

DOCUMENT RESUME

ED 395 307

CS 012 481

AUTHOR Pellegrini, A. D.; Galda, Lee  
 TITLE Oral Language and Literacy Learning in Context: The Role of Social Relationships. Reading Research Report No. 57.  
 INSTITUTION National Reading Research Center, Athens, GA.; National Reading Research Center, College Park, MD.  
 SPONS AGENCY Office of Educational Research and Improvement (ED), Washington, DC.  
 PUB DATE 96  
 CONTRACT I17A20007  
 NOTE 26p.  
 PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.  
 DESCRIPTORS \*Emergent Literacy; Kindergarten; \*Learning Processes; Oral Language; Peer Influence; \*Peer Relationship; Primary Education; Sex Differences; \*Social Influences

ABSTRACT

A study examined the effects on early literacy learning of two dimensions of learning contexts: formality (peer writing and pretend play) and social relationships (friends and acquaintances). Same gender dyads of kindergarten friends were observed in peer writing and pretend play settings across the school year. A total of 33 males and 23 females participated. Observational measures of literate language and emotion language were collected across a 9-month period, as were proximal and distal measures of reading and writing. Results indicated that (1) the emotional tenor of close relationships afford children opportunities to reflect upon cognitive and linguistic processes which constitute early literacy; (2) close relationships for girls, compared to boys, afforded opportunities to express literate language; (3) differences were observed when children were observed with friends, compared to acquaintances; (4) the formality of the interactional setting also influenced language between peers; and (5) talk about language and literacy was a reliable predictor of literacy. Findings support the importance of close relationships and emotion for early literacy development. (Contains 46 references and 4 tables of data.)  
 (Author/RS)

\*\*\*\*\*  
 \* Reproductions supplied by EDRS are the best that can be made \*  
 \* from the original document. \*  
 \*\*\*\*\*



# Oral Language and Literacy Learning in Context: The Role of Social Relationships

A. D. Pellegrini  
Lee Galda  
*University of Georgia*

U S DEPARTMENT OF EDUCATION  
Office of Educational Research and Improvement  
EDUCATIONAL RESOURCES INFORMATION  
CENTER (ERIC)

- This document has been reproduced as received from the person or organization originating it
- Minor changes have been made to improve reproduction quality
- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

# NRRC

National  
Reading Research  
Center

READING RESEARCH REPORT NO. 57  
Spring 1996

**BEST COPY AVAILABLE**

05012451

# **NRRC**

---

National Reading Research Center

## **Oral Language and Literacy Learning in Context: The Role of Social Relationships**

A. D. Pellegrini  
Lee Galda  
*University of Georgia*

READING RESEARCH REPORT NO. 57  
*Spring 1996*

---

The work reported herein is a National Reading Research Project of the University of Georgia and University of Maryland. It was supported under the Educational Research and Development Centers Program (PR/AWARD NO. 117A20007) as administered by the Office of Educational Research and Improvement, U.S. Department of Education. The findings and opinions expressed here do not necessarily reflect the position or policies of the National Reading Research Center, the Office of Educational Research and Improvement, or the U.S. Department of Education.

# NRRC

---

## National Reading Research Center

---

### Executive Committee

Donna E. Alvermann, Co-Director  
*University of Georgia*  
John T. Guthrie, Co-Director  
*University of Maryland College Park*  
James F. Baumann, Associate Director  
*University of Georgia*  
Patricia S. Koskinen, Associate Director  
*University of Maryland College Park*  
Jamie Lynn Metsala, Interim Associate Director  
*University of Maryland College Park*  
Nancy B. Mizelle, Assistant Director  
*University of Georgia*  
Penny Oldfather  
*University of Georgia*  
John F. O'Flahavan  
*University of Maryland College Park*  
James V. Hoffman  
*University of Texas at Austin*  
Cynthia R. Hynd  
*University of Georgia*  
Robert Serpell  
*University of Maryland Baltimore County*  
Betty Shockley  
*Clarke County School District, Athens, Georgia*  
Linda DeGross  
*University of Georgia*

### Publications Editors

#### *Research Reports and Perspectives*

Linda DeGross, Editor  
*University of Georgia*  
James V. Hoffman, Associate Editor  
*University of Texas at Austin*  
Mariam Jean Dreher, Associate Editor  
*University of Maryland College Park*

#### *Instructional Resources*

Lee Galda, *University of Georgia*

#### *Research Highlights*

William G. Holliday  
*University of Maryland College Park*

#### *Policy Briefs*

James V. Hoffman  
*University of Texas at Austin*

#### *Videos*

Shawn M. Glynn, *University of Georgia*

### NRRC Staff

Barbara F. Howard, Office Manager  
Kathy B. Davis, Senior Secretary  
*University of Georgia*

Barbara A. Neitzey, Administrative Assistant  
Valerie Tyra, Accountant  
*University of Maryland College Park*

