# Ready to Learn: Teaching Kindergarten Students School Success Skills

GREG A. BRIGMAN
LINDA D. WEBB
Florida Atlantic University

ABSTRACT **Studies have indicated that children have difficulty learning when they do not demonstrate certain prerequisite learning skills that involve attention, listening comprehension, and social skills. The authors evaluated the Ready To Learn (RTL) curriculum for its effectiveness in improving the prerequisite learning skills in 12 kindergarten classes (260 students) in 3 demographically similar elementary schools. Teachers in target classrooms were trained to deliver the RTL curriculum and 5 specific teaching strategies for use throughout the day. Students who received the intervention in those classrooms scored significantly higher than did comparison students on a listening comprehension measure and a student behavior rating scale. These findings may be an indicator that entire classrooms of students can be taught prerequisite learning skills as part of the daily curriculum and, as a result, show increases in school success behaviors.**

**Key words: kindergarten students, school success skills, teaching strategies**

We implemented a research project that involved kindergarten students and a classroom curriculum designed to teach prerequisite learning and social skills, with the goal of improving these skills and school achievement. This project is one of a three-part series of investigations on the impact of the Ready To Learn (RTL) program. In a similar study with 4–5-year-old preschool students, Brigman, Lane, Switzer, Lane, and Lawrence (1999) found significant gains in the targeted skills. Also, Brigman, Lane, Lane, and Switzer (1994) used the RTL curriculum to demonstrate effectiveness in a study with first-grade rural students. Social and cognitive competence, targeted for improvement in all three studies, have been found to have a strong positive correlation with positive peer relations and academic achievement (Bushweller, 1995; Eisenberg et al., 1997; Masten & Coatworth, 1998; Wemer, 1996; Zimmerman & Arunkumar, 1994).

Children's social skills relate to the quality and success of their school experiences (Meisels, Atkins-Burnett, & Nicholson, 1996). Growing evidence suggests that students who enter school without minimal social competencies are at increased risk of eventually dropping out of school (Katz, 1986; Kupersmidt, Coie, & Dodge, 1990; Masten & Coatworth, 1998; Newcomb, Bukowski, & Patee, 1993). There is also strong evidence that success or failure in the first 3 years of school is among the best predictors of long-term achievement (Meyers, Atwell, & Orpet, 1968; West, Denton, & Germino-Hausken, 2001).

Teachers cite the lack of prerequisite learning skills (including social skills) as the main reason for poor kindergarten performance (Cartledge & Milburn, 1978). More recently, a Carnegie Foundation (1992) survey of 7,000 kindergarten teachers revealed that 35% of their children were not prepared to enter school. Children's preparedness for school and their later school success are related to multiple aspects of their development, including social development, cognitive skills, and approach to learning (Kagen, Moore, & Bredekamp, 1995). Early findings from America's Kindergarten: An Early Childhood Longitudinal Study, Kindergarten Class of 1998–1999 (West et al., 2001) also support the importance of kindergarten as a critical period of social and cognitive development that influences later learning and academic achievement.

General agreement exists as to which skills and behaviors are crucial to school success. These skills and behaviors have been delineated in the literature (Cartledge & Milburn, 1978; Cobb, 1969, 1970; Davidson & Greenberg, 1967; Hops & Cobb, 1973; Kim, Anderson, & Bashow, 1968; Lahaderne, 1968; Masten & Coatworth, 1998; Shaw, 1986; Strother, 1987; Swift & Spivack, 1968; Wang, Haertel, & Walberg, 1994) and include attending, listening, working cooperatively with others, and following directions. Cartledge and Milburn (1978), Katz (1986), and Wooster and Carson (1982) have correlated these skills specifically with school achievement.

*Address correspondence to Greg A. Brigman, College of Education, Room 272, Florida Atlantic University, 777 Glades Road, Boca Raton, FL 33431. (E-mail: gbrigman@fau.edu)*

In addition, successful strategies for teaching critical prerequisite learning skills and social skills have been widely researched (Cobb, 1970; Fad, 1990; Ladd & Mize, 1983; Morrow, 1985; Slavin, Karweit, & Maden, 1989; Strother, 1987; Wang et al., 1994; Wooster & Carson, 1982). Although most of this research has involved individual or small-group intervention, significant improvement in prerequisite learning skills and in school achievement has been demonstrated (Thomas, 1974; Wooster & Carson, 1982). Programs that provide intervention to entire classrooms of students have not been as well investigated, even though the research literature has emphasized the need for more classroom instruction in learning skills and social skills (Brigman, 1991; Cartledge & Milburn, 1978; Masten & Coatworth, 1998; Shaw, 1986; Wang et al., 1994).

