

Florida State University Libraries

Honors Theses

The Division of Undergraduate Studies

2012

Factors Correlated with Teacher Response to Child-Initiated Speech

Estefania Ospina



ABSTRACT

Findings in research studies indicate that children's language development greatly benefits from characteristics of conversational input from adults such as parents and teachers. With the use of live observations this study was designed to examine factors thought to indicate a higher propensity with which preschool teachers would be to respond to child-initiated speech. In this study, descriptive statistics and correlations were conducted to explore the relationships between the variables proposed. There were a total of 23 participating preschool teachers. Two to three separate hour long observations were conducted for each classroom during nondirective activities such as centers time (i.e. free play), snacks (i.e. lunch), and transitions. Data was collected through a standardized measure of teacher-child conversations, a chaos and classroom management scale, and teacher background surveys. Given this study's results the proposed hypotheses were not supported. Teacher-child ratio were not positively correlated with teacher response to child-initiated speech and classroom management quality and chaos level only had showed partial correlations. Limitations of this study and proposals for future research are discussed in the document.

Keywords: preschool, teacher, and child language development

THE FLORIDA STATE UNIVERSITY
COLLEGE OF ARTS AND SCIENCES

FACTORS CORRELATED WITH TEACHER RESPONSE TO CHILD-INITIATED SPEECH

By

ESTEFANIA OSPINA

A Thesis submitted to the
Department of Psychology
in partial fulfillment of the requirements for graduation with
Honors in the Major

Degree Awarded:
Spring, 2012

The members of the Defense Committee approve the thesis of Estefania Ospina defended on April 16, 2012.

Dr. Beth M. Phillips

Thesis Director

Dr. Murray Krantz

Outside Committee Member

Dr. Diana Williams

Committee Member

INTRODUCTION

Early Language Exposure

Early literacy plays a key role in preschool children's future success in reading and overall academics. Research supports the idea that an emphasis on early literacy plays an essential role in the progress of preschool children's development. Preschool children, ages three to five, benefit from high-quality child care that positively enhances their social (Peisner-Feinberg, 1997; Peisner-Feinberg et al., 2000; Vandell, Henderson, & Wilson, 1988; Volling, & Feagans, 1995), cognitive (Burchinal, Roberts, Nabors, & Bryant, 1996; Howes, Smith, & Galinsky, 1995), and language development (Network, National Institute of Child Health and Human Development Early Child Care Research, 2000; Vernon-Feagans, Emanuel, & Blood, 1997).

According to Snow and Burns (1998) and Weizman and Snow (2001), differences in young children's vocabulary size can be attributed to the quantity of language input they have been exposed to at home in the first few years of life. Children of lower income households are more likely to have parents with a poorer education level, thus potentially limiting the child's language exposure (Huttenlocher, Vasilyeva, Cymerman, & Levine, 2002). This deficiency of rich language experience at an early age is associated with a child's decreased vocabulary range by the time they are in preschool (Chazan-Cohen et al., 2009). According to research, low socioeconomic status (SES) children, experience a lack of language exposure and one-on-one communication that if present is often associated with more effective language development (Wasik & Hindman, 2008). However, quantity is not always the sole grounds for successful language development. Larger amounts of language input do not necessarily mean higher quality or greater variety of vocabulary (Weizman & Snow, 2001).

Regular exposure to varied language has been linked to preschool children's early and later language accomplishments (Massey, Pence, Justice, & Bowles, 2008). Abstract language in particular may be important for children's language development. The literature suggests that unresponsive caregivers and adults who do not provide stimulating interactions in poor-quality child care may likely disrupt infant and preschool children's ability to grow socially, cognitively, and advance their language development (Duncan Network, National Institute of Child Health and Human Development Early Child Care Research, 2003). According to Chazan-Cohen et al. (2009), children at age 5 with strong language outcomes were most likely influenced by their experiences with high levels of supportive parenting up to that age. A plethora of research suggests that warm, nurturing, and responsive parenting behaviors can positively influence young children's outcomes in various developmental fields (Caspi et al., 2004; Chazan-Cohen et al., 2009; Connor, Son, Hindman, & Morrison, 2005; Dodici & Peterson, 2003; Huttenlocher et al., 2002).

Demographical Influences

Since the implementation of the No Child Left Behind Act of 2001 more studies have emerged focusing on at-risk children in preschools (La Paro, Pianta, & Stuhlman, 2004). This act has helped stimulate scholarship on the importance of language development in preschool children and the factors that may affect it, such as: classroom structure and processes, and children's language experiences (Massey et al., 2008). It has been found that low SES children in Head Start classrooms, on average, have receptive vocabulary scores approximately one standard deviation below the national average (Dickinson, St. Pierre, & Pettengill, 2004; Zill & Resnick, 2006). Children of low SES backgrounds may struggle with their academic progress, placing

them almost a year or more behind in comparison to peers of the same age group (Dickinson, Darrow, & Tinubu, 2008).

Research on the cognitive stimulation model has shown that cognitive and academic success is perturbed by poverty which strains the family's ability to provide their children with adequately stimulating materials and experiences (Haveman & Wolfe, 1994). When the home environment is not providing high-quality language and literacy experiences for preschool children in poverty, it is imperative that their preschools do so (Turnbull, Anthony, Justice, & Bowles, 2009). Whereas literature on child language development places importance on parental contributions, recent studies have concentrated on teachers' influences on preschool language development.

Research supports the idea that parents are a key component in children's language development. Nevertheless, it must be considered that children enrolled in preschool spend most of their day with their teachers and not their parents. Adequate quantity and quality of language exposure is essential for language growth. Thus, child-care quality in and outside the classroom may influence a child's ability to expand their vocabulary. Whereas all adults are essential in the molding of children's development, teacher support in extended discourse helps greatly predict children's future literacy expertise (Massey et al., 2008). A classroom environment rich in social and instructional interactions amongst the children facilitates extending teacher-child dialogue (Pianta, La Paro, Payne, Cox, & Bradley, 2003). Fortunately, an even newer line of research is that of teacher-child interactions and how they may support children's language development.

Teacher Background

Many questions regarding teacher's educational background, attitudes, and behavior toward children arose when preschool teachers became a prevalent subject in the literature

(Connor et al., 2005). Topics such as teacher-child conversations, teacher's educational and professional training background, and teacher's beliefs regarding language and literacy instruction were examined among other factors assumed to be associated with children's language development (Dickinson et al., 2008; Wasik & Hindman, 2008).

