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Teacher Reactive Disciplinary Language and Preschool Math and Literacy Skills

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Abstract

Everyday behavior management strategies have a great impact on the classroom. This study explores the question: Is there a significant relationship between teachers' reactive disciplinary language (RDL) and preschool math and reading skills? The sample from this current study was collected from games designed for another study as measurements of preschool self-regulation (i.e. working memory, inhibition, and attention control). During these games, students frequently misbehaved and teachers managed behavior as a result. Teachers' reactive management utterances were placed into 4 categories: Direct Positive, Indirect Negative, Indirect-Suggestive, and Ignore. The Woodcock Johnson Tests of Achievement was used to assess math and literacy skills. It is hypothesized that direct positive responses are linked to higher math and literacy skills. The results show there is no significant difference in math and reading scores between students receiving a higher proportion of one type of behavior management response over another. However, there was a marginal significant difference in literacy scores between children who were ignored and not ignored. These results suggest that more research must be done in the arena of teacher behavior and its effects on student achievement.

Teacher Reactive Disciplinary Language and Preschool Math and Literacy Skills

Across the world, experiences inside the classroom shape the future leaders of tomorrow. Outside of home, students have the most adult contact with teachers 6 hours a day, 5 days a week, and 40 months a year (Fantuzzo & Atkins, 1992). Teachers play a critical part in students's learning since their instruction and management skills establish the classroom learning environment (Duke, 1979 as cited by Emmer & Stough, 2001, Fantuzzo & Atkins, 1992). Past research has found that well managed classrooms have higher achievement gains compared to an ill managed classroom (Good & Grouws, 1977). More specifically, discipline plays a large role in class management. The ability to appropriately verbally react to misbehavior is conducive to a smooth, well paced class day since there is less time wasted transitioning and dealing with discipline problems (Emmer, 1987; Good & Grouws, 1977). Words not only allow teachers to convey specific behavior expectations, they trigger motor-meaning responses in students as well (Sanchez, Rosaes, Canedo ,1990; Wolfgang, 1995). For example, when a teacher says "Stand up*"* the child's body knows to stand up. The goal of this study is to explore the connection between different types of disciplinary language and school skills. To prepare us for such exploration, we will first review the concept of class management and discipline in relation to this current study.

Class Management

Much literature is dedicated to the concept of class management. It is broadly understood as teacher behavior intended to maintain order and an effective learning environment (Duke, 1979 & Doyle, 1986 as cited by Emmer & Stough, 2001; Anderson, Everston & Brophy, 1979; Good & Brophy, 1984). Class management includes organizing the classroom, creating rules

and procedures, managing student work, planning and conducting instruction, and managing appropriate and inappropriate student behavior (Everston, Emmer, & Worsham, 2000).

Preventative vs Reactive Management. There are two types of class management: preventative and reactive. Preventative strategies shape the learning environment from the beginning of the school year. On the other hand, reactive strategies intend to re-establish or maintain class order after misbehavior. Past literature agrees that order in the classroom starts with preventative class management rather than reactive management (Emmer, 1987; Everston, Emmer, Worsham, 2002; Emmer & Stough 2001). When the teacher prevents potential behavioral problems, students will be free of distraction, and can concentrate on listening and learning (Anderson, Everston, & Brophy, 1979). However, in any given day within the classroom, there will be student misbehaviors that call for reactive management.

Discipline

Discipline has many definitions. For the purposes of this study, discipline is defined as a component of class management which entails the actions teachers must take to correct misbehavior. This form of discipline can be considered as reactive management (Charles, 2002). According to teacher education texts, the degree of disciplinary intensity dealt should depend on the infraction that occurred. Teachers may respond to small misbehaviors and offenses with unobtrusive discipline in order to keep the class pace flowing, and minimize attention to the misbehavior (Emmer, 1987). At times, the best response to small misbehaviors may be ignoring the offense. Also, briefly uttering a phrase, word, name, or sound to indicate one must stop misbehavior may be the best. This practice is referred to as “cuing” (Emmer, 1987, Gootman, 2001; Wolfgang, 1995). In the light of a larger misbehavior, teachers may take a more assertive approach. Teachers may use questions to confront the problem (“Can you give me the chalk?’).

