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The Relationship Between Teachers' Theoretical Orientations  
Toward Reading and Student Outcomes in Kindergarten Children with  
Different Initial Reading Abilities

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Abstract

We examined the relationships between kindergarten teachers' theoretical orientations toward reading, classroom process and task assignment, and student outcomes for students who had scored above or below the population median on a standardized test of early reading ability. The reading achievement of lower scoring children improved the most in whole language oriented classrooms, while higher scoring children in both whole language and phonics oriented classrooms, and lower scoring children in phonics oriented classrooms, demonstrated lesser reading gains. Whole language and phonics oriented teachers emphasized different literacy tasks. Students in whole language oriented classes spent a greater proportion of class time attending to non-book print, using invented spelling, and dictating stories. Children in phonics oriented classes spent a greater proportion of time looking through books on their own, copying letters, words, and sentences, and completing worksheets. Lower scoring students exhibited higher levels of engagement in whole language oriented classrooms than in phonics oriented classrooms. Implications for kindergarten instruction with children of differing initial reading abilities are discussed in the context of a stage model of reading development.

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Orientations Toward Reading and Student Outcomes  
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The "whole language" approach to teaching reading has captured the attention of many teachers and teacher educators over the past 20 years. Derived in part from the writings of Dewey (1929), Piaget (1952), the Goodmans (Goodman & Goodman, 1979), and Smith (1988), the whole language approach asserts that children learn language most effectively at their own developmental pace through social interaction in language rich environments and through exposure to quality literature. This approach is often contrasted to a phonics oriented strategy in which children receive formal instruction emphasizing sound symbol correspondence. While the whole language movement has gained increasing popularity among practitioners, the reaction of educational researchers has been more contentious. Stahl and Miller (1989) and Stahl, McKenna, and Pagnucco (1994) conducted meta-analyses of studies conducted in kindergarten and first-grade classrooms comparing the relative impact of whole language and traditional approaches to reading instruction. Both meta-analyses yielded the general conclusion that the overall impact of the two approaches was "essentially similar," a position disputed by Schickedanz (1990) and McGee and Lomax (1990).

In reviewing the whole language/phonics debate, and the inability of researchers to reach similar conclusions after reviewing the same studies, several problematic areas emerge. First, the meaning of the term, whole language, and a set of distinctive classroom practices representing its operationalization, are difficult to specify (Stahl & Miller, 1989). This is exacerbated by the fact that some proponents conceive of whole language as a philosophy rather than an explicitly defined instructional methodology (Edelsky, 1990; Goodman, 1986; McKenna, Robinson, & Miller, 1990; Newman, 1985; Rich, 1985). Second, many -- if not most -- teachers are eclectic in their approach to reading instruction, and pure contrasts between whole language and phonics oriented instruction are generally difficult to find in naturally occurring, unmanipulated classroom environments (Slaughter, 1988). Third, with the exception of Fisher and Hiebert (1990), relatively little research has documented differences in the instructional behavior and practices of teachers subscribing to whole language versus traditional approaches to early reading instruction (Feng & Etheridge, 1993; Lehman, Allen, & Freeman 1990; Stahl et al., 1994,). Finally, as Stahl et al. (1994) point out, "relatively few studies" comparing whole language and traditional reading instruction have used standardized achievement measures or included large numbers of students (e.g., Watson, Crenshaw, &

King, 1984).

The current paper seeks to remedy some of the conceptual and methodological problems noted above, and to build on previous findings. Previous studies of children learning to read (e.g., Durkin, 1987) have focused primarily on student-teacher interactions during a delimited portion of the school day in which "reading instruction" takes place. We have widened the range of activities considered relevant to learning to read. Following Sulzby and Teale (1984), we argue that reading development "takes place within the influences of a social environment that immerses [children], to varying degrees, in a range of literacy activities" (p. 728). We believe this is especially relevant for a study of reading development in kindergarten, for teachers often do not teach reading in isolation from other activities, and children are often given considerable freedom, at least for part of the school day, to choose the instructional activities in which they will engage. Teachers plan, structure, provide, and require certain literacy activities, but it is the child who is the "constructor of his or her own literacy" (Sulzby & Teale, 1984, p. 729). We are specifically interested in the interaction between initial reading ability and the effectiveness of whole language oriented and phonics oriented approaches to reading development.

