctaw language, which was supplemented with some ESL instruction to teach English reading and language arts and reinforce content concepts taught in Choctaw. In the control condition, children were taught solely in English by certified teachers. Controlling for performance on a standardized measure of reading administered in the fall, there were no differences between the groups on the same measure in the spring of second grade. The analysis does not take into account assignment at the classroom level and does not adjust for nesting effects. Effect sizes could not be computed because the analysis did not report sufficient information. In interpreting the results, it should be noted that all students had been taught in Choctaw with ESL in kindergarten and first grade so the study really compares the effect on English of one additional year of instruction in English. Findings suggest that teaching children in Choctaw does not hinder their reading development in English as compared with a control group of children who had more exposure to English for one year.

Two additional studies (Bacon, Kidd & Seaberg, 1982; Rosier & Holm, 1980) also compared the use of children’s native language with English instruction in promoting literacy development in Native American children. Both studies are ex post facto comparative studies and had other design flaws and thus the findings are suggestive only (Demmert & Towner, 2003). Both studies found that Native American children (Cherokee and Navajo, respectively) receiving bilingual instruction scored higher in reading than Native American children who received instruction only in English.

## Summary

The descriptive studies discussed in this paper provide evidence that norms and expectations for social interaction differ between the home and conventional school environments of American Indian and Native Hawaiian children. Although the studies suggest that attempts to address or accommodate interactional differences are beneficial, there is only one study that presents data (Au & Mason, 1981); the authors found that culturally compatible instruction had positive effects on Native Hawaiian speakers' level of engagement and participation during reading lessons. But even this study did not measure literacy achievement or comprehension of the stories being discussed, so we do not know whether the higher levels of engagement and participation led to greater achievement or learning. Clearly, this is one area where additional research would be beneficial.

Overall, the studies that examine instruction have many strengths, among them detailed information about the context in which the programs are implemented, program implementation itself, and student performance. However, with the exception of two studies (Doebler & Mardis, 1980-81; Tharp, 1982), they are case studies or non-experimental comparative studies; as such the findings provide interesting insights about method of instruction but cannot be taken as providing definitive evidence about effective practice.

The studies suggest that American Indian and Native Hawaiian children benefit from explicit phonics instruction (Anderson and Watts, 1996; Tharp, 1982) when it occurs in the context of meaningful material. Other attributes of the effective programs include: the importance of keeping close track of student progress and using assessments aligned with the curriculum to guide instruction (Au & Carroll, 1997; McCarty, 1997; Tharp, 1982); instruction in small homogeneous ability groups (Au & Carroll, 1997; Tharp, 1982); active instruction of comprehension (Tharp, 1982); questioning that includes recall as well as requests for higher order thinking such as inference (McCarty, 1993; Tharp, 1982); a process approach to reading and writing (Au & Carroll, 1997; Fayden, 1997; McCarty, 1993); positive reinforcement to maintain child motivation (Tharp, 1982); and a system to monitor teaching and learning and make adjustments as necessary (Au & Carroll, 1997; Tharp, 1982).

Many of the programs have components that try to create a bridge between the school and community culture through the use of Native mentors (Anderson & Watts, 1996); culturally familiar text (McCarty, 1993); culturally-appropriate instructional strategies such as an "informal participation structure containing overlapping speech, mutual participation of students and teacher, co-narration, volunteered speech, instant feedback and lack of penalty for wrong answers" (Au & Carroll, 1997; McCarty, 1993; Tharp, 1982), and use of the native language (Bacon, Kidd & Seaberg, 1982; Doebler & Mardis, 1980-1981; McCarty, 1993; Rosier & Holm, 1980).

As with all effective schools research, most of the programs evaluated here combine many elements and it is difficult to determine exactly what it is about

the programs that made them effective. As Tharp acknowledges, “it is probably impossible to evaluate the separate program elements individually, because they always occur in interaction with others” (p. 521). For example, what we can conclude from Au and Mason (1981) and Tharp (1982), taken together, is that (1) instructional interactions that were part of the KEEP program contributed to higher levels (quantitatively and qualitatively) of student academic engagement, and (2) the program overall contributed to somewhat higher levels of measured student reading achievement. But we do not know the degree to which instruction that accommodated children’s native interaction styles made a direct, or even indirect, contribution to their literacy attainment. This therefore remains only a plausible hypothesis.

With regard to culturally-appropriate instructional strategies such as small group instruction, it is plausible that the programs are more effective *in general* and that children will respond more enthusiastically to the give-and-take nature of its reading comprehension lessons regardless of natal interaction patterns. Hard evidence is lacking, but the generality of the effectiveness of the KEEP reading lessons—as opposed to culture-specific effects—is suggested by other studies with different populations of students in which components of the lessons pioneered at KEEP (such as “instructional conversations”) were apparently employed successfully. For example, Saunders and Goldenberg (1999) found that the instructional conversation-only and instructional conversations and writing groups composed of Latino language minority students outperformed both the writing-only and control groups on factual and interpretive comprehension of the story. Thus, students who engaged in instructional conversations had better comprehension than those who only read or who read and wrote. What is lacking is a study examining hypothesized culturally accommodating instructional interactions with regard to their effects on distinct groups of students—those whose culture aligns with the intervention and others whose culture does not.

The research also indicates the difficulty of implementing new approaches to teaching, particularly those that are not scripted. For example, McCarty et al. (1991) document the reluctance of teachers and aides to “try very different, open-ended questioning strategies and literature used in the inquiry curriculum [the researchers had developed]. Their class schedules already filled by basic skills, many teachers resisted the intrusion of a new, unproven approach, insisting that ‘Navajo students won’t respond to questioning anyway’” (p. 48). The authors report that few teachers made use of the materials until they observed a demonstration lesson in which students responded actively. The KEEP experience highlighted the importance of supporting teacher change and the need for systems that are intensive, elaborate, and enduring to accomplish this. Two critical tools in supporting teacher change were the classroom implementation checklist and grade-appropriate benchmarks used to assess student progress.

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### Endnotes

<sup>1</sup>The author notes that "cohort analysis can only suggest that differences in outcomes are due to the exposure to one kind of instruction over another because one cannot assume independence of measurement; further cohort designs allow considerable uncontrolled and ill-understood variation through passing years" (p. 527).

<sup>2</sup>Because data from the first two years suggested that student achievement was unaffected by the efforts to implement a whole-literacy curriculum, project staff reexamined their approaches to providing faculty development and support. This resulted in teachers having the option to focus on either reading or writing in their classrooms, rather than having to learn and implement new approaches to teaching both reading and writing in a single year. The majority of the teachers in the project chose to focus on writing.

<sup>3</sup>The Sand Test measures elementary knowledge of printed materials.

<sup>4</sup>McCarty refers the reader to a paper presented at a 1992 meeting of the National Association for Bilingual Education (Begay, S., Dick, G., Estell, D., Lewis, E., and McCarty, T. L.) in which grade cohort scores for K-6 students are analyzed over two years and indicate that bilingual students instructed first in Navajo made the greatest gains on local and national measures of achievement. However, the date is not presented in this paper.

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