Teacher's education and qualifications are a topic of debate concerning its association to children's language outcomes. Rather, children seem to benefit more from the teacher's ability to provide instructions regardless of their educational background (Connor et al., 2005). Other research suggests that children enrolled in private, non-profit, and Head Start classrooms have been shown to benefit from teachers with a Bachelor of Arts or higher level of education (Vu, Jeon, & Howes, 2008). However, classroom quality is not necessarily increased because of a teacher's higher education level, but may instead be because these teachers with higher education have an ability to make better use of the little resources available (Vu et al., 2008). As well, teachers with a higher level of education may be more likely to be more responsive to their students, but unpredictably these students had weaker early reading skills (Connor et al., 2005). Shim et al.'s (2004) proposed that despite discrepancies in education level between lead and assistant teacher, their positive behavior was more affected by lower ratios and smaller group size than their education level.

Classroom Environment

Research in systems theory suggests that children's development cannot be studied in isolation of the context in which the development takes place (Turnbull et al., 2009). The type of teacher language that is used with the children, which is often dependent on the contextual feature of the classroom (that varies based on the activity and group size of the classroom) may be directly correlated with superior classroom quality (Turnbull et al., 2009). Classroom quality

can increase based on contextual features that allow for optimum teacher-child interactions where the child is given responsive and active attention (Turnbull et al., 2009). Language proficiency and overall success within the classroom is shaped by the structural quality of the room; specifically, material availability, play space and safety, among other factors (Howes, Phillips, & Whitebook, 1992; National Child Care Staffing Study Child Care Employee Project, 1989).

Another important factor related to the quality of a classroom language environment may be the teacher-child ratio. A lower teacher-child ratio may allow teachers to give more personal attention to children. This focused attention is also associated with supportiveness, responsiveness, and verbally stimulating behavior (Shim et al., 2004). More individualized attention also enriches teacher-child relationships, which has shown to predict a child's level of competence, reduce behavioral issue, and have more positive peer connections in school (Shim et al., 2004).

Expanding Child Language

In consideration of language growth, shared book reading activities benefit children's language development through the adult's use of scaffolding techniques; considered to be a favorable approach for encouraging word learning (Blewitt, Rump, Shealy, & Cook, 2009). Observational studies suggest that adults begin by asking simple questions and slowly increase the cognitive demand within the context of the questions. This helps encourage the child to think more extensively and articulate their verbal response (Blewitt et al., 2009 & Huttenlocher et al., 2002). Preschool children's inferential language skills can be improved given that their teachers contribute to the children's language development by encouraging challenging conversations and

extracting language use (Massey et al., 2008). Hence, teacher scaffolding techniques used during book reading can be similarly applied during conversation to promote language development.

Other language features such as questions, repetition, and expansions on children's utterances—in comparison to other types of comments—(Turnbull et al., 2009) are more likely to persuade children to engage in more conversation (Massey et al., 2008). Similarly, an external factor such as the frequency with which open-ended questions are used, the kind of instructional activity occurring is a characteristic of teacher language usage that affect child language development (Girolametto, Hoaken, Weitzman, & van Leishout, 2000; Girolametto & Weitzman, 2002; Kontos & Keyes, 1999).

Most of the recent research is focused on the contributions teachers can make to improve preschooler's language development and their early literacy skills. The research highlights the importance of teachers' role in child progress in the areas of cognitive and language development. The literature has stressed the significance of a child being exposed to situations abundant in spoken and written language in which they have the opportunity to engage in “give and take” conversations provided by positive adult models (Dickinson & Tabors, 2001; McCartney, 1984; & Network, 2000). Despite these beneficial suggestions for improvements in child language development, very little research has focused solely on the initiatives children take in discourse. Even less research shows how these initiatives influence teacher responses and the potential for a more elaborate conversation to evolve. Further, almost no research has been conducted focusing on what factors are potential indicators of preschool teacher's propensity for responding to child-initiated speech.

The quantity and classroom management quality of adult-child speech in the preschool classroom has been significantly overlooked in past research (Turnbull et al., 2009). However,

recent studies support the theory that children's potential for language growth is influenced by the time they spend speaking and listening to adult speech, and when these adults use more articulate speech children have a greater opportunity at syntactic expansion (Huttenlocher et al., 2002 & Turnbull et al., 2009). Given findings previously discussed, research on language development in preschool children may progress by further exploring classrooms as a means to compensate for limitations of language development at home; and by targeting potential correlations between factors such as teacher-child ratio, classroom management, teacher background, and child gender. In sum, one can hope to generalize that a teacher whom actively engages with the child after their first attempt at communication will facilitate the child's language development through the establishment of a more elaborate conversation.

PURPOSE

This study's origin is derived from a larger research project called "Project BLOOM: Building Language Opportunities and Outcomes through Media" conducted by the Florida Center for Reading Research (FCRR). Its principal investigator and project director was Dr. Beth Phillips who works for the FCRR and the Department of Educational Psychology and Learning Systems at The Florida State University (FSU). Project BLOOM was a three-year intervention development study that began in the 2008-2009 school year and aimed at accelerating the vocabulary and language growth of lower income and at-risk preschool children through the implementation of a new curriculum (Phillips, 2009). One aspect of this research study was to develop and validate teacher and classroom environment through the use of field observations to record data.

As an observer for Project BLOOM I recorded certain aspects of the teacher's performance and environment on topics such as: classroom arrangement and routines, book

reading, general language environment, incidental language instruction, incidental vocabulary instruction, and specific vocabulary instruction, all of which are areas associated with language development. The section of incidental language instruction, particularly item number 34 specifically asks if the teacher (and/ or class aide can be indicated as well) “responds to child initiated conversation” and number 35 asks if “follows child interest in conversation” became a matter of interest to me. I have chosen to expand on these two sub-topics of the coding sheet because when given the option to answer “yes” (indicating action occurred) and “no” (indicating action did not occur) I observed that in most classrooms I was mostly choosing “no” for both numbers 34 and 35, but especially for number 35; and when I did choose “yes” it happened very minimally.

Through these observations and my readings I realized that children’s exposure to more language opportunities through their teachers would likely help expand their vocabulary and language growth. However, if teachers are not actively engaging with their students by replying to their attempts at conversation or trying to continue conversation after a reply, then children are deprived of many opportunities to think of responses to dialogue or have the chance at receiving feedback on any comments or utterances already made. When considering the holes within the literature on this topic, and an almost complete absence of research on teacher responses to child initiated speech, this study will focus on the theory that high classroom management (i.e. low classroom chaos), low teacher-child ratio are factors positively correlated with the propensity for teachers to respond more frequently to child-initiate speech. Teacher educational background, years of experience teaching, and child gender are further contextual variables being considered as potential correlates.