### National Advisory Board

Phyllis W. Aldrich  
*Saratoga Warren Board of Cooperative Educational Services, Saratoga Springs, New York*  
Arthur N. Applebee  
*State University of New York, Albany*  
Ronald S. Brandt  
*Association for Supervision and Curriculum Development*  
Marshá T. DeLain  
*Delaware Department of Public Instruction*  
Carl A. Grant  
*University of Wisconsin-Madison*  
Walter Kintsch  
*University of Colorado at Boulder*  
Robert L. Linn  
*University of Colorado at Boulder*  
Luis C. Moll  
*University of Arizona*  
Carol M. Santa  
*School District No. 5 Kalispell, Montana*  
Anne P. Sweet  
*Office of Educational Research and Improvement, U.S. Department of Education*  
Louise Cherry Wilkinson  
*Rutgers University*

### Production Editor

Katherine P. Hutchison  
*University of Georgia*

### Dissemination Coordinator

Jordana E. Rich  
*University of Georgia*

### Text Formatter

Ann Marie Vanstone  
*University of Georgia*

### NRRC - University of Georgia

318 Aderhold  
University of Georgia  
Athens, Georgia 30602-7125  
(706) 542-3674 Fax: (706) 542-3678  
INTERNET: NRRC@uga.cc.uga.edu

### NRRC - University of Maryland College Park

3216 J. M. Patterson Building  
University of Maryland  
College Park, Maryland 20742  
(301) 405-8035 Fax: (301) 314-9625  
INTERNET: NRRC@umail.umd.edu

## About the National Reading Research Center

---

The National Reading Research Center (NRRC) is funded by the Office of Educational Research and Improvement of the U.S. Department of Education to conduct research on reading and reading instruction. The NRRC is operated by a consortium of the University of Georgia and the University of Maryland College Park in collaboration with researchers at several institutions nationwide.

The NRRC's mission is to discover and document those conditions in homes, schools, and communities that encourage children to become skilled, enthusiastic, lifelong readers. NRRC researchers are committed to advancing the development of instructional programs sensitive to the cognitive, sociocultural, and motivational factors that affect children's success in reading. NRRC researchers from a variety of disciplines conduct studies with teachers and students from widely diverse cultural and socioeconomic backgrounds in pre-kindergarten through grade 12 classrooms. Research projects deal with the influence of family and family-school interactions on the development of literacy; the interaction of sociocultural factors and motivation to read; the impact of literature-based reading programs on reading achievement; the effects of reading strategies instruction on comprehension and critical thinking in literature, science, and history; the influence of innovative group participation structures on motivation and learning; the potential of computer technology to enhance literacy; and the development of methods and standards for alternative literacy assessments.

The NRRC is further committed to the participation of teachers as full partners in its research. A better understanding of how teachers view the development of literacy, how they use knowledge from research, and how they approach change in the classroom is crucial to improving instruction. To further this understanding, the NRRC conducts school-based research in which teachers explore their own philosophical and pedagogical orientations and trace their professional growth.

Dissemination is an important feature of NRRC activities. Information on NRRC research appears in several formats. *Research Reports* communicate the results of original research or synthesize the findings of several lines of inquiry. They are written primarily for researchers studying various areas of reading and reading instruction. The *Perspective Series* presents a wide range of publications, from calls for research and commentary on research and practice to first-person accounts of experiences in schools. *Instructional Resources* include curriculum materials, instructional guides, and materials for professional growth, designed primarily for teachers.

For more information about the NRRC's research projects and other activities, or to have your name added to the mailing list, please contact:

Donna E. Alvermann, Co-Director  
National Reading Research Center  
318 Aderhold Hall  
University of Georgia  
Athens, GA 30602-7125  
(706) 542-3674

John T. Guthrie, Co-Director  
National Reading Research Center  
3216 J. M. Patterson Building  
University of Maryland  
College Park, MD 20742  
(301) 405-8035