A number of researchers have examined the impact of whole

language approaches to reading development for students considered educationally at risk. Stahl and Miller (1989) concluded that "whole language/language experience approaches . . . produce weaker effects with populations labeled specifically as disadvantaged" (p. 87), a conclusion supported by the research of Gersten, Darch, and Gleason (1988) who reported positive effects for "at-risk" (economically disadvantaged) children of a "direct instruction" kindergarten classroom, based largely on traditional, phonics oriented principles. However, a number of recent studies (Milligan & Berg, 1992; Otto, 1993; Pinnell, Lyons, De Ford, Bryk, & Seltzer, 1994; Sulzby, Branz, & Buhle, 1993) present evidence consistent with Kasten and Clarke's (1989) argument that whole language based reading instruction should be especially beneficial for disadvantaged children. Milligan and Berg (1992), for example, found higher Cloze Deletion Test scores (a measure of "comprehending ability") among initially low to moderate ability first grade students in whole language oriented classrooms, relative to similar students in more traditional phonics oriented classrooms. However, three of four phonics oriented classrooms were from a different school than the whole language oriented classrooms. The possibility exists that instructional differences unrelated to teacher theoretical orientation accounted for the differences found in this post-test only design.

Otto (1993) and Sulzby et al. (1993) presented evidence suggesting that storybook reading, generally associated with developmentally sensitive, whole language approaches to reading instruction, was helpful in increasing the emergent reading ability of inner-city kindergartners (Otto, 1993; Sulzby et al., 1993) and first graders (Sulzby et al., 1993). However, neither of these studies used control groups, either of children not seen as "at risk," or of children receiving more traditional instruction in the same schools. Purcell-Gates, McIntyre, and Freppon (1995) reported that children in well-implemented whole language classes showed significantly greater growth in their knowledge of written language and more extensive breadth of knowledge of written linguistic features than their peers in skills-based kindergarten classes. Putnam (1990) found that inner city kindergarten students in a "Literate Environment" classroom gained more in vocabulary and syntactic complexity than students in "Traditional" or "IBM Write to Read" classrooms. Finally, research by Pinnell et al. (1994) found that "Reading Recovery," a tutoring program for educationally disadvantaged children, was more effective in improving the reading efficacy of "high risk" first graders than a similar program (called "Reading Success") provided by teachers who were more traditional (phonics or skills oriented) relative to the Reading Recovery teachers. However, given that the Reading Recovery and Reading Success teachers also

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differed in a number of other ways (previous experience and training, training time schedule, training activities), it is impossible to tease out the effects of the teachers' theoretical orientations toward reading.

The current paper presents results from a year-long observational study conducted in 11 kindergarten classrooms. We sought to determine whether the reading achievement of students who entered the kindergarten year with relatively limited reading skills would increase more with teachers favoring whole language or phonics oriented approaches to reading instruction. On the basis of the literature reviewed above, we predicted more growth in student reading ability among initially lower scoring children with teachers favoring whole language approaches to reading development, relative to phonics oriented teachers. We also sought to describe how classroom structure and student experience differed in each set of classrooms. Based on our own previous research (Mergendoller & Sacks, 1994), which showed greater attention to child affect and individual differences among whole language oriented teachers, relative to phonics oriented teachers, we predicted that child affect and task engagement would be higher, for both lower and higher scoring children, in whole language oriented compared to phonics oriented classrooms. From our understanding of the basic tenets of whole language philosophy, we also predicted that both lower and higher scoring

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children would engage in more verbal interaction in whole language oriented classrooms compared to phonics oriented classrooms.

## Method

### Participants

Students. The student participants in the current study were 132 kindergartners from 11 classrooms in six Marin County, CA schools. Nine students dropped out during the course of data collection, leaving a total of 123 children in the study. Of these, 64 were girls (52%) and 59 were boys (48%). Ninety-three children were white (75%), 14 were black (11%), 8 were Asian (6%), 6 were Hispanic (5%) and 2 were from other ethnic backgrounds (2%).

Teachers. There were 11 different teachers in the current study. Six teachers were chosen because their philosophy of reading instruction corresponded more closely with a traditional, phonics orientation; five were chosen because their instructional beliefs corresponded more closely with a whole language orientation. We also sought to balance the SES of participating classes across teacher theoretical orientation. The teachers were all female; 10 were White, and 1 was Black. They had from 4 to 25 years of teaching experience, with a mean of 18 years ( $SD = 8.25$ ). There was not a significant correlation between years of teaching experience and theoretical orientation score, either for

The relationship between the 8 teachers for whom complete data were available ( $r[8] = .31$ ,  $p = .45$ , or for a larger group of teachers from which the sample in the current study was drawn ( $r[23] = .08$ ,  $p = .70$ ).

### Measures

Theoretical orientation to reading. Teachers' theoretical orientations toward reading were assessed using the Theoretical Orientation to Reading Profile (TORP) (Deford, 1985). This questionnaire assesses teachers' instructional orientation on three dimensions: (a) phonics, which emphasizes smaller than word level units, with a gradual progression toward words and sentences, (b) skills, which emphasizes development of sight-word vocabulary, and (c) whole language, which emphasizes exposing children to quality literature, and working down toward smaller language units. Scoring of each dimension is conceptually independent, but phonics and skills scores have been found to be highly correlated and inversely correlated with whole language scores.