Goal of Study

The goal of this research project is to study classroom management, teacher-child ratio, teacher background, and child gender in preschool classrooms as potential factors associated with an increased likelihood for teachers to respond to children's initiatives and thus, potentially enhance and generate more child speech. Given the findings in research about teacher-child interactions, children can greatly benefit from discourse with their teacher when the teacher is attentive, assertive in their instructions, and make good use of their classroom resources (Connor et al., 2005; Massey et al., 2008; Vu et al., 2008). Turnbull et al., (2009) suggests that children have fewer language opportunities when the classroom they are in is headed by a "controlling" and "nonlaborative" teacher. Whereas children's language skills are not the focus of this investigation, future work may be able to draw the specific connections from teacher responsiveness to child initiated language to children's development.

In this study I hope to answer the following questions: Are classroom management and teacher-child ratio correlated with teacher response to child-initiated speech? Essentially, I hypothesized that teacher-child ratio (i.e., *Total Number of Adults to Children*) would be negatively correlated with the frequency of teacher response to children's initiations (e.g., response to the initial child utterance- *Total Number of Conversations*) and to the length of those conversations (i.e., *Total Turns Within a Conversation Between Teacher & Child*). In other words, the larger the number of children per adults in classroom, the less likely teachers would be to be responsive to child initiations. Additionally, I hypothesized that teacher response to child-initiated speech (i.e., *Total Number of Conversations*) would be correlated with classroom management quality (i.e. frequent and qualitative\ use of management techniques) and classroom chaos (i.e. particularly low classroom chaos).

METHODS

Participants

This project falls under the human subject committee approval and informed consent of the larger BLOOM project. Most of the participants for this study were recruited within the context of the larger study from Leon County and surrounding counties in the State of Florida. The classrooms studied were those with pre-kindergarten programs that serve children one or two years before entering kindergarten (i.e. preschool). As such, the children's ages in all participating classrooms ranged from 3 to 5 years, but most children were 4-years-old.

Some additional classrooms that were not participants in Project BLOOM and were recruited from lists of preschool sites that had participated in other recent projects conducted at FCRR. Some of the sites participating in my study had Florida Voluntary Pre-Kindergarten services; other sites were private institutions, some of which served children from lower SES backgrounds. Out of approximately 50 sites contacted, data was collected from field observations at 19 different locations in Leon County and neighboring counties with a total of 23 lead teachers whom agreed to participate in this study. Some locations with more than one eligible classroom included more than one participating teacher.

The goal was to conduct at least two and at most three observations per classroom. Unfortunately, although the majority of the classrooms had three observations each, there were a few exceptions in which only two observations were conducted due to constraints such as scheduling conflicts and the lead teacher no longer being at the location. Additionally, there were two teachers from different locations with only one observation recorded because they stopped working in their respective school sometime after I had already conducted the first observation.

These two locations with one observation will not be included in the data analysis. Background and descriptive information regarding the teachers is presented in the *Results* section.

Measures

Observational Measure.

The goal was to complete approximately 2-3 different hours' worth of observation time within each classroom. Each observation lasted one hour in total, although some encompassed longer than this as some observations were interrupted by teachers leaving the room or conducting whole group activities (e.g., book reading). Only meals (i.e., snack or lunch time), transitions, and centers (i.e., free play activities) were included in the observation coding, as described in more detail below. Each classroom was observed on at least two (ideally three) different days to account for any confounding and potential extraneous variables that may affect teacher and child behavior. I collected the data on classroom management and teacher response to child-initiated speech by coding teacher-child conversation. All the data and observations were conducted by the author.

Classroom Management Survey.

Classroom management was assessed in the same time period of the observations for that day with the use of the CHAOS-D Scale Plus (CHAOS-D). This measurement tool is composed of two sections. Section one has 16 "agree/disagree" items developed by members of the Children's Learning Institute at the University of Houston Health Sciences Center. This scale was then used by the Preschool Research Group (PRG) in the Florida Center for Reading Research (FCRR) in the context of a previous curriculum intervention study in comparable classrooms serving at-risk children. The CHAOS-D serves as a global chaos rating that evaluates when activities in the classroom do not run smoothly due to disorderly behavior. Conceptually

this scale may measure the behavioral characteristics of students and teacher classroom management skills. Classroom management was also assessed in this scale through qualitative and quantitative measures that help indicate how well the teacher engaged in positive classroom management behaviors and the frequency with which these were carried out. The classroom management qualitative and quantitative measures do not include child response to these teacher behaviors. In this section there are items such as: “The teacher is usually able to ‘stay on top of things’ (e.g., planning activities, getting them ready, communication with parents),” followed by spaces to indicate “agree” or “disagree.” The items were given the following numerical values during coding: *agree* =1 and *disagree*= 0. During the organization of the data, the numeral values of certain items in the CHAOS-D Scale were reversed to reflect that on the total score, a high score meant more chaos and a lower score meant less chaos in the classroom.

The second section has five items that show a degree of magnitude. These items are from the Teacher Behavior Rating Scale (Landry et al, 2009). This is a reliable and valid classroom observation measure that has been used in numerous previous classroom observations and curriculum intervention studies. It has variables assess classroom management quality and the frequency with which it occurs. These were coded separately and then totaled to give two scores per teacher for every observation. As with the other variables, these scores were averaged across the total number of observations per teacher.

Teacher Response Coding.

The teacher-response coding sheet was used to record teacher response to child-initiated speech. The coding always began with child dialogue, denoted by a capital bold letter “C” under the *Start* column. The coding for that first column was completed by adding one of the following letters to specify the type of dialogue the child used: *CQ*= Child Question, *CS*= Statement or

CVI= Child Verbal Inaudible. Following that, the teacher's response to child-initiated speech was coded with the following criteria: *TN*= Teacher No Response, *TR*= Teacher Verbal Response (brief), *TNR*= Teacher Non-Verbal Response, *TQ*= Teacher Question, *TE*= Teacher Elaborates or *TVI*= Teacher Verbal Inaudible. In response to the teacher's dialogue, the child did any of the following which was recorded as follows: *CRS*= Child Verbal Response Statement, *CRQ*= Child Verbal Response Question, *CNR*= Child Non-Verbal Response, *CN*= Child No Response or *CVI*= Child Verbal Inaudible. The end of a conversation was coded as “/”.