Then they may use direct language ("Give me the chalk") to bring forth appropriate behavior (Gootman, 2001, Wolfgang, 1995).

Direct Positive Discipline: Preferred. In accordance to teacher education texts, positively phrased and direct methods of discipline are highly preferred to negative phrasing. For example, it is preferable to tell a child "Stand up" instead of "Don't sit down". Good & Brophy (1984) say "Management should be approached with an eye towards maximizing the time students spend in productive work rather than from a negative viewpoint stressing control of misbehavior" (p. 183). Generally, people find learning easier and happier if instruction is based on what to do instead of what not to do. The texts continue to stress that teachers must spell out specific appropriate behavior so students will know how to correct their misbehavior (Good & Brophy, 1984). In a disciplinary situation when students are told what they should be doing, they have the ability engage in the appropriate behavior. Once compliance is gained, the class is back in order and more learning can occur. In contrast, when students are always told what not to do, they know to stop their behavior, but they do not know the appropriate behavior of engagement. Without this knowledge, students may unintentionally engage in another inappropriate behavior, thus further depriving the class of learning. As an illustration, the teacher tells Bobby "Don't stand on the chair". Without knowing the correct behavior "Stand on the floor" Bobby may comply to the direction and stand on the table instead. Without clear, positively phrased direction, Bobby is technically compliant to discipline when he stands on the table (since it is no longer standing on the chair).

Effective Management Strategies

A great number or studies have examined class management and the most frequent forms of teacher communication with students. Praise, redirectives and reprimands delivered with

varying eye contact, tone of voice, physical proximity, and length, delay, and consistency of delivery were the most popular types of class management (Hiralall & Martens 1998). Hiralall & Martens' (1998) used all of these popular management techniques to form a management script. In their study, they revealed that preschool teacher use of the script during instrucational of management situations resulted in increases of child appropriate behavior.

Challenge Tasks

The sample from this current study was collected from games designed for another study as measurements of preschool self-regulation (i.e. inhibition, working memory, and attention control). These games were conducted at a whole classroom level. Students were expected to remember the instructions and act accordingly. Inhibition was measured in when children Working memory was measured when children had to remember the instructions and the corresponding actions. In order to effectively participate, these challenge tasks took the children a certain amount of attention control. However, the preschoolers frequently misbehaved and teachers managed behavior as a result. This current study draws information from the instances of misbehavior and the teachers' reactive disciplinary language used in each instance.

Current Study

This study explores the questions: Do teacher tend to use one type of disciplinary language? Do the specific types of disciplinary language have a link to math and literacy skills? Does the frequency of ignoring misbehaviors have any bearing on school skills? It is hypothesized that different types of disciplinary language (specifically direct positive RDL) will be linked to higher skills in math and literacy. This hypothesis falls in line with teacher education texts that framed direct positive disciplinary language as the exemplary line of action (Good & Brophy,1984; Gootman, 2001**).** However, research has yet to prove that teacher

disciplinary behavior has a direct influence on student achievement. Nevertheless, past literature and research has shown that certain types of strategies are more effective in creating a better learning environment, but many disagree which strategies are the best (Hiralall & Martens, 1998; Wolfgang, 1995; Gootman, 2001; Everston, Emmer, Worsham, 2002). Further, a fruitful and well paced learning environment should naturally result in improved academic skills (Good & Grouws, 1977). In this study we examine important academic skills: math and literacy.