Deford (1985) described the process of validating the TORP and reported an alpha reliability of .80, suggesting acceptable internal consistency. Mergendoller and Sacks (1994) found a relatively high test-retest reliability of .81 in a separate study involving 25 teachers.

Student reading ability. The Test of Early Reading Ability-2 (TERA-2) (Reid, Hresko, & Hammill, 1989) is a norm-referenced

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assessment instrument designed to mitigate some of the concerns of whole language advocates regarding standardized assessment (e.g., Edelsky, 1990). It targets three interrelated aspects of reading. These are (a) constructing meaning from print (including "awareness of print in environmental contexts, knowledge of relations among vocabulary items, and awareness of print in connected discourse"), (b) alphabet knowledge ("letter naming [including numerals], alphabet recitation, and oral reading"), and (c) understanding the arbitrary conventions employed in reading and writing English (including "book handling, response to other print conventions, and proofreading") (Reid, Hresko, & Hammill, 1981). The authors reported adequate construct validity including significant correlations (.61) with performance on the Basic Skills Inventory-Diagnostic Reading Subtest, high correlations with chronological age and school experience (.84), and successful differentiation of normal and learning-disabled students. The authors also reported high internal consistencies for the instrument when used with the age groups examined in this study. For 4-, 5-, and 6-year-olds, coefficient alphas were above .90. Test-retest reliability was examined using alternate forms on a sample of 49 7-, 8-, and 9-year-olds. The obtained correlation was .79. Partialing out the error variance due to the use of alternate forms, the authors arrived at an overall stability reliability of .89 (Reid et al., 1989).

The instrument is designed such that items increase in difficulty as the child proceeds. Administration is terminated when the child answers five consecutive items incorrectly, at which point the number correct is totaled. Incorrect items are counted as correct if five consecutive correct answers follow.

Classroom observation instrument. The Kindergarten Activities Coding Instrument (KACI) (Sacks, Clement-Glass, & Mergendoller, 1993) was created for the current study after reviewing extant classroom observation instruments (e.g., Simon & Boyer, 1970a, 1970b). The design was based on several considerations. First, the instrument had to record the overall classroom context that framed and constrained the specific activities in which individual target children were engaged and capture the flow and structure of activities throughout an entire school day. Second, the instrument had to be sensitive to a range of literacy events, both "official" (teacher reading to the class) and "unofficial" (students making signs for a castle made out of blocks during activity time) (Florio & Clark, 1982), and capture the social context and nature of reading, writing, and speaking tasks actually performed by students (Blumenfeld, Mergendoller, & Swarthout, 1987; Doyle, 1983). Third, the instrument had to incorporate a measure of individual task engagement, given the importance of this variable in previous studies of classroom process (e.g., Denham & Lieberman, 1980).

After a series of revisions of the KACI, we settled on an instrument that captures seven classroom context variables (Predominant Classroom Organization, Individual Participation, Group Size, Instructional Medium, Teacher Talk/Function, Instructional Talk/Type, and Adult Availability), six areas of subject area learning (Writing, Reading, Math, Science, Social Studies, Art/Music), three types of student literacy behaviors (Speaking, Writing, Reading), and assessments of student affect and task involvement based on categories described by Goodenough (1930) and Katz (1969). Further details concerning use of the KACI coding instrument are provided in Sacks, Clement-Glass, and Mergendoller (1993). In the current study, we did not utilize all categories of data collected with the KACI.

#### Procedure

Teacher selection. We generated TORP summary scores by subtracting phonics total scores (10 items) from whole language total scores (8 items). Forty-two points were then added to the difference, such that TORP summary scores ranged from 0 (for a teacher who responded "strongly agree" to all phonics items and "strongly disagree" to all whole language items) to 72 (for a teacher who responded "strongly disagree" to all phonics items and "strongly agree" to all whole language items). In the current sample of teachers, the mean TORP summary score for the teachers oriented toward whole language was 52.80, SD = 10.13. For the

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teachers oriented toward phonics, the mean TORP summary score was 35.67,  $SD = 5.13$ . A 1 x 2 ANOVA revealed the difference between these means to be highly significant,  $F(1,9) = 13.29$ ,  $p = .005$ .

Student selection and TERA-2 administration. The study began in the Fall of 1991. After obtaining parental consent, we selected a sample of students based on teachers' ratings of students as being more or less experienced in reading. We individually administered the TERA-2 to these students. We then selected 12 students in each of the 11 classes, noting them as higher scoring or lower scoring depending upon whether their TERA-2 score was above or below the sample mean. In the remainder of this paper we will identify children who scored below and above the 50th percentile on the initial administration of the TERA-2 as lower-scoring children and higher-scoring children, respectively. At the end of the school year, the TERA-2 was individually administered again to all target students by one of four trained adults.