## NRRC Editorial Review Board

---

**Peter Afflerbach**  
*University of Maryland College Park*

**Jane Agee**  
*University of Georgia*

**JoBeth Allen**  
*University of Georgia*

**Janice F. Almasi**  
*University of Buffalo-SUNY*

**Patty Anders**  
*University of Arizona*

**Harriette Arrington**  
*University of Kentucky*

**Marlia Banning**  
*University of Utah*

**Jill Bartoli**  
*Elizabethtown College*

**Eurydice Bauer**  
*University of Georgia*

**Janet Benton**  
*Bowling Green, Kentucky*

**Irene Blum**  
*Pine Springs Elementary School  
Falls Church, Virginia*

**David Bloome**  
*Amherst College*

**John Borkowski**  
*Notre Dame University*

**Fenice Boyd**  
*University of Georgia*

**Karen Bromley**  
*Binghamton University*

**Martha Carr**  
*University of Georgia*

**Suzanne Clewell**  
*Montgomery County Public Schools  
Rockville, Maryland*

**Joan Coley**  
*Western Maryland College*

**Michelle Commeyras**  
*University of Georgia*

**Linda Cooper**  
*Shaker Heights City Schools  
Shaker Heights, Ohio*

**Karen Costello**  
*Connecticut Department of Education  
Hartford, Connecticut*

**Jim Cunningham**  
*Gibsonville, North Carolina*

**Karin Dahl**  
*Ohio State University*

**Marcia Delany**  
*Wilkes County Public Schools  
Washington, Georgia*

**Lynne Diaz-Rico**  
*California State University-San  
Bernardino*

**Mark Dressman**  
*New Mexico State University*

**Ann Duffy**  
*University of Georgia*

**Ann Egan-Robertson**  
*Anherst College*

**Jim Flood**  
*San Diego State University*

**Dana Fox**  
*University of Arizona*

**Linda Gambrell**  
*University of Maryland College Park*

**Mary Graham**  
*McLean, Virginia*

**Rachel Grant**  
*University of Maryland College Park*

**Barbara Guzzetti**  
*Arizona State University*

**Frances Hancock**  
*Concordia College of Saint Paul,  
Minnesota*

**Kathleen Heubach**  
*University of Georgia*

**Sally Hudson-Ross**  
*University of Georgia*

**Cynthia Hynd**  
*University of Georgia*

**Gay Ivey**  
*University of Georgia*

**David Jardine**  
*University of Calgary*

**Robert Jimenez**  
*University of Oregon*

**Michelle Kelly**  
*University of Utah*

**James King**  
*University of South Florida*

**Kate Kirby**  
*Gwinnett County Public Schools  
Lawrenceville, Georgia*

**Linda Labbo**  
*University of Georgia*

**Michael Law**  
*University of Georgia*

**Donald T. Leu**  
*Syracuse University*

---

**Susan Lytle**  
*University of Pennsylvania*

**Bert Mangino**  
*Las Vegas, Nevada*

**Susan Mazzoni**  
*Baltimore, Maryland*

**Ann Dacey McCann**  
*University of Maryland College Park*

**Sarah McCarthy**  
*University of Texas at Austin*

**Veda McClain**  
*University of Georgia*

**Lisa McFalls**  
*University of Georgia*

**Randy McGinnis**  
*University of Maryland*

**Mike McKenna**  
*Georgia Southern University*

**Barbara Michalove**  
*Fowler Drive Elementary School  
Athens, Georgia*

**Elizabeth B. Moje**  
*University of Utah*

**Lesley Morrow**  
*Rutgers University*

**Bruce Murray**  
*University of Georgia*

**Susan Neuman**  
*Temple University*

**John O'Flahavan**  
*University of Maryland College Park*

**Marilyn Ohlhausen-McKinney**  
*University of Nevada*

**Penny Oldfather**  
*University of Georgia*

**Barbara M. Palmer**  
*Mount Saint Mary's College*

**Stephen Phelps**  
*Buffalo State College*

**Mike Pickle**  
*Georgia Southern University*

**Amber T. Prince**  
*Berry College*

**Gaoyin Qian**  
*Lehman College-CUNY*

**Tom Reeves**  
*University of Georgia*

**Lenore Ringler**  
*New York University*

**Mary Roe**  
*University of Delaware*

**Nadeen T. Ruiz**  
*California State University-  
Sacramento*

**Olivia Saracho**  
*University of Maryland College Park*

**Paula Schwanenflugel**  
*University of Georgia*

**Robert Serpell**  
*University of Maryland Baltimore  
County*

**Betty Shockley**  
*Fowler Drive Elementary School  
Athens, Georgia*

**Wayne H. Slater**  
*University of Maryland College Park*

**Margaret Smith**  
*Las Vegas, Nevada*

**Susan Sonnenschein**  
*University of Maryland Baltimore  
County*

**Bernard Spodek**  
*University of Illinois*

**Bettie St. Pierre**  
*University of Georgia*

**Steve Stahl**  
*University of Georgia*

**Roger Stewart**  
*University of Wyoming*

**Anne P. Sweet**  
*Office of Educational Research  
and Improvement*

**Louise Tomlinson**  
*University of Georgia*

**Bruce VanSledright**  
*University of Maryland College Park*

**Barbara Walker**  
*Eastern Montana University-Billings*

**Louise Waynant**  
*Prince George's County Schools  
Upper Marlboro, Maryland*

**Dera Weaver**  
*Athens Academy  
Athens, Georgia*

**Jane West**  
*Agnes Scott College*

**Renee Weisburg**  
*Elkins Park, Pennsylvania*

**Allen Wigfield**  
*University of Maryland College Park*

**Shelley Wong**  
*University of Maryland College Park*

**Josephine Peyton Young**  
*University of Georgia*

**Hallic Yupp**  
*California State University*

## About the Authors

---

**A. D. Pellegrini** is Professor of Early Childhood Education at the University of Georgia and an investigator with the National Reading Research Center. He received his Ph.D. from Ohio State University and has also taught at the University of Rhode Island. His research and teaching interests center around children's development in school and family contexts.

**Lee Galda** is Professor of Language Education at the University of Georgia and an investigator with the National Reading Research Center. She received her Ph.D. from New York University and has written widely in the areas of early literacy and children's response to literature.