The treatment involved in this study incorporated what is known about prerequisite learning skills, school success, and effective teacher strategies that are linked to increased social and academic performance in young children. Within this framework, Brigman, Lane, and Lane (1994) developed and evaluated the Ready To Learn curriculum. The RTL curriculum focuses on teaching learning and social skills as part of the regular classroom curriculum; specific teaching strategies are used to reinforce attending, listening, and social skills each day throughout the year. This embedded approach is key for providing students with enough practice for skill development, and it allows for easy integration into the ongoing curriculum. The RTL model uses a tell, show, do, and coach approach that has been supported as a highly effective mode of instruction (Bandura, 1977; Wang et al., 1994). The uniqueness of this study is in its approach to training, the embedding and reinforcement of the curriculum, and the direct teaching of a combination of listening, attending, and social skills to entire classrooms of young children.

## Method

### *Participants*

This study involved 260 kindergarten students with a mean age of 5.7, in 12 classes in three schools. Students were placed randomly in classes at the beginning of the school year. The classes were then selected randomly to be either treatment or comparison classes. Six of the classes received the treatment, and 6 of them acted as comparison groups. There were approximately the same number of high-, medium-, and low-ability students in each of the 12 classes, as well as equal numbers of boys and girls. The population from which the students were drawn was predominantly White, middle class, suburban, and from the southeastern United States. Previously reported studies involving the RTL program, one with predominantly Black, inner-city preschool children (Brigman et al., 1999), and one with a diverse population of rural first graders (Brigman et al., 1994), yielded positive results.

The 6 classes chosen for the experimental group were selected randomly from the total pool of 12 classes in three schools. The 12 classes involved in the study consisted of 4 classes from each school. The 2 treatment classes from each school were chosen randomly from the pool of 4 possible classes. The remaining classes formed the comparison groups. There were 22 fewer participants between pretest and posttest (from 260 to 238) because of absences at posttest, students moving, and nonscorable posttests.

### *RTL Training*

The RTL curriculum focuses on teaching kindergarten students, in the targeted classes, prerequisite learning skills cited most frequently in the research literature as predictors of long-term school success (Hoge & Luce, 1979; Kagen, 1995; Katz, 1986; Masten & Coatsworth, 1998; Myers et al., 1968; Pelligrini & Glickman, 1990; Sameroff & Haith, 1996; Shaw, 1986; Slavin et al., 1989; Strother, 1987; Swartz & Walker, 1984; Wang et al., 1994; Wooster & Carson, 1982). The three key skills taught were (a) *attending* (paying attention, being on task, and following directions); (b) *listening comprehension* (understanding the main idea and knowing when and how to ask questions to clarify understanding); and (c) *social skills* (learning to be encouraging to self, to increase persistence, and to increase ability to work cooperatively). The teachers taught the skills by using five teacher strategies that the research supported as being effective in teaching one or more of the targeted skills.

The five teacher strategies in the RTL curriculum were (a) modeling–coaching–cuing (Ladd & Mize, 1993), (b) peer reporting (Grieger, Kaufman, & Greiger, 1976), (c) storytelling (Hough, Nurss, & Wood, 1991), (d) story retelling (Koskinen, 1988; Morrow, 1985), and (e) the encouragement council (Dinkmeyer, McKay, & Dinkmeyer, 1980). Teachers used a kit to guide implementation of the RTL curriculum, which contained the following materials: *Fuzzy and the Time of Great Change* storybook (includes five stories), teacher manual, parent newsletters, audiocassettes (one for each of the five stories), and six Fuzzy Caterpillar/Butterfly posters. The teacher manual included lesson plans, descriptions of the five teaching strategies to be used, and follow-up activities that reinforced targeted skills.

Teachers used the RTL materials daily in treatment classrooms over 12 weeks. Directions for standard delivery were provided for reading stories and follow-up activities. Teacher strategies provided in the RTL curriculum were used throughout the week to reinforce targeted skills during regular curriculum lessons. For a full description of the RTL materials, see Brigman (1991) and Brigman, Lane, and Lane (1994).