Observation procedure. All classroom observations were conducted by one of five trained observers for the entire kindergarten school day. Each classroom was observed on each day of the week, plus one additional day, for a total of six observation days per classroom or a total of 66 days for all classrooms. Observers were assigned to classrooms such that each observer observed each classroom at least once, and no observer

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visited the same classroom more than twice. In this way, we sought to control for possible experimenter coding biases, though we trained coders to high reliabilities (average  $r > .80$ ) before the onset of the study. Interrater reliability for each of the coding categories was reassessed half-way through the classroom observation period and remained acceptably high (mean reliability = .84). Further reliability information for the KACI can be found in Sacks et al. (1993).

On the basis of extensive pilot observations and an examination of the literature on time sampling procedures (e.g., Mann, Have, Plunkett, & Meisels, 1991), we chose a 10 second observation interval. Data collectors observed sequentially, according to a predetermined random order, all target students in the classroom. Observers watched the first target child for 10-second, and then spent the next 1 min 20 sec recording that child's behaviors on the coding sheet. The second target child was then observed for 10 sec, and so on, until all target children were observed once. Following this, the coder moved on to the next data recording page and repeated the procedure. If a target child was absent, the observer simply moved immediately on to the next child, such that the number of data points per classroom per day could be maximized.

### Results

We report three sets of results. The first set compares the

The relationship between classroom context and literacy tasks established by teachers with whole language and phonics orientations. The second set considers students' growth in reading skills, and differences in their affective state and task engagement as an interactive function of teacher theoretical orientation and students' initial TERA-2 scores. The final set examines students' speaking behaviors as a function of teacher theoretical orientation and initial TERA-2 scores. All statistical tests were conducted at the teacher level ( $N = 11$ ), rather than at the student level ( $N = 132$ ).

#### Classroom Context of Teachers Favoring Whole Language and Phonics Approaches

We compared the classroom organization and instructional practices of teachers favoring whole language and phonics approaches to reading on the following dimensions: (a) percent of observations spent in different classroom groupings, (b) percent of observations spent in different classroom activities, (c) percent of different types of teacher talk, and (d) duration and selection of literacy tasks. Percent scores for each measure (e.g., teacher defined small groups) at the teacher level were examined using 1 x 2 (Whole Language vs. Phonics Oriented) analyses of variance (ANOVAs).

Classroom grouping. We compared students of whole language and phonics oriented teachers in the percentage of observations spent in the following groupings: whole group, teacher defined

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small groups, free choice, and snack/transition/clean-up. Children with teachers favoring a whole language approach spent slightly more time in free choice activities than did children with teachers favoring a phonics approach (20.7% vs. 17.1%) and slightly less class time as a whole group (49.4.% vs. 51.3%) or in small groups (11.6% vs. 12.4%). However, none of these differences was statistically significant.

Classroom activities. We compared students of whole language and phonics oriented teachers in the percentage of observations spent in the following 13 classroom activities: no activity, teacher reading a book, teacher explaining tasks or concepts, child sharing/review, dramatic play, general environmental stimulation, looking at books, technology, journal writing, worksheet/dittos, music, watching other children, and other activities. Results revealed that children with phonics oriented teachers spent more time completing worksheets than did children of whole language oriented teachers (5.7% vs. 1.0%). This difference was marginally significant ( $F(1,9) = 3.98$ ,  $p = .077$ ).

Teacher talk. We compared students of whole language and phonics oriented teachers in the percentage of observations during which they experienced teacher talk. This difference was not significant. However, when we examined teacher talk with students in small groups, we found that whole language oriented

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teachers talked during 72.6% of the observations, while phonics oriented teachers spoke during 47.5% of the observations. This difference was highly significant ( $F(1,9) = 9.39, p = .01$ ). We examined the frequency with which teachers engaged in different types of talk in the small group setting. Phonics oriented teachers spent more time in small groups presenting instruction and giving task directions (61.3% vs. 48.4%) than did whole language oriented teachers ( $F(1,9) = 6.69, p = .029$ ).

Task selection. We compared students of whole language and phonics oriented teachers in the percentage of observations students were engaged in writing and reading tasks. Students in the classrooms of teachers favoring a whole language approach spent slightly less time engaged in writing tasks (5.7% vs. 7.4%). This difference was marginally significant ( $F(1,9) = 3.87, p = .08$ ).

There was also a difference in the manner in which whole language and phonics oriented teachers made literacy instruction a part of classroom tasks and activities. Whole language oriented teachers more frequently conducted reading instruction (47.4% vs. 37.8%) and writing instruction (14.4% vs. 6.5%) with all students in a whole class group, relative to phonics oriented teachers. The difference for writing instruction was statistically significant ( $F(1,9) = 10.22, p = .01$ ). The difference for reading instruction was marginally significant ( $F(1,9) = 4.09, p = .07$ ).