## Oral Language and Literacy Learning in Context: The Role of Social Relationships

---

A. D. Pellegrini  
Lee Galda  
*University of Georgia*

**Abstract.** *The intent of this study was to examine the effects on early literacy learning of two dimensions of learning contexts: formality (peer writing and pretend play) and social relationships (friends and acquaintances). We predicted that children would exhibit higher levels of competence in play, compared to peer writing contexts, and with friends, compared to acquaintances. We also hypothesized that the oral language observed in these supportive contexts would predict proximal and distal measures of literacy. Same gender dyads of kindergarten friends and acquaintances were observed in peer writing and pretend play settings across the school year. Observational measures of literate language and emotion language were collected across a 9-month period, as were proximal and distal measures of reading and writing. Results generally supported the hypotheses and are discussed in terms of the importance of close relationships and emotion for early literacy development.*

Currently, researchers in the area of early literacy (e.g., Dickinson & Moreton, 1991; Olson, 1977; Pellegrini & Galda, 1993; Snow, 1983) are taking a developmental stance in their studies of young children learning to read and write as they first enter school. This stance

typically entails defining early literacy in terms of a specific oral language register as well as describing the contexts in which this register is learned. This variety of language has been labelled "literate language" because it shares many design features with the language used by teachers in their teaching of literacy lessons and of the language used in early reading texts (DeStefano, 1984; Heath, 1983; Olson, 1977; Scollon & Scollon, 1981). Furthermore, use of this register by preschoolers is predictive of subsequent standardized measures of school-based literacy (Dickinson & Moreton, 1991; Olson, 1977; Pellegrini & Galda, 1991, 1993; Scollon & Scollon, 1981; Torrance & Olson, 1984). Literate language is realized by "meta" talk, or talk about linguistic (e.g., "This doll can't read!") and mental (e.g., "I forgot to do that.") states. Literate language in the primary grades is typically used in the service of telling, summarizing, or dramatizing stories (Galda, Cullinan, & Strickland, 1993); thus, it is also characterized by a variety of conjunctions (e.g., "Once there was a little boy. He

bought a toy but it broke.”). Researchers, however, are only beginning to describe the social contexts which support children’s use of literate language.

The most commonly studied social context of early literacy is mother-child joint book reading (e.g., Bus & van IJzendoorn, 1995; Heath, 1983; Scarborough & Dobrich, 1994; Snow, 1983). We know much less about the social contexts where preschool and young primary school children spend most of their time, with peers (Pellegrini, Galda, Stahl, & Shockley, 1995), and the ways in which peer contexts relate to literate language and subsequent literacy. Peer influences on cognitive development are often rooted in Piaget’s (1983) equilibration theory where the conceptual conflict characteristic of complementary relations (or relations between two actors of equal status) spurs cognitive development. Research in the area of preschool children’s symbolic play and its relation to literacy is an example of this line of work (Pellegrini & Galda, 1991). Researchers have found that the social and linguistic interaction between participants in pretend play settings is predictive of reading and writing status in the early primary grades (Dickinson & Moreton, 1991; Pellegrini & Galda, 1993).

We suggest that this level of description of “peer interaction” is too global because all peers are not equally facilitative of learning. We propose that different peer relationships, and their corresponding emotional dimensions, may be differentially important in literacy development. “Relationship” here is defined as the interactional history between specific individuals that influences present and future

interactions (Hinde, 1982). Thus, groups of peers may be characterized by different relationships, such as friends and acquaintances. To the extent that relationships are not typically considered in most theories of social influences on cognition leads us to believe that researchers consider relationships to be inconsequential; in most theories, a peer is a peer. Where differences between peers is addressed, difference in peers’ cognitive expertise, such as conservers and nonconservers (Murray, 1972), not relationships, is usually discussed.

Different relationships between participants do have implications for the specific types of interactions that are relevant to literacy. Most generally, social interaction seems to relate to “executive cognitive functioning” (Hartup, in press; Wertsch, 1979), such as the ability to reflect upon language and cognitive processes. These processes are often observed in young children as they try to resolve conceptual conflicts with their playmates (Garvey & Kramer, 1989; Garvey & Shantz, 1992). Specific close relationships, like friendship and sibling relationships, may be especially important for the development of these “meta” processes.

Friendships are reciprocal and dyadic relationships (i.e., friends nominate each other as friends) and are characterized by strong emotional ties. This emotional component of peer contexts is crucial to consider in studies of social influences on literacy because it seems to support the exhibition of complex cognitive strategies (Dunn, 1988; Hartup, in press) which have been implicated in the development of literacy. Children who are friends, compared to children who are acquaintances, are

emotionally invested in each other (Hartup, in press) and the emotional tenor of friends' interactions supports the sorts of conceptual conflicts which afford opportunities to reflect upon cognitive and linguistic processes. This may be due to the fact that friends, compared to acquaintances, are less egotistic (Sullivan, 1953), are cooperative and complex players (Howes, 1993), are more task oriented, and deal with conflicts more constructively (Hartup, in press) when they are with each other. Specific to literacy learning, children with friends disagree and resolve disagreements. These patterns, consistent with Piaget's (1983) theory, facilitate metacognitive and metalinguistic awareness which, in turn, should foster literacy learning (Pellegrini et al., 1995).

The sparse extant data on this topic support this argument (Daiute, Hartup, Shool, & Zajac, 1993; Jones, 1995). In friendship (compared to acquaintance) conditions, we would expect children to engage in more cognitive conflicts and resolutions. Furthermore, the emotional tenor of friendship dyads should support higher levels of literate behavior, especially in demanding situations (Azmitia & Montgomery, 1993). For this reason we observed friend and acquaintance dyads as they interacted in a relatively demanding, formal setting, writing a narrative with a peer, and a relatively informal setting, engaging in pretend play with narrative-eliciting props.