*Carkhuff's Interpersonal Skills (IPS) Model.* The RTL curriculum was patterned on the IPS training model developed by Carkhuff (1969, 1983), and it involves systematic training in attending, listening, responding, and initiating skills to facilitate resolving deficits. Supporting research

indicates that teachers can be trained to use IPS skills to increase levels of facilitative interpersonal conditions that are accompanied by mental health and cognitive student gains (Aspy, 1969; Aspy & Hadlock, 1967; Aspy & Roebuck, 1977; Brigman et al., 1994; Brigman et al., 1999). Several studies also have confirmed that training teachers in IPS skills has a positive effect on student achievement, student interpersonal skills, student IQ, and student self-esteem (Aspy & Roebuck, 1972; Berenson, 1971, 1972; Griffin, 1972). In this study, we explored the effect of directly teaching kindergarten students on behavior and achievement. Brigman and colleagues (1999) found significant gains in the targeted skills when 4- and 5-year-old preschool students were taught directly.

According to Carkhuff and Berenson (1976), all learning involves a similar pattern: (a) the individual exploring a new area of concern, (b) understanding in terms of personal goals and values, and (c) action as the individual puts what has been learned to practical use. The RTL involves training in attending, listening, asking questions, and encouragement. The first three skill areas are essential in all phases of the Carkhuff model; the fourth skill, encouragement, involves application of social skills and comes under the understanding and action phases. In addition, the RTL model, and the IPS model on which it is based, has a central concept of treating others with respect and decency. When persons are interpersonally skilled, they treat others with respect, human relationships are enhanced, and fewer social conflicts occur, resulting in less distraction from learning. A more detailed description of the IPS model can be found in *The Productive Teacher* (Carkhuff & Aspy, 1984).

*Teacher training.* Training in the use of the RTL curriculum for the six treatment teachers involved 16 hr during three workshops. In the initial full-day session, teachers received an understanding of the conceptual framework of RTL and a research base to support the skills and strategies used in the RTL curriculum. Teachers also received instruction on curriculum delivery and follow-up activities. Two half-day workshops were held in October and November to provide a review of skills and strategies and to discuss progress and difficulties with implementation of the program.

*Pretraining evaluation of teachers.* Earlier studies (Aspy & Roebuck, 1977) have reported that teachers with high empathic responses correlate positively with increased student achievement and behavior. To determine differences in empathic levels of responding between treatment and comparison teachers, I (first author) gave all 12 teachers eight written stimulus statements of students for which they wrote responses. Two trained judges rated the responses with Carkhuff and Berenson's (1981) 5-point empathy scale, Understanding the Levels of Communication. We used a $t$ test to analyze the differences between the two groups' responses; it yielded no significant difference ($p = .529$). Therefore, we had no evidence of differences in empathic responding of treatment- and comparison-group teachers at the onset of this study.

To assure that the two judges rated responses similarly, we trained and tested them to ensure high interrater reliability. The interrater percentage of agreement coefficient was .82 on the 12 teachers' responses to eight stimulus statements. In other words, out of a total of 96 responses, the two raters exactly matched 77 times, which was sufficient to establish rater consistency. Raters were blind to which teachers' written responses were treatment or control.

### *Instruments*

We used the following two outcome measures as pretests and posttests to evaluate students in treatment and comparison groups:

1. Listening Comprehension Subtest of the Stanford Early School Achievement Test (SESAT2). That subtest contained 45 listening comprehension items (twice as many as most instruments). For each item, students were asked to listen to a short story, followed by a direction, and then asked to mark the picture that best described their answer.
2. Comprehensive Teacher's Rating Scale (ACTeRS). Teachers were asked to read each of the 24 items that described student behavior and to compare the child's behavior with that of his or other classmates by circling the number that corresponded most closely with their evaluation. A graduate research assistant then transferred raw scores to a profile sheet to determine normative percentile scores.

*Reliability.* The SESAT2 national norms booklet reports an internal consistency reliability coefficient of .84 for the 45-item Listening Comprehension subtest. The ACTeRS manual reports an internal consistency range of from .93 to .97 on the four subscales included in the 24-item instrument: Attention, Hyperactivity, Social Skills, and Oppositional. Test–retest reliability coefficients ranged from .78 to .82 on the four factors; interrater reliability coefficients ranged from .51 to .73.

To increase the reliability of ratings, I trained the teachers to use the ACTeRS. The training involved discussing each item on the scale and clarifying any vagueness perceived by teachers. In addition, a videotape of a kindergarten class was viewed. The teachers were asked to observe 1 student for approximately 15 min. The student was observed in three different activities: (a) whole-class storytelling led by the teacher, (b) small-group activity led by the teacher, and (c) individual listening center activity. After they viewed the videotape, we asked the teachers to rate the student using the ACTeRS scale. We evaluated each subscale (Attention, Social Skills, Hyperactivity, and Oppositional) for interrater reliability using proportion of agreement. The overall proportion of agreement among raters for all four subscales was .93.