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Comparisons regarding the nature of classroom writing tasks students completed with whole language oriented and phonics oriented teachers revealed that students with phonics oriented teachers spent relatively more time copying letters, words, and sentences (48.1% vs. 21.2%) than students with whole language oriented teachers. In contrast, students with whole language oriented teachers spent more time using invented spelling (10.4% vs. 1.1%) and dictating stories (24.4% vs. 8.7%) than did students with phonics oriented teachers. The contrast for invented spelling was significant ( $F(1,9) = 7.21, p = .025$ ). The contrast for dictating stories was marginally significant ( $F(1,9) = 4.17, p = .07$ ), as was the contrast for copying letters, words, and sentences ( $F(1,9) = 3.71, p = .09$ ).

Comparisons regarding the nature of classroom reading tasks students completed with whole language oriented and phonics oriented teachers revealed that students with whole language oriented teachers spent relatively less time looking through books silently (6.3% vs. 15.8%), more time attending to environmental or non-book print (40.4% vs. 29.3%), and less time completing reading worksheets (5.9% vs. 13.7%), compared to students with phonics oriented teachers. The contrast for looking through books was significant ( $F(1,9) = 8.68, p = .016$ ). The contrast for environmental print was marginally significant ( $F(1,9) = 3.65, p = .09$ ), as was the contrast for reading

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worksheets ( $F(1,9) = 3.16, p = .10$ ).

Students' Reading Improvement, Affect, and Task Engagement as a Function of Initial TERA-2 Score and Teacher Theoretical Orientation

Time1/Time2 TERA-2 change. A 2 x 2 x 2 analysis of variance (ANOVA) was used to examine the relationship between teacher theoretical orientation, initial student ability grouping, and improvement in TERA-2 scores. Analyses were conducted at the teacher level, using class means as the unit of analysis. Teacher theoretical orientation was a between subjects variable, while TERA-2 scores and initial ability grouping were repeated measures (within classroom) variables. Means for time 1 and time 2 TERA-2 scores as a function of teacher theoretical orientation and initial student ability grouping appear in Table 1.

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Insert Table 1 here  
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As expected, children improved dramatically on the TERA-2 over the course of the year,  $F(1,9) = 128.49, p < .0001$ . Further, children designated as lower scoring scored lower than higher scoring children on the TERA-2, even when their time 2 scores were included in the analysis,  $F(1,9) = 98.51, p < .0001$ .

The ability grouping by time interaction was significant,  $F(1,9) = 10.06, p = .01$ . As can be seen in Table 1, lower scoring children improved slightly more than higher scoring children.

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This effect is probably accounted for by regression to the mean. Of more interest is the triple interaction,  $F(1,9) = 5.00$ ,  $p = .05$ . As can be seen in Table 1, lower scoring children with whole language oriented teachers improved by an average of about 10 points, while children in all other conditions improved by between 6 and 8 points.

Affective state. A 2 x 2 analysis of variance (ANOVA) was used to examine the relationship between child ability grouping, teacher theoretical orientation, and average affective state across the course of the study. Analyses were conducted at the teacher level, using class means as the unit of analysis. Teacher theoretical orientation was a between subjects (between classroom) variable; initial ability grouping was a repeated measures (within classroom) variable. Means for affective state as a function of teacher theoretical orientation and initial child ability grouping are presented in Table 2.

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There was a statistically significant main effect for initial ability grouping,  $F(1,9) = 9.03$ ,  $p = .01$ . As can be seen in Table 2, higher scoring children expressed more positive affect on the average than lower scoring children. Although children appeared to express slightly more positive affect with teachers favoring a whole language approach, this effect did not

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approach significance,  $F(1,9) = 1.52$ ,  $p = .25$ .

Task engagement. A 2 x 2 analysis of variance (ANOVA) was used to examine the relationship between teacher theoretical orientation, initial student ability grouping, and children's average task engagement across the course of the study. Analyses were conducted at the teacher level, using class means as the unit of analysis. Teacher theoretical orientation was a between subjects (between classroom) variable; initial ability grouping was a repeated measures (within classroom) variable. Means for task engagement as a function of teacher theoretical orientation and initial child ability grouping are presented in Table 3.

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There was a statistically significant main effect for initial ability grouping,  $F(1,9) = 7.30$ ,  $p = .02$ . There was also a marginally significant interaction effect,  $F(1,9) = 4.78$ ,  $p = .06$ . As can be seen in Table 3, both effects are largely accounted for by the difference between lower and higher scoring children with teachers favoring a phonics approach. While lower scoring and higher scoring children were approximately equally engaged with teachers favoring whole language approaches, lower scoring children were significantly less engaged than higher scoring children with teachers favoring phonics.