In this study, a formal setting is defined as one in which children are presented with a writing task by an adult. An informal task, on the other hand, is defined by the children themselves, not by an adult; pretend play is an example of an informal task. While the literate

language generated in each of these peer settings predicts subsequent school-based literacy (Pellegrini & Galda, 1991; Pellegrini et al., 1995), there are important differences between more formal literacy learning methods, such as peer writing, and less formal methods, such as peer pretend play. Specifically, school writing lessons are usually associated with formal schooling and, consequently, are governed by a priori rules to which children must accommodate. Also, writing in most classrooms is usually serious business, partially because of these rules.

Play with peers, on the other hand, is not usually subject to the same teacher-imposed rules. Peer play is rule governed, but the rules are presented and negotiated between peers (Garvey, 1990) and are typically characterized by conceptual conflict and resolution cycles (Garvey & Kramer, 1989; Garvey & Shantz, 1992). In the process of these conflict resolution cycles, children often talk about linguistic and mental states (Garvey, 1990); when children disagree, they talk about the content and rationales for their opinions (Garvey, 1990; Pellegrini, 1984). That children enjoy peer play motivates them to sustain this difficult social cognitive work (Garvey, 1990).

The idea that young children exhibit higher levels of competence in pretense than in more serious school lessons is consistent with Vygotsky's (1967) theory of play. The theory posits that children's play scaffolds their exhibition of competence because in pretense they are motivated to reach fantastic goals (i.e., goals obtainable only through pretense), while simultaneously confronting themselves with rules governing these sorts of behaviors in real life

(see Fein, 1979 for an excellent discussion of these issues). In contrast, during peer writing, because it may be less motivating than peer play, children may choose to not to expend much social cognitive effort to complete these tasks. Thus, formal literacy events, relative to peer pretense, may actually repress children's exhibition of competence while play may facilitate it (Vygotsky, 1967).

Children's gender is also relevant to the behavior children exhibit in pretend play and friendship settings. Girls are more skilled pretend players than boys (e.g., Fein, 1981; McLoyd, 1980) and, consequently, girls should exhibit higher levels of competence in the play context. Regarding friendship and gender, we know that children's friends are overwhelmingly of the same gender (Hartup, 1983). Furthermore, girls, more than boys, are more concerned with close relationships, such as friendship (Waldrop & Halverson, 1975). Thus, we expect girls to exhibit higher levels of competence in the friendship, compared to the acquaintance, condition.

While our knowledge of behaviors relevant to literacy learning in male and female friendship pairs is limited, we do have some general information which is helpful in generating hypotheses. For example, boys are more conflictual than girls (Maccoby, 1990), but male friends' conflicts also have fewer rationales (Hartup, French, Laursen, Johnston, & Ogawa, 1993); thus they may be less likely to be resolved. These differences are consistent with Maccoby's (1990) characterizations of interaction styles in gender-segregated groups: Girls are more enabling and emotional with each other while boys are more assertive.

We also expect the verbal interactional patterns elicited in friendship dyads to relate differentially to proximal and distal measures of literacy. To the extent that friendship dyads, compared to acquaintance dyads, support literacy learning and development, we expect friends in the peer writing context to generate more sophisticated forms of writing and re-readings of texts while with their friends. Furthermore, the oral language observed in the friendship context should relate to distal measures of literacy, such as performance on general measures of reading and writing.

In summary, this study addresses a number of issues in the literature on social influences on early literacy development. First and most importantly, we explicate more fully the dimensions of social context by comparing friend/acquaintance interactions that relate to early literacy. Current conceptions of "peer interaction" are much too global to further our understanding of social contexts supportive of literacy. Second, we determine the relative effects of formal (i.e., peer writing) and informal (i.e., peer play) instructional groupings on children's literate language. These two points provide complementary information on "social contextual" effects on literacy learning. Third, we assess the degree to which these contexts relate to proximal and distal measures of literacy. While many studies of the oral language bases of literacy assess relations with distal measures of literacy (standardized test scores), this study took both distal and more proximal measures (assessment of reading and writing during the interactions). This should provide more concise information on the social bases of early literacy.

## Methods

### *Subjects*

The children who participated in the study were sampled from all kindergarten children in one primary school. This public school served a culturally diverse population. Individual classroom teachers were paid a small stipend (\$100) for their participation in the study. Based on returned parental consent forms, children in each of the four kindergarten classrooms were included in the sample. A total of 33 males and 23 females participated. The mean age at the start of the study (September) was 65 months. African-American children comprised 55% of the sample, European Americans 40%, and other 5%.

### *Procedures*

Children started kindergarten (which is mandatory in this state) in mid-August and attended school for the full day (7:50 AM to 2:30 PM), Monday through Friday, through the first week in June. After one month, two graduate students started spending time in children's classrooms so that children would become familiar with them. Each of the two graduate students was assigned two classrooms in which to work. These graduate students were responsible for conducting all observational and initial sociometric/friendship sessions. Other research assistants were responsible for the second sociometric/friendship interviews and testing children; thus, observers were blind to children's status

on the psychometric measures and testers were blind to children's behavioral status.