*Validity.* SESAT and ACTeRS manuals reported validity. Content validity for both instruments was done by

expert review. Construct validity for the ACTeRS, determined by factor analysis, revealed a correlation among the factors from the four scales between .30 and .69. Factor loadings for items within each scale ranged from .52 to .91. Criterion-related validity was not reported for either instrument.

Norming of the SESAT was done in 1987 with 215,000 students from over 1,000 schools, with stratified random sampling that included socioeconomic, race, gender, and geographic variables. Items that showed differential performance by group according to a bias were not used. Final pictures and wording were checked by a panel for balance between boys and girls, racial and ethnic groups, and geographic regions. Norming of the ACTeRS in 1981 involved 1,339 students in eight schools. The percentage of Black, Hispanic, and Asian children in the norming population was approximately equal to the national percentage representation.

### *Research Design*

We used a 2 × 3 (Treatment × Block) design (Keppel, 1982) for this study. Treatment and comparison students were administered pretest and posttest measures. Independent variables were the Student Readiness Training curriculum and the blocking variables of behavior rating scale score and listening comprehension score.

The dependent variables included the Listening Comprehension subtest of the SESAT2 and the ACTeRS. The blocking variable for the listening posttest was the behavior rating pretest. The blocking variable for the behavior posttest was the listening pretest.

We chose an analysis of covariance (ANCOVA) for statistical analysis. The covariate for the listening posttest was the listening pretest. The covariate for the behavior posttest was the behavior pretest. The rationale for choosing this design included two points: (a) We were interested in determining whether students with different levels of achievement responded differently to the treatment; and (b) we sought a reduction in error rate. The .05 level of significance was chosen for this study.

The following research question was addressed in the study: What are the performance trends regarding attending, listening, and social skills for kindergarten students in classes using the RTL curriculum versus children in comparison classes?

## Results

The statistical analysis included data from two groups, measured on two dependent variables and collected pre- and postintervention. To adjust for preexisting differences between groups on the dependent variables, we used ANCOVA (Campbell & Stanley, 1963). For this study, we conducted tests for homogeneity of regression on both dependent variables. The assumption of homogeneity of regression was not violated for either dependent variable. To achieve the primary goal of the ANCOVA, increasing precision, the correlation between the covariate (pretest) and dependent variable needed to be .60 or greater (Feldt, 1958). We calculated that the correlation between the dependent variable behavior rating scale total (posttest) and the covariate behavior rating scale (pretest) was .79. The correlation between the dependent measure listening comprehension total (posttest) and the covariate listening comprehension total (pretest) was .71.

We used a Treatment × Block design to reduce the error term and to allow for the assessment of possible interactions between treatment effects and blocks (Keppel, 1982). In this study, the block for the dependent variable behavior rating total (posttest) was three levels of listening comprehension total (pretest): lowest third, middle third, highest third. The correlation between this dependent variable and blocking variable was calculated as .45. The blocking variable for the dependent measure listening comprehension total (posttest) was behavior rating total (pretest), which had three levels, lowest third, middle third, and highest third. The correlation between this dependent variable and blocking variable was calculated as .46. A correlation of .20 or greater was needed to obtain the efficiency of the blocked design (Keppel). Therefore, blocking was justified.

We examined performance trends of the kindergarten students with regard to listening comprehension and behavior (see Table 1). ANCOVA indicated a significant difference ($p = .021$) between treatment- and comparison-group students on the listening comprehension posttest; no significant interaction was found. We found a significant difference ($p = .013$) between treatment- and comparison-group students on the behavior rating posttest with no significant interaction (see Table 2). We calculated also adjusted means and standard deviations for the dependent variables, listening comprehension and behavior (Tables 3 and 4).

**TABLE 1. ANCOVA Test of Significance for PLC Total**

| Source | Sum of squares | *df* | *F* | Sig. of *F* |
|---|---|---|---|---|
| Within cells | 4,563.54 | 231 | | |
| Regression | 2,310.08 | 1 | 147.30 | .000 |
| Group | 107.43 | 1 | 5.44 | .021* |
| BR group | 198.96 | 2 | 5.04 | .007 |
| Group by BR group | 114.41 | 2 | 2.90 | .057 |

*Note.* ANCOVA = analysis of covariance; PLC total = posttest, listening comprehension, all 45 items (dependent variable); BR group = behavior rating (blocking variable).
*$p = .05$.