Students' Speaking Behaviors as a Function of Initial Tera-2

Score and Teacher Theoretical Orientation

Five 2 x 2 analyses of variance (ANOVAs) were used to examine the relationships between teacher theoretical orientation, initial student ability grouping, and the percentage of observations during which children were involved in five levels of verbalization: (a) no talk, (b) speaking with another child or other children, (c) speaking to the teacher, (d) speaking to both a child or children and the teacher, and (e) self-talk. Child level percentages were averaged at the classroom level. Teacher theoretical orientation was a between subjects (between classroom) variable; initial ability grouping was a repeated measures (within classroom) variable.

For "no talk," there was a statistically significant main effect for initial ability grouping,  $F(1,9) = 6.56$ ,  $p = .03$ , and a statistically significant interaction between initial ability grouping and teacher theoretical orientation,  $F(1,9) = 7.59$ ,  $p = .02$ . As can be seen in Table 4, higher scoring children were silent less (spoke more often) than lower scoring children, especially in whole language oriented classrooms. The overall difference between whole language and phonics oriented classrooms did not reach statistical significance,  $F(1,9) = 2.03$ ,  $p = .19$ .

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For speaking to a child or other children, there was again

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a statistically significant main effect for initial ability grouping,  $F(1,9) = 18.06$ ,  $p = .002$ , and a statistically significant interaction between initial ability grouping and teacher theoretical orientation,  $F(1,9) = 6.65$ ,  $p = .03$ . As can be seen in Table 5, higher scoring children spoke more to other children than did lower scoring children, especially in whole language oriented classrooms. The overall difference between whole language and phonics classrooms did not reach statistical significance,  $F(1,9) = 2.08$ ,  $p = .18$ .

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Insert Table 5 here  
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To summarize, it appears that higher scoring students tend to engage in more conversation with other children than do lower scoring students and that whole language oriented classrooms encourage such conversational differences more than phonics oriented classrooms.

#### Discussion

Although the two groups of teachers differed significantly in their espoused literacy beliefs, their classrooms were similar in many ways. The whole language and phonics oriented teachers spent essentially the same total amount of time in whole group, small groups, and free choice/activity time organizational formats. Compared to teachers in other studies of kindergarten classrooms, the teachers in this study spent considerably less

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time, on average, in whole group teaching and more time in free choice/activity time. Neuman and Fischer (1995), for example, reported the 20 teachers in the "holistic literacy" kindergartens they studied spent approximately 79% of class time in a single group and allowed 10% of class time for student-directed, independent activity time. In the current study the corresponding figures were 50% and 19%, respectively. Nielsen and Monson (1996) found that the "Emergent Literacy" kindergarten teacher they studied spent approximately 49% of instructional time in whole group teaching, while a contrasting "Reading Readiness" teacher spent 67% in whole group teaching. It is important to note that all teachers in the current study organized their classrooms to allow for some degree of student choice and self-direction during activity time and could be placed toward the "student-centered" (as opposed to "teacher-directed") end of the instructional continuum.

The percent of observations devoted to most classroom activities by whole language and phonics oriented teachers was again quite similar, although whole language and phonics teachers took advantage of the instructional opportunities afforded by these activities differently. For example, whole language oriented teachers were more likely to use small groups to interact more informally with students and supervise their efforts while phonics oriented teachers more frequently

instructed students about how specific tasks were to be completed.

Whole language and phonics oriented kindergarten teachers differed in the frequency with which they engaged students in different literacy tasks. Whole language oriented teachers were more likely to exploit whole group activities for reading and writing instruction, relative to teachers in phonics oriented classrooms. Several whole language oriented teachers, for example, employed a "Letter of the Day" procedure in which a short, expository narrative beginning with the words, "Dear Class," was written on a large piece of butcher paper. In some sentences, blank lines were drawn instead of words. The task of the assembled students was to read the letter and suggest appropriate words to fill the blanks. These teachers coached students and asked guiding questions but did not provide correct answers. Oral reading instruction using large story books that could be viewed by the entire class at the same time (Big Books) were approached in a similarly facilitative manner.

Across all instructional formats, the frequency with which students engaged in different literacy tasks also differed. Students in the phonics oriented classrooms spent more than five times as much time completing worksheets and twice as much time copying letters, words, and sentences as students in whole language oriented classes. In contrast, students in whole

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language oriented classrooms spent more time dictating stories and using invented spelling, relative to children with teachers favoring phonics approaches.

In summary, whole language and phonics oriented teachers were similar in time allocation and general classroom activity assignment, but there were subtle, and meaningful, differences in the classroom literacy experience of students. These differences were congruent with what would be expected, given whole language and phonics orientations to reading development.

On the outcome measures, the results of the current study demonstrate that, for students entering kindergarten with little knowledge of reading, whole language oriented kindergarten classrooms were associated with greater improvement in early reading achievement than were phonics oriented classrooms. Specifically, low scoring children in whole language oriented classrooms improved on the TERA-2 by an average of about 10 points, while children in all other conditions improved by an average of about 7 points. These results are reminiscent of Clarke's (1988) finding that invented spelling instructional approaches were most beneficial for first graders with the least skill in spelling.