The coding sheet allowed for identification between same or different child, and new or same conversation with the following: *NN*= New Child/ New Conversation and *SN*= Same Child/ New Conversation. A conversation was coded as new if 8 or more seconds with no dialogue passed since the last comment was made either by the teacher or the child. Lastly, the child's gender was also recorded for every new conversation indicated as follows: *F*= Female and *M*= Male; and the location of the conversation were coded as *C*= Centers/ Free Play, *S*= Snacks/ Meals, and *T*= Transitions.

Variables Created for Data Analysis.

The Appendix includes a copy of the coding sheet and the correlation matrix of the variables statistically analyzed. The “*Total Number of Adults to Children*” (i.e. teacher-child ratio) variable was determined by creating a ratio variable consisting of the total number of lead teachers and aide(s) present in the classroom relative to the total number of children in the classroom for each observation. The “*Total Number of Conversations*” variable was determined by counting how many separate conversations occurred in each observation. For example, there 17 conversations (i.e. 17 rows) for the first observation for one teacher, 30 for the second, and 40 for the third; these values were summed and then averaged to define a total average of

conversations for that classroom. The “*Total Number of Turns between Teacher and Child*” (i.e. length of conversation) was concluded by counting how many turns there were between teacher and child for each conversation row. The “*Total Turns with Males*” and “*Total Turns with Females*” are two separate values representing the sum of male and/or female initiated conversations for each observation.

The “*Proportion of Conversations with Males*” and “*Proportion of Conversations with Female*” are also separate values similarly determined by a proportion between the number of male and/or female initiated conversations to the total number of conversations during that observation. The “*If Child-Initiates with Question, then*” and the “*If Child-Initiates with Statement, then*” values are two variables determined by the proportion of instances a child initiated with a question and/or statement that a teacher responded. When appropriate values for these calculated variables were averaged across rows within a conversation, then all the values for each observation were averaged to provide a final average for each classroom.

Teacher Background Characteristics.

Information regarding teacher background characteristics was drawn from a background survey from Project BLOOM that was administered to all participating teachers before the beginning of this study. Teachers recruited for this study that had not participated in the BLOOM project were asked to complete a background survey. This survey consisted of 12 questions inquiring about the teacher’s demographical background (i.e. gender, age, race, and ethnicity), years of experience teaching, level of education, certifications, and the education level of any teacher assistants.

Procedures

For the purpose of hearing clarity and lack of technological devices, this study was conducted by live coding in which the observer was present in the classroom setting when collecting the data for every observation.

Due to personnel limitations I completed all the observations for this study. Before collecting the data for this particular study, I practiced recording observations to become accustomed to the CHAOS-D-PLUS Scale and the teacher response coding sheet with the use of videos and a practice site. Throughout the practice period modifications to the coding sheet were made to better represent conversations observed in the real classroom setting. In addition, prior to my study I was already a trained, reliable, and experienced observer for the larger language environment observation of project BLOOM.

The observations were conducted on weekdays and during the times of 8:00 AM and 12:00 PM while classrooms had meals such as snack or lunch and participated in centers (i.e., free play activities). Large group circle time and book reading were excluded because these activities were not very feasible for child-initiated conversations and the teachers were most likely to be directive in their dialogue.

ANALYSIS

This study explored the descriptive statistics for each measure. I was particularly interested in assessing the range in variability of the teacher in regards to responsiveness codes. In order to answer the specific research questions I measured the bivariate correlations among the relevant variables with and without controlling for teacher background and both combined and separately for child gender.

The following factors of the teacher background survey were statistically analyzed: lead teachers' years of teaching experience (both in preschool and total), educational degree earned, gender, and ethnicity/race. In regards to the CHAOS-D scale, classroom management was assessed with measurements of the chaos level, and the quantity and quality with which the teacher conducted classroom management behaviors. In regards to the quantitative analysis of the dialogue, the following correlations were made with the total average for each teacher across all observations: number of conversations, number of speech turns among teacher and child; total turns for boys and girls; the proportion of conversations with boys and girls; discrepancy in conversation development given if the child initiated with a question or statement.

Finally, child gender was recorded at the beginning of every conversation. Child gender does not mean one unique or different child was the one to initiate the conversation. For example, if in one observation there were five male initiated conversations recorded, it does not necessarily mean that the teacher replied to five different males; instead, it means that five of the conversations for that observation were with male children. Thus, I analyzed how many conversations the teacher had with boys and girls separately per observation and also if the conversation length was associated with the child gender. However, the total number of boys and girls in each classroom was not tabulated. Instead, only the total number of students and total number of adults (i.e. lead teacher and aide, if present) was recorded.

RESULTS

Tables 1 and 2 display the descriptive statistics for the variables being investigated.

It is important to note the high amount of variability for conversation lengths (i.e. turns ranging from 1-67) and for teacher credentials and experience. Although the majority of the teachers' experience was teaching at the preschool level, there was one teacher who had taught at

the sixth grade level and above for over 10 years. Another few teachers had some years of experience as special education teachers. One quite notable finding is that teachers were not very likely to respond to child initiations that were questions, but rather more likely to respond when the child initiated with a statement. It is important to note that teacher child ratio ranged broadly from having 1-3 adults and 4-20 children present in the classroom. Essentially, no classroom observed exceeded the teacher-student legal ratio permitted for grade level. Any variability was below the maximum students allowed per teacher adults present in classroom. Below I review the findings for correlations among the key variables investigated along with several other variables included.