Method

Participants

Teachers and students from two preschools in rural and suburban counties in the Midwest took part in this study. Teachers distributed parental consent forms. The final sample used for this study consisted of 112 students and 5 teachers from two Head Start classrooms, four tuition-based preschool classrooms, and four state-funded school readiness programs in two schools." 50% of parent background questionnaires were returned for analysis. The questionnaires specified that the students' families held the mean family income of $54,500 (range: $13,000-$150,000). Most of the students were Caucasian (57.1%). From the rest of the sample, 16.3% were Chaldean, 12.2% Asian, 8.2% African American, and 6.1% were Latino/a. 57.3% of the students were male, and the mean age was 4.76 years (SD =.43).

Tasks

Challenge – Inhibition ("the freeze game"). Teachers were the main instructor and experimenter of this game. All teachers followed the same script to administer the challenge task. Teachers instructed students to march in a circle when the music starts. Once the music stops, students were suppose to freeze in a specified pose. When the music plays again or when the teacher says "unfreeze' students move out of their poses. Teachers also held the role of

experimenter. The experimenter managed the marching music by stopping it at random 3, 5, 7, 9, 11, and 13 second intervals. The inhibition task consisted of six trials in sum. The first three trials allowed students were free to freeze in their own individualized poses. The second three varied trials called for teachers to decide (or ask one of her students to decide) the pose. The three varied trials were set to be fun motivation for the students to continue interest and participation throughout the Challenge task.

Challenge Task – working memory ("the jumping game"). In the same way as the inhibition task, students were instructed to march in a circle when the starts. However, in this game the students were pre-instructed to jump and/or clap a certain number of times instead of freezing into poses. To perform these actions, students had to memorize these instructions while marching in a the circle. The working memory task consisted of six trials. The first three trials consisted of a trial where teachers gave instructions with one step ("jump three times"), a trial of two steps ("jump three times and clap twice"), and another trial of three steps ("jump three times, clap twice, and go one step backwards"). The second three trials (similar to the inhibition task) were varied trials. The teachers chose (or asked one of her students to choose) a two step instruction.

Math and Literacy Assessments. The applied problems subsets of the Woodcock Johnson Psycho-Educational Battery—III Tests of Achievement (WJ-III; Woodcock & Mather, 2000) measured early math skills such as stating quantities of pictures and performing simple calculations. Developing literacy skills were assessed with the WJ-III Word Identification subtest. It measured letter identification and fluency of real word pronunciation. The questions in both the math and literacy assessments increased in difficulty as the child progressed. The task stopped when the child reached six consecutive incorrect answers.

Parent Questionnaire (*Appendix A*). Parents completed a questionnaire about the child, themselves, and specific background information. For the purpose of this study, only child age, ethnicity, and average family income were analyzed.

Procedure

Research assistants were trained to administer ten tasks via paper and pencil and computer. For the purpose of this current study, only the math and literacy measures of the WJ-III were used for analysis. During assessment in the preschool, work stations were set up with two chairs around a small table. The tasks were administered away from the classroom either in a quiet room or a corner in the hallway to minimize distractions. The task order was counterbalanced. To minimize testing fatigue, the ten tasks were administered over two days. To motivate completion of tasks, each child received stickers after each task.

The challenge tasks took place either in a gymnasium or classroom. Teachers received a week of preparation before the challenge task to memorize the instructional script. Every class repeated the challenge task once per day for three days. Videos from the first day were used in this study.

Misbehavior

All videos of the challenge task were coded for child misbehavior. Each child in every class was coded every ten second interval throughout the challenge task. Misbehavior was operationalized as five or more seconds of distracting behavior. Though the definition is broad, distracting behavior essentially consisted of any behavior that would take away attention from the teacher's instructions or the task at hand (Everston, Emmer, Worsham, 2000).