These findings raise two important questions. First, why did lower scoring student progress more in whole language oriented classrooms than they did in phonics oriented classrooms?

Second, why wasn't the progress of higher scoring students retarded in whole language oriented classrooms? Our explanation leans heavily on the application of stage models of reading development such as those proposed by Downing (1979) and Chall (1983) and a review of the variety of literacy tasks available or required in both whole language and phonics oriented classrooms.

Stage models of reading development assume there is an initial phase in which children develop skills imperative for later reading. These "emergent literacy" skills (Sulzby & Teale, 1984; Teale & Sulzby, 1986) include learning the conventions of print, the register of written language, and general expectations about the nature of reading. Later stages allow for the mastery, practice, and finally, automatic execution of specific skills (Stahl & Miller, 1989). We believe that there was a relationship between students' initial TERA-2 scores and their stage of reading development. Those students with lower scores exhibited mastery of fewer of the generalized reading skills, like letter and word recognition, than did students scoring higher. It may be that the emergent literacy opportunities of the whole language oriented classrooms, which were available less frequently in phonics oriented classrooms, were especially beneficial to lower scoring students. In addition, lower scoring students were more engaged in whole language oriented classrooms than they were in phonics oriented classrooms. These factors may be related to the

differential gains achieved by lower scoring students.

Why was the achievement of higher scoring student not penalized in whole language oriented classrooms? We think it key to remember that the whole language and phonics oriented classrooms in this study were not dichotomous treatments, but rather places where different instructional behaviors and different types of literacy tasks received differential emphasis. Both the whole language and phonics oriented teachers required and made available a variety of literacy tasks. Some tasks (e.g., listening to stories) required little prerequisite reading competence. Others (e.g., copying words) built on preestablished skills. Although we have reported significant differences in the amount of observations whole language and phonics oriented kindergarten teachers devoted to different task types, these differences are generally matters of degree rather than the absolute presence or absence of particular types of tasks. This ensured that higher scoring students had access to "higher stage" literacy tasks. Moreover, the higher scoring students in the whole language oriented classes talked more frequently than the other target students in the sample. This extended oral language practice may have reinforced their literacy development.

Note that we do not mean to imply a direct relationship between time spent on different literacy tasks or enacting different literacy behaviors and change in reading achievement.

Across the entire sample, and within higher and lower scoring sub groups, the time an individual student spent on specific literacy tasks (e.g., attending to non-book print, working in personal journals, etc.) did not predict change in TERA-2 scores. In part this may be because variation in the frequency with which students participated in different tasks was relatively restricted. But beyond this methodological consideration, we believe there is a more central implication. Students at different levels of reading development need different types of support to progress. The whole language oriented classes in our study were arranged and conducted to provide extra support for the lower scoring students, without ignoring the needs of the higher scoring students.

This argument accepts and expands the general reasoning of Stahl and Miller (1989) and Stahl et al. (1994) "that whole language approaches were more effective in kindergarten than in first grade," except that we are focusing attention on variations in reading performance within grade level rather than across grades. We accept the implications of a stage model of reading development, while directing researchers' attention to the range of literacy tasks and activities required of and made available to students and the procedures used to allocate and assign these tasks. Children in kindergarten (or any grade) are not homogeneous with regard to reading ability. An instructional

implication of the current study would be the importance of providing literacy tasks that support children within the same grade at different levels of reading development.

Although the results of this study may be seen as generally supportive of the position that whole language approaches are especially beneficial for students considered to be at risk of school failure (Milligan & Berg, 1992; Otto, 1993; Pinnell, Lyons, De Ford, Bryk, & Seltzer, 1994; Sulzby, Branz, & Buhle, 1993), we wish to point out that our research relied on an empirical measure of reading achievement rather than using SES, ethnicity, or school location as a proxy for risk. Although we accept the efficacy of whole language approaches for students in the earliest stages of reading development, the direct implications of our research are less clear for students defined as "at risk" on the basis of other, correlative measures of reading ability.

Turning to our other hypotheses, the expectation that child affect would be higher in whole language oriented classrooms was not supported, suggesting that the level of student affect was not directly related to teachers' beliefs about reading development. On the other hand, our assumption that students would be more engaged in whole language oriented classes proved to be true. However, examination of Table 3 reveals that this difference is almost entirely accounted for by the initially

The relationship between

lower scoring children. We conclude that student engagement in literacy activities is not simply related to teachers' theoretical orientation (as we originally assumed), but to a more subtle interaction between level of student reading development and theoretical orientation. This may give credence to the argument that within whole language oriented classes lower scoring students had the opportunity to engage more frequently in literacy tasks appropriately matched to their level of reading development, and this resulted in higher levels of engagement.