TABLE 1
Teacher Background Characteristics

Variables	Mean (SD)	Range	Percentage
Years of Teaching	10.22 (9.39)	1-36	
Preschool			
Total Years of Teaching	12.04 (10.45)	1-36	
Total Years of Education	14.78 (1.98)	12-18	
High School Degree			8.7%
CDA			17.4%
Associates Degree			17.4%
Bachelor's Degree			47.8%
Master's Degree			8.7%
Years of Education	14.78 (1.98)	12-18	
Age	41.14 (13.95)	21-61	

Gender	95.7% Female
White/Caucasian	78.3%
Black/ African American	26.1%
Hispanic/Latino	4.3%

TABLE 2
Conversation Codes and Classroom Management Ratings

Variables	Mean (SD)	Range
Ratio Adults to Children	0.33 (0.10)	0.17-0.62
Total Number of Conversations	31.80 (10.24)	20-66.33
Total Number of Turns between Teacher and Child	3.73 (0.88)	2.54-6.36
Total Turns in Conversations with Males	27.29 (10.99)	3-48
Total Turns in Conversations with Females	34.49 (17.72)	5.67-83
Proportion of Conversations with Males	0.47 (0.15)	0.22-0.79
Proportion of Conversations with Females	0.52 (0.15)	0.21-0.78
If Child-Initiates with Question, then does the Teacher Respond	0.20 (0.13)	0.0-0.50
If Child-Initiates with Statement, then does the Teacher Respond	0.79 (0.13)	0.50-1
Classroom CHAOS Level	3.67 (2.49)	1-12
Classroom Management Quantity	16.33 (2.24)	11.5-19
Classroom Management Quality	8.15 (3.32)	1.5-12

Teacher Background

The *Correlation Matrix* in Appendix C includes the results of the correlation analyses among variables. Although not statistically significant, the values in the table indicate that teacher age and experience are negatively correlated with classroom chaos. Essentially, the higher the age and experience of a teacher the less chaotic her classroom was. However, only older aged teachers seemed to show lower classroom management quality; but education level was not associated with this variable. These findings were not statistically significant. There was also a trend indicating a negative relationship between teacher years of education and length of conversations with male students; the higher the teacher's education level, the shorter the conversations with boys.

A pattern, although not significant, across four variables was also observed showing that as teacher age increases so does the total number of conversations with children, but their length decreased with both boys and girls. Further, a trend indicated that the higher the teacher's education level the more likely he or she was to engage in classroom management behaviors. However, the classroom management behaviors mentioned in the scale are positively worded (i.e. "Uses encouragement and positive feedback..."), a pattern indicated a negative association with classroom management quality. This potentially indicates that engaging in more classroom management behaviors does not necessarily mean that these behaviors are executed well.

Child Gender

Values were calculated investigating the proportion of conversations with the lead teacher initiated by male and female children. In addition, I analyzed associations for variables representing the average length of conversations (i.e., number of total child and teacher turns) with the lead teacher initiated by boys and girls. Statistical significance was observed when

considering the two variables; the greater the proportion of conversations with males the shorter the length of conversations with girls. This means that the length of the conversation with girls was negatively correlated to the proportion of conversations with boys. Also statistically significant, results indicated that the greater the proportion of conversations with girls, the shorter the length of the conversations with boys. The length of conversation with boys and their proportions were positively correlated, but not significantly. Other, statistically significant results include the length of the conversation with girls being positively correlated to the overall average length of the conversation. As well, with a teacher whose observations included a higher proportion of conversations with girls were observed to have longer conversations with girls. The majority of the previously mentioned findings have not been statistically significant; but despite the small sample size the data may suggest the patterns and trends are worth noting.

Classroom Management

Appendix B includes example items of the CHAOS-D Scale and the Classroom Management Survey. Within the classroom management category the results show a significant negative correlation between classroom chaos and the quantity and quality of classroom management variables. Also, classroom chaos was not associated with any of the conversation variables; whereas the quantity variable was not significantly correlated with gender, the classroom management quality variable was. The less well-managed the classroom (i.e., lower quality) the more conversations with girls recorded. A trend was found demonstrating that the lower the quality of the observed classroom management, the shorter the conversation were with girls. Overall, teachers engaged more in conversations initiated by girls. A final set of partial correlation analyses were conducted that explored whether the above findings for classroom management and gender would be altered if controlling for teacher's years of education or years

of teaching experience. Neither set of analyses resulted in a change to the significance nor substance of the correlational findings described, and thus are not discussed further.

DISCUSSION

The goal of this study was to predict the length of conversations and total turns between teacher and child after child-initiated speech. Child-initiated speech was determined either by a question or statement from a child to the teacher. Unfortunately, most variables analyzed were not statistically significant, but some showed noteworthy patterns and trends. Child gender-related variables seemed to be the most influential with respect to demonstrating statistical significance. However, it is unclear as to what drives the observed findings between child gender and teacher response correlates. Girls not only initiated conversation more, but anecdotally, sought teacher's opinion and involvement much more than boys did. Boys did speak a lot, but mostly to other boys rather than seeking or involving teacher input. Overall, to explain the relationships in teacher-child communication—in regards to teacher response to child-initiated speech—other variables such as child language capacity, teacher gender, and both teacher and child personality characteristics, all of which were not considered in this particular study, should be considered.

Essentially, I hypothesized that teacher-child ratio (i.e. *Total Number of Adults to Children*) would be negatively correlated with the frequency of teacher response to children's initiations (e.g., response to the initial child utterance- *Total Number of Conversations*) and to the length of those conversations (i.e. *Total Turns Between Teacher and Child*). In other words, the larger the number of children per adults in classroom, the less likely teachers would be to be responsive to child initiations. Given the finding we cannot reject the null hypothesis because

both values were positively correlated to teacher-child ratio, but were also not statistically significant.

Additionally, I hypothesized that teacher response to child-initiated speech (i.e. *Total No. of Conversations*) would be positively correlated with classroom management quality (i.e. frequent and quality use of management techniques) and classroom chaos (i.e. particularly low observed classroom chaos). The results show that teacher-response to child initiated speech is positively correlated with classroom management quality, but negatively correlated with classroom chaos. Also, these values were not statistically significant. Thus, although there was a partial trend in the hypothesized direction, I also cannot reject this null hypothesis.

Limitations

Given the literature cited on child language development this study was established to gather more and different information on a less explored aspect of this field: factors correlated with teacher response to child-initiated speech. Although this project may not have found multiple statistically significant results it does suggest many ideas and directions in which to consider focusing future research regarding child language development.

This project had various planned limitations such as not coding for teacher initiations which clearly underrepresents linguistic interaction. On various occasions and observations across different teachers I observed situations in which children did not initiate conversation as often as expected; in these instances the teacher was the one doing so instead. Thus, although the children were in less directive activities such as centers, the teacher was still very directive and constantly monitoring the children's behavior.

A greater challenge and pragmatic limitation includes that of my presence while collecting data. Given the nature of this study, teachers were not directly aware that their behavior was the

main focus of the observation although I was observing and recording both teacher and child conversations. I also had to maintain a somewhat close distance to teacher in order to accurately record the conversations; this required me to walk around the classroom while trying not to look suspicious. In separate occasions, many teachers asked for my opinion on their performance or skeptically questioned who I was watching during the observation. This led me to believe that my presence may have altered the teacher's behavior.