Teacher Behavior

Teachers reacted to these misbehaviors, and these reactions were recorded and described in document format. Then teacher verbal behavior was coded. Four codes were developed to categorize teacher utterances: Direct Positive, Direct Negative, Indirect-Suggestive, and Ignore. (Table 1). Inter-rater reliability was achieved at a Cronbach's Alpha of .889

Direct Positive (RDL 1) . A direct response my come in many forms, as long as the teacher instructs the child of the correct behavior of which he or she should be engaging. In this study, direct responses may also include redirecting (redirecting students' misbehavior to the appropriate behavior), presenting behavior choices, explaining why the misbehavior is wrong, or using another child's exemplary behavior as an example. Emmer (1987) describes a direct positive approach to discipline as focusing on delivering the correct behavior and not giving attention to misbehaving students. Anderson, Everston, and Emmer (1980) say "effective managers told the students what was expected of them…" Good and Brophy (1984) argue that teachers should increase student's productive work rather than attempting to control misbehavior. We defined direct positive reactive disciplinary language as responses that directly deliver the correct behavior that should take place.

Indirect-Negative (RDL 2). These responses are reactions that condemn incorrect behavior. This type of condemnation includes negative phrasing (such as using can't and don't), presenting undesirable consequences to misbehavior, or cuing. There have been mixed responses about the different types of negative disciplinary approach. Verbal cuing is recommended many teacher education texts. Gootman (2001) and Wolfgang (1995) both agree that small infractions should be corrected by short cuing. Emmer (1987) explains that cuing is preferred. Cuing lets the child unobtrusively know they are misbehaving and prevents drawing too much attention to the misbehavior. Taking negative phrases into consideration, literature

agrees this tactic is important during drastic situations such as hurtful behavior (Good & Brophy, 1984). However, to some, the overuse of negative phrases is considered undesirable and possibly detrimental. According to Wolfgang (1995) the more teachers use "no, don't, can't, stop" the more students become desensitized to these commands. Once a negative phrase ("NO, STOP") arises during a time of possible danger, students may not perceive the urgency and importance of the instruction since the teacher frames all instructions in a negative manner. On the other hand, if the teacher mostly uses positively framed direct disciplinary language, the sudden use of a negatively phrased statement will more likely catch a student's attention and compliance (Wolfgang, 1995). Both cuing and negative phrasing conveys to the child that he or she is doing something wrong. However, the child does not receive a method to correct his or her behavior.

Indirect-Suggestive (RDL 3). Teacher indirect-suggestive responses are directions that are suggested or delivered in a question format. Instead of *telling* the child that he or she should partake in the correct behavior, teachers *ask* the child to engage in the correct behavior. Disciplinary suggestive language may be effective for some students. Wolfgang (1995) and Emmer (1987) argue that suggestive discipline may be as effective as direct discipline depending on the severity of the misbehavior. Generally, indirect suggestive discipline is more appropriate for less intense infractions and students entering pre-adolescence and older. Preschool children on the other hand may hear an indirect suggestive disciplinary command and outwardly rebel by saying "No, I don't want to!"

*Ignore (RDL 4).*The lack of teacher reaction to child misbehavior was categorized as "Ignore". In some teacher education texts, ignoring misbehaviors is considered as a type of disciplinary action. Similar to cuing, teachers should intend to ignore minor misbehaviors to

prevent too much attention on the misbehaviors (Good & Brophy, 1984). Emmer (1987) states that teachers should not respond to all misbehavior. He suggests teachers should ignore the small misbehaviors that may be self correcting or have a short duration of time. In addition, giving attention to all misbehavior may unintentionally reinforce the misbehavior if the child simply wants to be noticed. In great contrast, Hogan, Rabinowitz & Craven (2003) found in their study that novice teachers are more likely to be unaware of classroom problems and ignore misbehavior. In this current study, it is not clear if a teacher meant to ignore certain distracting misbehaviors or if they simply were unaware.

Results

Five t-tests were used to compare the math and literacy skills between groups. The groups compared were: 1) recipients of Direct-Positive RDL and non-recipients of Direct Positive RDL; 2) recipients of Indirect-Negative RDL and non-recipients of Indirect Negative RDL; 3) recipients of Indirect-Suggestive RDL and non-recipients of Indirect Suggestive RDL; 4) recipients of Ignore and non-recipients of Ignore; and 5) recipients of *any* RDL and non-recipients of *any* RDL (The non-recipients of *any* RDL are the children that have not misbehaved).