After approximately 2 weeks, researchers took individual students out of their classrooms and administered the initial sociometric and friendship nominations. In this procedure, researchers placed individual pictures of children's classmates in front of them and said: "I'm going to show you some pictures of your classmates. Please point to each and tell me the kid's name." When this was completed, the researcher asked children (in the sociometric procedure) to "Tell me the names of three children you like the most" and "Three children you don't like." The researcher wrote down names as they were given. Then the researcher asked the children: "Who are some kids in the class who are your friends?" Prompts, such as "Who else?, Are there others?", were used. This procedure, administered by a research assistant unfamiliar with children's earlier nominations, was repeated again in May of the school year. Based on the friendship nominations, friend/nonfriend dyads were constructed. Friends were defined, following Hartup (in press), as children with reciprocated friendship nominations; that is, children were friends when they nominated each other as friends. Acquaintances were nonfriends from the same classroom. All dyads were comprised of same-gender, same-race children.

Children were observed in either friendship or acquaintance dyads 12 times across the school year. During each of the three academic quarters, all children were also observed in a play setting (informal) and in a peer writing setting (formal). The separate play observations involved replica toys from currently



popular narrative films: *Aladdin*, *The Jungle Book*, and *The Lion King*. The formal setting involved children being read a book by an experimenter and then asked to write about the book. Books were all narratives related to the theme of birthdays: *How many days to my birthday* (G. Clark, 1992), *Birthday presents* (C. Rylant, 1987), and *Arthur's birthday* (M. Brown, 1989). Order of presentation of play (informal)/peer writing (formal) and friend/nonfriend contexts were counterbalanced, with one exception, across classrooms and three academic quarters. The one exception related to the initial presentation of the books in the writing setting. Because of new kindergartners' limited literacy skills, the simplest book was presented first (*How many days to my birthday*).

Children were observed at tables in a hall outside their classrooms. In all cases, researchers placed an audiorecorder on the table. Before each session began, the researcher announced the date, children's names, and the condition. From the audiorecordings, measures of children's oral language and duration (in seconds) of the episode were derived.

In the writing setting, researchers first read the assigned book to the group. After each book, researchers followed standardized instructions to encourage children to talk and write about the stories they had just heard. Children's written products from these sessions were subsequently scored in terms of level of writing performance; scoring is discussed below. At the end of each quarter, children were individually asked to re-read to the researcher the book they had heard in the earlier writing session.

In the play contexts, children were presented with the replica props and encouraged to play. In each setting, researchers were minimally intrusive; they sat off to the side of the play area. Additionally, over the course of the year, a number of language and literacy assessment instruments were administered.

### Measures

*Language production.* Language production measures of children's oral language were derived from the audiotaped recordings of the play and literacy observational sessions. Oral language tapes were coded by one of the research assistants according to mutually exclusive categories. Reliability was determined by a separate coder, re-coding 5% of the recorded sessions; the kappas are listed after each measure. Individual measures of oral language have been used extensively in studies of early literacy and language (Pellegrini & Galda, 1991). All measures of oral language derived from audiotapes were expressed in terms of relative frequency (relative to the sum of all coded utterances for each observation).

*Conjunctions* were coded as additive (e.g., and), temporal (e.g., and then), causal (e.g., because), or adversative (e.g., but); kappa .78. *Linguistic, cognitive, and emotional verbs* were coded as regular and contrastive. Use of linguistic (e.g., Talk louder), cognitive (e.g., Let me think), and emotional (e.g., I'm happy now) terms indicates children's knowledge of those processes (Pellegrini et al., 1995). Use of contrastive linguistic (e.g., You can't say that), cognitive (e.g., It doesn't make sense), and emotional terms (e.g., He's not really sad) are

most indicative of reflection on the processes they encode (Shatz, Wellman, & Silber, 1983) and predictive of early literacy (Pellegrini & Galda, 1991). Kappas for these terms averaged .67.

*Names of letters and literacy artifacts* were also coded. Any mention of a letter name or object associated with literacy (e.g., book, pencil, paper) was coded; Kappa .83. *Rhymes and word play* were also coded. This category included instances of singing, reciting poems, or rhyming words; Kappa .79.

Lastly, oral language tapes were coded for *disagreements and make-ups*. Disagreements included any mention of disbelief, disagreement, efforts to substitute one thing for another, postponements, and evasions. Make-ups were represented by compromise, expression of sorrow/apology, and/or accepting explanation/alternative; Kappa .67.

*Literacy*. Children's literacy (reading and writing) was measured on a number of instruments. Distal reading measures included Clay's (1981) *Concepts About Print*, which was administered twice per year: one form (*Stones*) in the Fall and another form (*Sand*) in the Spring. Standard scores on the aggregate of these measures were used. Also at these sessions, children took the letter recognition and word recognition subtests, as well as the word writing fluency measure. These measures have strong construct, content, and predictive validity properties (Clay, 1981; Pellegrini & Galda, 1991). All testing was done by a trained school psychologist. All of these aggregated measures are regarded as distal measures of literacy.