Due to personnel limitations I was the only observer collecting the data for this study. Thus, because of the absence of another observer, this study does not account for inter-rater reliability. By having another observer, the findings could have had psychometric measures for both the teacher-child conversational coding and the scale ratings. Also, I did not assess the teacher's intention behind general conversations during centers (i.e. whether or not it was of instructional value). Also, aide involvement in classroom activities and interaction with children was not numerically accounted for, but anecdotally aides served a supportive role and sometimes an intrusive one. Finally, all observations were conducted during the late spring, summer, and fall which inevitably introduced a different cohort of students to the teachers as the new school year began in fall. Thus, transient contextual factors such as time of year, varying age of boys and girls, and new students were not statistically considered as potential contributing factors to the proposed hypotheses.

Future Research

The findings and limitations of this study provide insight that controlling and accounting for various extraneous variables may improve research in the field of child language development. Future studies may include assessment of teacher motivation, personality traits, and teaching style, and the child's present language capacity as potential contributors to the

party's communicative relationship. In order to better understand the significant associations found between child gender and other variables it is suggested to conduct a study involving a more equal sample of male and female teachers. Other points to consider include making a quantitative measurement of all the times a teacher ignored a child speech initiation due to conversation with an aide or another adult in the room. In that regard, it may be important to further explore the aide's contribution or lack thereof during centers and snack time; were they helping maintain classroom management or distracting the lead teacher?

Additionally, measuring children's baseline vocabulary capacities and temperament may clarify some observed discrepancies in child speech initiations. Teacher and aide conversational competence is important to consider because even in an ideal communicative environment some teachers and aides struggled to engage and maintain conversation with children. A future study in this regard may include accounting for specific adult speech techniques used to further teacher-child conversation such as scaffolding and numerically measuring how many times a teacher corrected a child speech utterance, which help enhance and expand child language development.

Moreover, in consideration of my physical presence limitation, perhaps conducting more than three observations would allow the teacher to feel more comfortable in behaving more naturally. Further, assessing classroom size by square feet may explain the logical proposition and observation that when the classroom was very small, the teacher was seen actively interacting with children regardless if the children initiated more or not. Anecdotally, when the classroom was very large, those teachers sat at their desk, away from the children, more often than those teachers in smaller classrooms.

As explained in literature findings previously discussed, one can conclude that adults play a crucial role in helping children expand and refine their language skills and essentially influence child language development. Adults such as parents and teachers, whom children spend the most time with, may provide support through quantitative and qualitative interactions and language exposure. Given this study's findings, exploring teacher response to child-initiated speech in consideration of factors such as: child gender, existing child language competencies, teacher gender, and teacher motivation and personality traits among others, is a reasonable path to focus future studies in the field.

References

- Blewitt, P., Rump, K. M., Shealy, S. E., & Cook, S. A. (2009). Shared book reading: When and how questions affect young children's word learning. *Journal of Educational Psychology, 101*(2), 294-304.
- Bowman, B. T., & Donovan, M. S. (n.d.). *Eager to Learn: Educating Our Preschoolers*. (M. S. Burns, Ed.) Washington, DC: National Academy Press.
- Burchinal, R. M., Roberts, J. E., Nabors, L. A., & Bryant, D. M. (1996). Quality of center child and infant cognitive and language development. *Society for Research in Child Development, 67*(2), 606-620.
- Caspi, A.; Moffitt, T. E.; Morgan, J.; Rutter, M.; Taylor, A.; Arseneault, L.; Tully, L.; Jacobs, C.; Kim-Cohen, J.; Polo-Tomas, M. (2004). Maternal expressed emotion predicts children's antisocial behavior problems: Using monozygotic-twin differences to identify environmental effects on behavioral development. *Developmental Psychology, 40*, 149-161.
- Chazan-Cohen, R.; Raikes, H.; Brooks-Gunn, J.; Ayoub, C.; Pan, B. A.; Kisker, E. E.; Roggman, L.; Fuligni, A. S. (2009). Low-income children's school readiness: Parent contributions over the first five years. *Early Education and Development, 20*(6), 958-977.
- Connor, C. M., Son, S.-H., Hindman, A. H., & Morrison, F. J. (2005). Teacher qualifications, classroom practices, family characteristics, and preschool experience: Complex effects on first graders' vocabulary and early reading outcomes. *Journal of School Psychology, 43*(4), 343-375.
- Dickinson, D. K., & Tabors, P. O. (2001). *Beginning Literacy with Language*. Cambridge, Massachusetts: Paul H. Brooks Publishing Co.
- Dickinson, D. K., St. Pierre, R.G., & Pettengill, J. (2004). High quality classrooms: A key ingredient to family literacy programs. In B. H. Wasik, *Handbook of Family Literacy* (pp. 137-154). Mahwah, NJ: Lawrence Erlbaum Associates.
- Dickinson, D. K., Darrow, C. L., & Tinubu, T. A. (2008). Patterns of teacher-child conversations in head start classrooms: Implications for an empirically grounded approach to professional development. *Early Education and Development, 19*(3), 396-429.
- Dodici, B. J., & Peterson, C. A. (2003). Early parent-child interactions and early learning development. *Topics in Early Childhood Special Education, 124*-136.
- Duncan, G. J., & Network, N. I. (2003). Modeling the impacts of child care quality on children's preschool cognitive development. *Child Development, 74*(5), 1454-1475.