Misbehavior and Reactive Disciplinary Language Descriptives

This table contains the average math and reading scores and average occurrences of misbehavior on an individual classroom level. On average, each child in this study misbehaved 9 times during the challenge task (range: 0 – 44). Refer to Table 2 for detailed Teacher 1, 2, 3, 4, and 5 classroom descriptives.

The highest proportion of disciplinary language used by each teacher was “Ignore” (range .87-.99). The use of the other RDL were almost the same. Dependent on each teacher,

Direct Positive RDL usage ranged .01-.05 of the time; Indirect Suggestive usage ranged 0 to .05 of the time, and Indirect Negative usage ranged 0-.03 of the time. Refer to Table 3 for detailed teacher RDL descriptives.

RDL, Math, and Literacy

There were no significant differences in math and reading scores between students who received one type of reactive disciplinary language over another. Yet, there was a marginally - significant difference in literacy scores between ignored children and non ignored children $t(110) = -2.080$, $p=.064$. Results for the other types of RDL are described in Table 4.

Discussion

This study shows the teachers in this sample ignored children misbehavior 87%-99% of the time. There was a nearly significant difference in literacy scores in the children who were ignored versus those who were not ignored. However, recipients versus non-recipients of Direct-Positive, Indirect Negative, and Indirect Suggestive reactive disciplinary language did not seem to have a difference in math and reading scores. Nonetheless, it is important to note that these percentages cannot indicate teacher's daily classroom behavior.

Limitations

In the Study. Insignificant results may be due to various limitations. First, the data set of disciplinary language was very small. In this study, we sampled teacher disciplinary behavior from the first day of the challenge tasks. Recall, teachers were the main experimenters in charge of giving instructions and controlling music. Since it was the first recording, perhaps the teachers focused their attention on accurate deliverance of the scripted instructions. Although, on average, each child still misbehaved 9 times during the challenge task, teachers very rarely delivered discipline. Analysis of a later challenge task would provide more instances of reactive

disciplinary language. In the second the third recordings of the challenge task, teachers became accustomed to the script and focused more of their attention on discipline. A data set of more instances of disciplinary language would help analysis in this study.

Another limitation came in the statistics analysis. T-tests were used even though each recipient and non-recipient of RDL were not independent samples. Generally students in the same classroom are never fully independent of each other due to very similar experiences of class environment, class management, and teacher behavior. Another form of analysis such as the HLM (hierarchical linear modeling) would have been better fit for a classroom based study with more variation and a larger set of disciplinary language instances.

Additionally, the analysis of only disciplinary language may be insufficient predictors of school skills. Past research has indicated the importance other factors when delivering disciplinary language. Van Houten, Nau, Mackenzie-Keating, Sameoto, & Colavecchia (1982) argued that eye contact and physical touch coupled with disciplinary language creates more student compliance than just disciplinary language alone. In addition, Hiralall & Martens (1998) highlighted that physical proximity, delay, and duration of the disciplinary language have significant bearing on the effectiveness of each reprimand. Perhaps supplementary factors combined with verbal discipline may predict school skills.

Behavioral Regulation as a Link. It is also important to realize that insignificant results may be due to a mediating variable between teacher reactive disciplinary language and achievement. Research supports that behavioral regulation is strongly associated with higher preschool achievement. Behavioral regulation consists of inhibition, working memory, and attention. These cognitive processes are important to shaping desirable student behavior and achievement in the classroom such focusing on tasks and remembering instructions (McClelland,

Cameron, Connor, Farris, Jewkes, & Morrison, 2007). Perhaps, disciplinary behavior may have an influence on child self regulation more than achievement.