More proximally, children's reading was also assessed three times per year by their re-

reading a children's book. Specifically, at the end of each of the three academic quarters, individual children were asked to re-read the book that they played about that quarter to the researchers. Children's re-reading were audiotaped and coded according to Pellegrini and Galda's (1991) reconceptualization of Sulzby's categorization of re-reading. Briefly, children re-read the book, and the various strategies they used in this process were coded on a 1,11 continuum. The categories follow.

1. Labelling pictures
2. Action governed descriptions of pictures
3. Disconnected dialogue where children use some pictures to tell the story
4. Stories told for audience where stories around pictures are cohesive
5. Created story where pictures are used to tell a different story
6. Story similar to written version but not verbatim
7. Verbatim-like attempts where children point to pictures and tell verbatim story
8. Print governed refusal where children say they cannot read
9. Aspectual attempts where children use one or more the following to re-read: letter/sound attempts; read known words; and try to recite text from memorized words
10. Strategy dependent attempts is where one of the above strategies (in 9) represents a majority of the strategies used
11. Independent reading

Children's use of individual strategies across the whole reading were considered. The aggregate of scores was the unit of analysis. The

**Table 1.** Correlations Among Social Emotional Variables

Variable	1	2	3	4
1. Emotional Terms		.40**	.43**	.20
2. Emotional Contrast			.39**	.34**
3. Disagree				.59**
4. Makeup				—

\* $p < .05$ . \*\* $p < .01$ .

kappa for the categorization of individual moves was .74. The highest score on the rereading was used in analyses. It correlated positively and significantly with Clay's Concepts About Print total score ( $r = .27$ ,  $p < .04$ ) and the Word Identification scores ( $r = .28$ ,  $p < .03$ ).

Writing was measured in two ways. First, at the distal level and as part of the administration of the Concepts About Print measure in the Fall and Spring of the year, children were also asked to write individual words. Following procedures outlined by Clay, children were told: "I want to see how many words you can write. Can you write your name?" If the child refused or said "No," s/he was asked to write any single-letter or two-letter words. If the child could write his/her name, s/he was told: "Good. Now let's think of all the words you know how to write and write them down." Standardized prompts, following Clay (1981), were used. Each word written in standardized form was counted as correct and the unit of analysis was the total score correct. This measure has high reliability and validity (Clay, 1981).

The second, more proximal, measure of writing performance was derived from the

children's written products generated after being read to in the literacy conditions. Each written product was scored according to Pellegrini and Galda's adaptation of Sulzby's continuum of writing development. Each piece was scored 1,6, on the following criteria, for the highest level exhibited.

1. *Drawing*: Children drew pictures of the story, with no words or letters present
2. *Scribbling*: Children used curved lines, not words
3. *Letter-like units*: Children used graphic signs, like squares, triangles, and circles to represent words
4. *Well-learned units*: Children repeated the use of individual letters, e.g., AAA, ZZ
5. *Invented spelling*: Children used their own spelling for individual words
6. *Standard orthography*: Children used conventional spelling

Reliability on this 6-point scale was established by re-coding 5% of the texts, and the kappa was .84. This score correlated,  $r = .62$ ,  $p < .01$ , with the Clay measure of writing fluency.



**Table 2.** Correlations Among Cognitive, Linguistic, and Literacy Oral Language Variables

Variable	1	2	3	4	5	6	7	8	9	10
<b>Conjunctions</b>										
1. Additive	—	.63**	.65**	.66**	.22	.50**	.05	.12	.21	.22
2. Temporal			.74**	.55**	.45**	.64**	.17	.30*	.51**	.21
3. Causal				.43**	.37**	.14	.01	.27*	.70**	.18
<b>Cognitive</b>										
4. Terms					.41**	.44**	.18	.06	.18	.37**
5. Contrast						.51**	.23**	.40**	.43**	.03
<b>Linguistic</b>										
6. Terms							.36**	.42**	.72**	.13
7. Contrast								.19	.31**	.35**
<b>Literacy</b>										
8. Letter Name									.47*	.05
9. Artifact Name										.09
10. Rhymes										—

\* $p < .05$ . \*\* $p < .01$ .

## Results

In Tables 1 and 2, we present, respectively, data from the observational sessions and children's scores on literacy measures. For the observational data, the dyad, not the individual child, was the unit of analysis. This was done for two reasons. First, we were interested in relationships, not individuals; thus, dyads are the appropriate unit of analysis. Second, individuals interacting in dyads are statistically interdependent and to use individual, not dyad scores, violates independence assumptions of parametric statistics as well as increases the chances of Type I error.

## Variation in the Observational Data

In the first series of analyses, we examine the effects of gender (2: male/female), social context (2: friend/acquaintance), and formality context (2: play/peer writing) on children's oral language production. The first two factors are between subjects variables and the last factor was a within subjects variable. These analyses are generally concerned with children's use of literate language (conjunctions; cognitive, linguistic, literate, and letter terms; and rhymes), and emotional language (emotional terms and disagreements/make-ups). Again, these values are relative scores for

dyads of children; 1-tailed tests were used because of a priori hypotheses.