- Ewing, A. R., & Taylor, A. R. (2009). The role of child gender and ethnicity in teacher–child relationship. *Early Childhood Research Quarterly*(24), 92-105.
- Girolametto, L., & Weitzman, E. (2002). Responsiveness of child care providers in interaction with toddlers and preschoolers. *Allied Health; Peer Reviewed; USA.*, 33(4), 268-281.
- Girolametto, L., Hoaken, L., Weitzman, E., & van Leishout, R. (2000). Patterns of adult-child linguistic interaction in integrated day care groups. *Allied Health; Peer Reviewed; USA*, 31(2), 155-168.
- Haveman, R. H. & Wolfe, B.L. (1994). *Succeeding Generations: On the effects of investments in children*. New York: Russell Sage Foundation.
- Howes, C., Phillips, D. A., & Whitebook, M. (1992). Thresholds of quality: Implications for the social development of children in center-based child care. *Early Childhood Research Quarterly*, 23(4), 449-460.
- Howes, Smith, & Galinsky. (1995). *The Florida Child Care Quality Improvement Study*. New York: Families and Work Institute.
- Huttenlocher, J., Vasilyeva, M., Cymerman, E., & Levine, S. (2002). Language input and child syntax. *Cognitive Psychology*, 45, 337-374.
- Kontos, S., & Keyes, L. (1999). An ecobehavioral analysis of early childhood classrooms. *Early Childhood Research Quarterly*, 14(1), 35-50.
- La Paro, K. M., Pianta, R. C., & Stuhlman, M. (2004). The classroom assessment scoring system: Findings from the prekindergarten year. *The Elementary School Journal*, 104(5), 409-426.
- Landry, S.H., Crawford, A., Gunnewig, S., & Swank, P. R. (2000). The CIRCLE-Teacher Behavior Rating Scale. Unpublished research instrument.
- Massey, S. L., Pence, K. L., Justice, L. M., & Bowles, R. P. (2008). Educators' use of cognitively challenging questions in economically disadvantaged preschool classroom contexts. *Early Education and Development*, 19(2), 340-360.
- McCartney, K. (1984). The effect of quality of day care environment upon children's language development. *Developmental Psychology*, 244-260.
- National Child Care Staffing Study & Child Care Employee Project. (1989). *Who cares?: Child care teachers and the quality of care in America: Final report*. Oakland, CA: The Study.
- Network, N. I. (2000). The relation of child care to cognitive and language development. *Child Development*, 71, 960-980.

- Peisner-Feinberg, E.S., & Burchinal, M.R. (1997). Relations between preschool children's child care experiences and concurrent development: The cost, quality, and outcomes study. *Merrill-Palmer Quarterly*, 43(3), 451-477.
- Peisner-Feinberg, E.S., Burchinal, M.R., Clifford, R.M., Culkin, M.L., Howes, C., Kagan, S.L., Yazenjian, N., Byler, P., Rustici, J., & Zelazo J. (2000). *The children of the cost, quality, and outcomes study go to school: Technical Report*. Chapel Hill: Frank Porter Graham Child Development Center.
- Phillips, B. M. (presented 2011, July). *A new classroom language environment scale: Initial validation and exploration*. Paper presented at the Annual meeting of the Society for the Scientific Study of Reading, Tampa, FL: SSR (International).
- Pianta, R. C., La Paro, K. M., Payne, C., Cox, M. J., & Bradley, R. (2002). The relation of classroom environment to teacher, family, and school characteristics and child outcomes. *The Elementary School Journal*, 102(3), 225-238.
- Shim, J., Hestenes, L., & Cassidy, D. (2004). Teacher structure and child care quality in preschool classrooms. *Journal of Research in Childhood Education*, 19(2), 143-157.
- Snow, C. E., & Burns, M. S. (1998). *Preventing reading difficulties in young children*. (P. Griffin, Ed.) Washington, DC: National Academ Press.
- Turnbull, K. P., Anthony, A. B., Justice, L., & Bowles, R. (2009). Preschoolers' exposure to language stimulation in classrooms serving at-risk children: The contribution of group size and activity context. *Early Education and Development*, 20(1), 53-79.
- Vandell, D. L., Henderson, V. K., & Wilson, K. S. (1988). A longitudinal study of children with day-care experiences of varying quality. *Child Development*, 59(5), 1286-1292.
- Vernon-Feagans, L., Emanuel, D. C., & Blood, I. (1997). The effect of otitis media and quality daycare on children's language development. *Journal of Applied Developmental Psychology*(18), 395-409.
- Volling, B. L., & Feagans, L. V. (1995). Infant day care and children's social competence. *Infant Behavior and Development*, 177-188.
- Vu, J. A., Jeon, H.-J., & Howes, C. (2008). Formal education, credential, or both; early childhood program classroom practices. *Early Education and Development*, 19(3), 479-504.
- Wasik, B. A., & Hindman, A. H. (2008). Head start teachers' beliefs about language and literacy instruction. *Early Childhood Research Quarterly*, 23(4), 479-492.
- Wasik, B. H. (2004). *Handbook of Family Literacy*. Chapel Hill: Lawrence Erlbaum Associates.

- Weizman, Z. O., & Snow, C. E. (2001). Lexical input as related to children's vocabulary acquisition: effects of sophisticated exposure and support for meaning. *Developmental Psychology*, 37(2), 265-279.
- Zill, N., & Resnick, G. (2006). Emergent literacy of low-income children in head start: Relationship with child and family characteristics, program factors, and classroom quality. In S. B. Neuman, & D. K. Dickson (Eds.), *Handbook of Early Literacy Research* (Vol. 2, pp. 347-350). New York: Guilford Press.

APPENDIX A

Potential Conversation Pattern Codes

<p><u>CHILD (Always)= Initiation</u> CQ= Child Question CS= Child Statement CVI= Child Verbal Inaudible</p> <p><u>TEACHER= Expected Response(s)</u> TN= Teacher NO Response TR= Teacher VERBAL Response (brief) TNR= Teacher NON-VERBAL Response TQ= Teacher Question TE= Teacher Elaborates TVI= Teacher Verbal Inaudible</p>	<p><u>CHILD= Response (s)</u> CRS= Child VERBAL Response STATEMENT CRQ= Child VERBAL Response QUESTION CNR= Child NON-VERBAL Response CN= Child NO Response CVI= Child VERBAL Inaudible</p>	<p><u>Move to next line AFTER...</u> /= End of Conversation</p> <p><u>CONVERSATION STATUS</u> NN= NEW Child/ NEW Conversation SN= SAME Child/ NEW Conversation</p> <p><u>LOCATION</u> C= Centers/ Free Play S= Snacks/ Meals T= Transitions</p> <p>CHILD GENDER: M= Male F= Female</p>
---	---	--

DISCLAIMER: Code for a NEW conversation (i.e. new row) if teacher and/or child take 8 seconds or longer to reply to dialogue

<p><u>Total</u></p> <p>• Teacher (Lead): _____</p> <p>• Aide (s): _____</p> <p>• Students: _____</p>	<p><u>Timing (One Hour Total)</u></p> <p>Start Time: _____ End Time: _____</p>
--	---

Teacher-Child Ratio/ Current Activity:

- 5 Minutes: _____
- 30 Minutes: _____
- 55 Minutes: _____

APPENDIX B*Example Items on CHOAS-D Scale- (Check one)*

“There is very little commotion in this classroom”	Agree Disagree
“No matter how hard the staff tries, they always seem to be running late”	
“Staff rarely have enough time to pick up stuff and it tends to pile up”	

Example Items on Classroom Management Survey- (Check one for each category provided)

	Rarely	Sometimes	Often	Low	MedLo	MedHi	Hi
“Control/Limit-setting: Teacher sets reasonable, consistent limits on the children’s behavior. He/She provides simple, clear & positively stated directions when necessary but does not overly-control or restricts children.”							
“Uses encouragement and positive feedback that provides child(ren) specific information regarding what they are doing well (e.g., I like the way you cleaned up the blocks, Thank you for sharing the puppets).”							
“Uses sensitive behaviors when responding to children’s signals and needs (respos promptly and sensitively to children’s verbal and nonverbal signals, values children’s interest and needs (i.e. gets on children’s eye level).”							