Implications

Much is to be said about teachers' tendency to ignore misbehavior. Though past literature agreed that ignoring minor misbehaviors may be the best unobtrusive reaction, excessive ignoring may lead to class chaos. Future studies should explore when and why teachers ignore misbehavior and the effects on student behavior and achievement. Also, future studies should explore the wider scope of reactive discipline in addition to verbal techniques and their relation to academic achievement. More specifically we suggest examining teacher reaction time to misbehavior, physical reaction, and disciplinary language and its relation to behavioral regulation, student compliance and academic achievement.

Conclusion

The original goal of this study was to find a difference in math and reading scores between recipients and non-recipients of a certain types of disciplinary language. Instead, this study brought to light the tendency for teachers to ignore misbehaviors within the classroom. Misbehaving children who were ignored compared to those who received discipline had a marginal significant difference in literacy scores. The overall lack of research on the topic of teacher verbal behavior shows there is a great need for more research based teaching practices. Though there is a plethora of teacher education books filled with disciplinary tips and guidelines, there are no concrete connections made between types of discipline and student improvement in learning. If more research is dedicated to this topic, surely the guidelines leading our teachers to teach others will have more of an empirical basis.

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Appendix A

Demographics Questionnaire

Today's Date: _____

PATHWAYS TO LITERACY

Background Questionnaire

CHILD INFORMATION

NAME: _____ □ Male □ Female

HOME ADDRESS Street _____ Apt. _____

City _____ State _____ Zip _____

Phone Number (___)_____

Race/Ethnicity: _____ Native Language: _____

School: _____ English Proficiency: □ None □ Fair □ Good □ Excellent

Teacher: _____

Date of Birth: _____

Who is completing this questionnaire?

□ Mother □ Father □ Other Relative (specify) _____

□ Guardian □ Caregiver □ Other (specify) _____

FAMILY INFORMATION

Mother

a. Age _____ b. Native Language _____ c. Ethnicity/Race _____

d. What is your occupation? (be as specific as possible) _____

e. Are you currently employed? □ Yes □ No

f. If "Yes" do you work □ part-time or □ full-time?

If part-time, please specify how many hours per week: _____

g. What is your current yearly income? _____

h. Birthdate _____

♦What is the highest educational level you have attained? (Please check all that apply)

□ Some High School □ Graduated High School □ GED/Adult Education

□ Some College including Community College and Technical Training

□ Graduated Two-Year College (e.g., Associate's Degree, LPN) Degree Earned _____

□ Graduated Four-Year College (e.g., BA, BS) Degree Earned _____

□ Graduate School (e.g., MA, MS, MD, PhD, MSW, MBA) Degree Earned _____

Father

a. Age_____ b. Native Language_____ c. Ethnicity/Race_____

d. What is your occupation? (be as specific as possible) _____

e. Are you currently employed? □ Yes □ No

f. If "Yes" do you work □ part-time or □ full-time?

g. What is your current yearly income? _____

h. Birthdate _____

♦What is the highest educational level you have attained? (Please check all that apply)

□ Some High School □ Graduated High School □ GED/Adult Education

□ Some College including Community College and Technical Training

□ Graduated Two-Year College (e.g., Associate's Degree, LPN) Degree Earned _____

□ Graduated Four-Year College (e.g., BA, BS) Degree Earned _____

□ Graduate School (e.g., MA, MS, MD, PhD, MSW, MBA) Degree Earned _____

OTHER FAMILY INFORMATION

1. Who has the child lived with for most of the past year? (check all that apply)
   □ Mother □ Father □ Both □ Guardian □ Other (specify) _____

2. Other children in the family:

Name	Sex	Age	Birthdate	Does she/he live at home?	**B**irthchild, **S**tep-child, or **A**dopted
a. _____	____	____	_____	_____	_____
b. _____	____	____	_____	_____	_____

c. _____ ____ ____ _____ _____ _____

d. _____ ____ ____ _____ _____ _____

3. What language (s) are spoken in the home? _____

PRESCHOOL/CHILD CARE HISTORY

♦ Please list all forms of childcare and/or preschool experiences your child has had since birth: (Please use the back of the survey if necessary)

a. Type _____
(e.g. small group home, relative, day care, preschool, etc.)