**TABLE 2. ANCOVA Test of Significance for PBR Total**

| Source | Sum of squares | *df* | *F* | Sig. of *F* |
|---|---|---|---|---|
| Within cells | 30,995.13 | 231 | | |
| Regression | 38,447.80 | 1 | 286.54 | .000 |
| Group | 835.70 | 1 | 6.23 | .013* |
| LCT group | 10,25.01 | 2 | 3.82 | .023 |
| Group by LCT group | 441.25 | 2 | 1.64 | .195 |

*Note.* ANCOVA = analysis of covariance; PBR total = total score (all four subscales) on the behavior rating scale posttest (dependent variable); LCT group = listening comprehension total group (blocking variable).
*$p = .05$.

**TABLE 3. Adjusted Means and Standard Deviations for PLC Total**

| | PLC total | | | |
|---|---|---|---|---|
| | Treatment | | Comparison | |
| BR total subgroup | *M* | *SD* | *M* | *SD* |
| Low | 31.37 | 6.51 | 31.67 | 6.27 |
| Middle | 33.78 | 6.29 | 32.54 | 5.74 |
| High | 35.55 | 4.52 | 32.43 | 4.61 |

*Note.* PLC total = posttest on the total (all 45 items) listening comprehension instrument (dependent variable); BR total = behavior rating scale score for all four subscales combined (blocking variable).

**TABLE 4. Adjusted Means and Standard Deviations for PBR Total**

| | PBR total | | | |
|---|---|---|---|---|
| | Treatment | | Comparison | |
| LC total subgroup | *M* | *SD* | *M* | *SD* |
| Low | 100.26 | 20.03 | 92.44 | 21.37 |
| Middle | 101.73 | 18.76 | 99.56 | 16.65 |
| High | 102.69 | 11.22 | 101.29 | 15.08 |

*Note.* PBR total = posttest behavior rating scale for all four subscales (dependent variable); LC total = pretest listening comprehension for all 45 items (blocking variable).

## Discussion

The performance trends regarding listening and behavior for kindergarten students in classrooms that used RTL indicated a steeper improvement rate than for children in comparison classes. There was a significant and positive difference between children who received RTL training versus comparison students regarding listening comprehension and behavior (total score on a teacher-scored behavior checklist that included attending, social skills, hyperactivity, and oppositional behavior).

The RTL research provides evidence that entire classrooms of students can be taught prerequisite learning and social skills and, as a result, show increases in school success behaviors. In addition, students can transfer the new behaviors to increase achievement. To use this collection of materials and strategies, we recommend that teacher training programs provide RTL curriculum training as part of early childhood teacher preparation. In addition, we recommend that school systems and government agencies work together to coordinate and fund implementation of the RTL materials and strategies. By going beyond the "hit or miss" method of teaching attending, listening, and social skills and moving to a systematic training approach that can blend with and become embedded into the existing curriculum, teacher effectiveness, student achievement, and the social climate of the classroom can be improved.

A number of recommendations for future study are offered to researchers interested in the effects of training children in learning and social skills. It would be helpful to have a longitudinal look at the academic and social performance of treatment and comparison students. It also would be helpful to look at the differences in the performance of treatment and comparison students when (a) kindergarten students are taught with the RTL curriculum and (b) some follow-up teaching occurs at first and second grades. One measure of interest would be on grade-level reading at third grade. The longitudinal study should follow the treatment and comparison students and compare rates of school dropouts for each group. Also, a study that compares the effects of teaching parents to work with their children versus teacher training in the RTL model would be helpful. In addition, a look at the optimum training time for teachers, students, and parents would be useful. Finally, direct classroom observation used by trained independent observers to access learning and social behaviors would add a great deal to instrumentation needs.

## Summary

The focus of this project was to provide training to kindergarten teachers to use RTL, a curriculum that teaches children key prerequisite learning skills that are associated with school success. The study involved 12 intact kindergarten classes (260 students) from three demographically similar elementary schools in the metropolitan Atlanta area.

The goal was to determine the performance trends in attending, listening, and social skills for students in classes that were assigned randomly to receive the treatment (RTL) versus comparison classrooms within each school.

This project suggests that entire classrooms of students can be taught the prerequisite learning skills associated with school success and that students can transfer these new behaviors to increase achievement (listening comprehension). We demonstrated that teachers can be trained to incorporate that teaching without changing the existing curriculum. The results also provide strong evidence that materials and teaching strategies exist that can have a powerful impact on increasing student achievement. By starting early, we can equip students with the skills needed to succeed in school, and prevent future failure.

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