APPENDIX C

Correlation Matrix

Part 1

	Total Number of Adults to Children	Total Turns between Teacher and Child	If Child-Initiates with Question, then	If Child-Initiates with Statement, then	Proportion of Conversations with Males
Ratio of Adults to Children	1.00	0.28	-0.23	0.18	0.29
Total Number of Turns between Teacher and Child	0.28	1.00	0.36□	0.33	-0.13
If Child-Initiates with Question, then Does Teacher Respond	-0.23	-0.36□	1.00	-.971**	-0.06
If Child-Initiates with Statement, then Does Teacher Respond	0.18	0.33	-.971**	1.00	0.12
Proportion of Conversations with Males	0.29	-0.13	-0.06	0.12	1.00
Proportion of Conversations with Females	-0.24	0.12	0.07	-0.14	-.953**
Total Number of Conversations	0.03	0.12	0.23	-0.19	-0.20
Total Turns with Males	0.08	0.17	-0.16	0.28	0.30
Total Turns with Females	0.13	.459*	-0.17	0.14	-.453*
Classroom Management Quantity	-0.02	0.17	0.04	-0.02	0.11
Classroom Management Quality	0.06	0.07	0.01	0.09	0.37□
Classroom CHAOS Level	-0.18	-0.13	0.06	-0.03	-0.02
Teacher Age	0.06	-0.16	0.09	-0.17	-0.04
Total Years of Teaching	0.01	-0.10	0.19	-0.16	0.17
Years of Teaching Preschool	0.08	-0.07	0.21	-0.18	0.12
Total Years of Education	-0.29	0.00	-0.11	0.02	-0.25

*. Correlation is significant at the 0.05 level (2-tailed). □. Trend (values between 0.10 and 0.05)

Correlation Matrix

FACTORS CORRELATED WITH TEACHER RESPONSE TO CHILD-INITIATED SPEECH

35

Correlation Matrix

Part 2

	Proportion of Conversations with Females	Total Number of Conversations	Total Turns with Males	Total Turns with Females	Classroom Quantity
Ratio of Adults to Children	-0.24	0.03	0.08	0.13	-0.02
Total Number of Turns between Teacher and Child	0.12	0.12	0.17	.459*	0.17
If Child-Initiates with Question, then Does Teacher Respond	0.07	0.23	-0.16	-0.17	0.04
If Child-Initiates with Statement, then Does Teacher Respond	-0.14	-0.19	0.28	0.14	-0.02
Proportion of Conversations with Males	-.953**	-0.20	0.30	-.453*	0.11
Proportion of Conversations with Females	1.00	0.22	-.417*	.536**	-0.20
Total Number of Conversations	0.22	1.00	0.24	0.41□	0.20
Total Turns with Males	-.417*	0.24	1.00	0.07	0.17
Total Turns with Females	.536**	0.41□	0.07	1.00	-0.31
Classroom Management Quantity	-0.20	0.20	0.17	-0.31	1.00
Classroom Management Quality	-.428*	0.14	0.20	-0.37□	0.39
Classroom CHAOS Level	0.07	-0.22	0.21	0.38□	-.747**
Teacher Age	0.07	-0.24	-0.32	-0.23	0.02
Total Years of Teaching	-0.16	0.04	0.03	-0.25	0.24
Years of Teaching Preschool	-0.12	-0.06	0.06	-0.21	0.17
Total Years of Education	0.34	-0.06	-0.35□	-0.11	0.36□

*. Correlation is significant at the 0.05 level (2-tailed). □. Trend (values between 0.10 and 0.05)

FACTORS CORRELATED WITH TEACHER RESPONSE TO CHILD-INITIATED SPEECH

36

Correlation Matrix

Part 3

	Classroom Quality	Classroom CHAOS	Teacher Age	Total Years of Teaching	Years of Teaching Preschool	Total Years of Education
Ratio of Adults to Children	0.06	-0.18	0.06	0.01	0.08	-0.29
Total Number of Turns between Teacher and Child	0.07	-0.13	-0.16	-0.10	-0.07	0.00
If Child-Initiates with Question, then Does Teacher Respond	0.01	0.06	0.09	0.19	0.21	-0.11
If Child-Initiates with Statement, then Does Teacher Respond	0.09	-0.03	-0.17	-0.16	-0.18	0.02
Proportion of Conversations with Males	0.37□	-0.02	-0.04	0.17	0.12	-0.25
Proportion of Conversations with Females	-.428*	0.07	0.07	-0.16	-0.12	0.34
Total Number of Conversations	0.14	-0.22	-0.24	0.04	-0.06	-0.06
Total Turns with Males	0.20	0.21	-0.32	0.03	0.06	-0.35□
Total Turns with Females	-0.37	0.38□	-0.23	-0.25	-0.21	-0.11
Classroom Management Quantity	0.39□	-.747**	0.02	0.24	0.17	0.36□
Classroom Management Quality	1.00	-.427*	-0.31	0.05	-0.02	-0.21
Classroom CHAOS Level	-.427*	1.00	-0.19	-0.20	-0.12	-0.32
Teacher Age	-0.31	-0.19	1.00	.737**	.664**	0.17
Total Years of Teaching	0.05	-0.20	.737**	1.00	.923**	0.08
Years of Teaching Preschool	-0.02	-0.12	.664**	.923**	1.00	-0.09
Total Years of Education	-0.21	-0.32	0.17	0.08	-0.09	1.00

*. Correlation is significant at the 0.05 level (2-tailed). □. Trend (values between 0.10 and 0.05)