b. Dates attended (mm/yr) _____ to _____

c. Hours per week _____

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a. Type _____

b. Dates attended (mm/yr) _____ to _____

c. Hours per week _____

---

a. Type _____

b. Dates attended (mm/yr) _____ to _____

c. Hours per week _____

HEALTH AND OTHER INFORMATION

1. Is your child adopted? □ Yes □ No

2. Were there any significant problems during pregnancy? □ Yes □ No

3. Was there anything unusual about your child's birth? □ Yes □ No

a. If "Yes," please check all that apply:

□ Prematurity □ Low birth-weight □ Hypoxia □ Other _____

4. Baby's birth weight: _____

5. Has your child had any of the following problems? (Please check all that apply)

□ Hearing □ Speech □ Vision □ Convulsions/seizures

□ Language □ Head injuries □ Frequent Ear infections □ Allergies

□ Asthma □ Other (please specify) _____

6. Is your child presently on any medications? □ Yes □ No
a. If "Yes," please describe:
_____
_____

7. To your knowledge, does your child have any emotional, social or other behavioral problems? □ Yes □ No

Authors Note

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Table 1

Categorized Teacher Behavior

Category	Types	Example
Direct Positive: Statement that directly communicates appropriate behavior	Direct	"Sit Down"
	Redirection	"We're going to play this instead."
	Choice	"Either you march now, or you sit down."
	Explanation	"Keep your hands to yourself. You could've hurt someone."
	Classmates as model	"Look at her. She's being a good listener."
Direct Negative: Statement that directly conveys that child is misbehaving, without communicating appropriate behavior	Negative Phrase	"You can't do that."
	Consequence	"I'm telling mom."
	Cuing: Sounds, Name	"Bobby!" "UH-UH!"
Indirect-Suggestion: Suggestion or Asking child to change behavior	Suggestion	"Maybe you should stop"
	Asking	"Can we use our listening ears?"
Ignore: No verbal response to		

misbehavior

Table 2

Classroom Descriptive Statistics

	Teacher 1	Teacher 2	Teacher 3	Teacher 4	Teacher 5
Students in Study	24	20	22	21	25
Mean Math Score	6	7	5	7	7
Mean Literacy Score	6	7	5	6	7
Mean Class Misbehavior	14	6	11	9	7

Table 3

Teacher Reactive Disciplinary Language (RDL) Descriptive Statistics

		Teacher 1	Teacher 2	Teacher 3	Teacher 4	Teacher 5
Direct Positive	Frequency	8	7	10	5	1
	Proportion	.02	.03	.05	.03	.01
Indirect-Negative	Frequency	0	0	6	2	0
	Proportion	.00	.00	.03	.01	.00
Indirect-Suggestive	Frequency	0	1	9	1	0
	Proportion	.00	.00	.03	.05	.00
Ignore	Frequency	342	238	172	176	79
	Proportion	.98	.97	.87	.96	.99
Sum RDL	Frequency	332	246	197	184	80

Table 4.

Links to Math and Literacy

Groups Compared	Skills Assessed	*df*	*t*	Sig.
Yes RDL1 and No RDLI	Math	110	-1.001	.888
	Literacy	110	-1.303	.558
Yes RDL2 and No RDL2	Math	110	.100	.756
	Literacy	110	-.017	.861
Yes RDL3 and No RDL3	Math	110	-1.156	.460
	Literacy	110	-1.075	.924
Yes RDL4 and No RDL4	Math	110	-1.859	.096
	Literacy	110	-2.080	.064*
Yes RDL and No RDL	Math	110	1.021	.657
	Literacy	110	.971	.197

**Marginal significance when p <.05*