Our hypothesis that students in whole language oriented classes would engage more in verbal interaction was confirmed for higher scoring students. Although this finding is generally in line with that of Hiebert and Fisher (1991) who found that whole language oriented teachers emphasized oral activities and encouraged student discussion of literature, it points to the importance of individual differences in student classroom participation, because it was the higher scoring kindergarten students who took disproportionate advantage of the opportunity for talking in whole language oriented classrooms.

We conclude by advising caution in generalizing the results of this study. We have shown that the low scoring kindergarten children in our sample fared especially well in whole language classrooms. However, these results should not be interpreted as meaning that whole language influenced instruction is more

appropriate for all children or at all grade levels. A stage model of reading, in fact, might suggest (depending upon the classroom allocation of literacy tasks) just the opposite. As students become familiar with language and master initial skills, more focused attention toward specific reading strategies -- on the part of both teachers and students -- may be necessary to support continued reading development (Block, 1993; Pressley & El-Dinary, 1993). Research is needed on the complex interplay of literacy tasks, instructional beliefs and strategies, and students' opportunities and requirements to complete these tasks. Such research could embrace both quantitative and qualitative methodologies and include field experiments in which specific variables (e.g., type and frequency of literacy task) are manipulated within ongoing classroom environments to extend the limited range of variation we found within naturally occurring classrooms. Additional research might chronicle the tasks and activities completed by children with different levels of reading development and measure changes in their achievement. From such data could come new hypotheses concerning specific classroom contexts and interactions most supportive for children unfamiliar with the conventions of literacy and the practice of reading.

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Table 1: Fall 1991 and Spring 1992 TERA-2 Scores as a Function of Teacher  
Theoretical Orientation and Initial TERA-2 Score

		Teachers With					
		Whole Language Orientation			Phonics Orientation		
		Lower Scoring Students	Higher Scoring Students		Lower Scoring Students	Higher Scoring Students	
TERA-2 Scores							
T <sub>1</sub>	$\bar{x}$	11.70	20.41		$\bar{x}$	10.26	19.98
	<u>SD</u>	1.92	1.24		<u>SD</u>	2.53	2.73
	<u>N</u>	5	5		<u>N</u>	6	6
T <sub>2</sub>	$\bar{x}$	21.67	26.76		$\bar{x}$	18.46	27.55
	<u>SD</u>	3.22	1.42		<u>SD</u>	1.95	2.09
	<u>N</u>	5	5		<u>N</u>	6	6

Note: Individual T<sub>1</sub> TERA-2 scores ranged from 3 to 33; T<sub>2</sub> TERA-2 scores ranged from 8 to 42. The above scores are class averages.

Table 2: Average Child Affective State as a Function of Teacher  
Theoretical Orientation and Initial TERA-2 Score

Initial TERA-2 Score		Teachers With	
		Whole Language Orientation	Phonics Orientation
Lower	$\bar{x}$	4.55	4.47
Scoring	<u>SD</u>	0.10	0.10
Students	<u>N</u>	5	6
Higher	$\bar{x}$	4.65	4.58
Scoring	<u>SD</u>	0.09	0.16
Students	<u>N</u>	5	6

Note: Affective State scale runs from 1 (crying or whimpering) to 7 (highest level of enjoyment; may include laughter). The scale point 4 is defined as neutral; no positive or negative affect.

Table 3: Average Child Task Engagement as a Function of Teacher  
Theoretical Orientation and Initial TERA-2 Score

Initial TERA-2 Score		Teachers With	
		Whole Language Orientation	Phonics Orientation
Lower	$\bar{x}$	4.41	4.20
Scoring	<u>SD</u>	0.17	0.22
Students	<u>N</u>	5	6
Higher	$\bar{x}$	4.44	4.45
Scoring	<u>SD</u>	0.17	0.25
Students	<u>N</u>	5	6

Note: Task Engagement scale runs from 1 (off-task, disengaged, spacey, indifferent) to 7 (completely absorbed). The scale point 4 is defined as moderately attentive (looks up or around, but attention generally returns to task).

Table 4: Percent of Observations  
during which Target Child was Silent

Initial TERA-2 Score		Teachers With	
		Whole Language Orientation	Phonics Orientation
Lower	$\bar{x}$	50.3	53.5
Scoring	<u>SD</u>	6.0	12.1
Students	<u>N</u>	5	6
Higher	$\bar{x}$	42.5	53.8
Scoring	<u>SD</u>	6.4	8.1
Students	<u>N</u>	5	6

Table 5: Percent of Observations during which Target Child Spoke with another Child or Children

Initial TERA-2 Score		Teachers With	
		Whole Language Orientation	Phonics Orientation
Lower	$\bar{x}$	29.2	25.1
Scoring	<u>SD</u>	4.7	9.6
Students	<u>N</u>	5	6
Higher	$\bar{x}$	35.3	26.6
Scoring	<u>SD</u>	5.5	8.3
Students	<u>N</u>	5	6