Conjunctions were analyzed first and for *additive* conjunctions, a significant Social Context x Gender interaction,  $F(1,15) = 4.90$ ,  $p < .02$ , was observed such that girls generated more in the friend condition ( $M = .025$ ) than in the acquaintance condition ( $M = .02$ ) and boys generated more than girls in that latter condition ( $M = .03$ ). For *temporal* conjunctions, no significant effects were observed. For *causal* conjunctions a significant effect for Social Context,  $F(1,15) = 7.45$ ,  $p < .005$ , and a significant Social Context x Gender interaction,  $F(1,15) = 5.87$ ,  $p < .01$ , were observed. Like the additive results, girls generated more causal conjunctions with friends ( $M = .015$ ) than with acquaintances ( $M = .01$ ). Furthermore, in the friend condition, they generated more causals than boys ( $M = .01$ ).

For the *cognitive* terms, a significant effect for Gender,  $F(1,15) = 8.20$ ,  $p < .005$ , was observed, with girls ( $M = .03$ ) using more cognitive terms than boys ( $M = .015$ ). For the *cognitive contrast* terms, a significant effect for Social Context was observed,  $F(1,15) = 4.08$ ,  $p < .03$ , where more were observed between friends ( $M = .01$ ) than acquaintances ( $M = .001$ ).

For *linguistic* terms, significant main effects were observed for the Formal/play condition,  $F(1,15) = 56.53$ ,  $p < .0001$ , and the Social Context,  $F(1,15) = 14.76$ ,  $p < .0001$ . More linguistic terms were observed in peer writing ( $M = .04$ ) than in play ( $M = .015$ ), and more linguistic terms were observed in the friend dyads ( $M = .035$ ) than in the acquaintance dyads ( $M = .02$ ). Regarding *linguistic contrast*

terms, a main effect was observed in the Formal/play condition,  $F(1,15) = 11.35$ ,  $p < .002$ , with more being observed in the formal condition ( $M = .01$ ) than in the play condition ( $M = .005$ ).

Next, we analyzed the effects of Gender (2) x Social Context (2) and Gender x Formality Context (2) on *names of letters*, *names of literacy artifacts*, and *rhymes*. For each variable, respectively, a significant main effect for Formality Context was observed:  $F(1,15) = 27.02$ ,  $p < .0001$ ;  $F(1,15) = 5.0$ ,  $p < .04$ ; and  $F(1,15) = 42.42$ ,  $p < .0001$ . In the respective cases of letter names ( $M = 1.75$  and  $M = .01$ ), literacy artifacts ( $M = 2.75$  and  $M = .01$ ), and rhymes ( $M = .01$  and  $M = .002$ ), more terms were observed in the formal settings than in the informal setting.

For *emotional* terms, no significant effects were observed. For *emotional contrast* terms, a significant effect for Gender,  $F(1,15) = 6.81$ ,  $p < .005$ , was observed where girls ( $M = .013$ ) used more than boys ( $M = .01$ ).

Next, we considered *disagreements and make-ups* (conflict resolution cycles). Regarding disagreements, a significant Gender effect,  $F(1,15) = 5.91$ ,  $p < .01$ , was observed (boys,  $M = .032$  and girls,  $M = .02$ ), as was a significant effect for the writing ( $M = .017$ )/play ( $M = .035$ ) setting,  $F(1,15) = 12.94$ ,  $p < .001$ .

#### *Change in Friendship Nominations*

Next, we examined children's change in friendship choices from Fall to Spring of the school year. Specifically, we tested the hypothesis that children paired with nonfriends

Table 3. Correlations Among Literacy Measures

Measure	1	2	3	4	5
Word Write	—	.50**	.74**	.31*	.62**
Concepts About Print			.52**	.26*	.38**
Word Identification				.31*	.28*
Highest Read					.27*
Highest Write					—

\* $p < .05$ . \*\* $p < .01$ .

at the beginning of the year would nominate those same children as friends at the end of the year. This hypothesis was tested, using the large sample approximation of Fisher's sign test (Hollander & Wolfe, 1973), by examining the probability of a nonfriend partner in the Fall being chosen as a friend in the Spring. The hypothesis was supported (nonfriends became friends in 72% of the cases,  $B = 3.35$ ,  $p < .005$ ).

#### *Relations Between Emotion and Cognitive and Linguistic Language*

First, the observational measures of emotion language (i.e., emotion language and disagree/make-up) were positively intercorrelated. These correlation coefficients are displayed in Table 1. In the next series of analyses, we determined the extent to which children's use of emotion language (i.e., the aggregate of emotional terms, emotional contrast terms, and disagree/make-ups) predicted cognitive language (i.e., the aggregate of cognitive terms and cognitive contrast terms) and linguistic language (i.e., the aggregate of linguistic terms and linguistic contrast terms). Aggregation was justified in light of the significant inter-

correlations among the measures. Furthermore, aggregation is helpful in maximizing construct validity for developmental variables, such as early literacy (Rushton, Brainerd, & Pressley, 1983). We were interested in the extent to which emotion language was mediated by the interaction between Gender and Social Context (friend/nonfriend condition) in predicting cognitive and linguistic language. Using hierarchic regression analyses, emotion language predicted a significant portion of the variance in both cognitive ( $R^2 = .23$ ,  $p < .0001$ ) and linguistic language ( $R^2 = .46$ ,  $p < .0001$ ); the Gender x friend/nonfriend condition did not account for significant variance when entered into the equation either before or after emotion language.

#### *Relations Between Language and Literacy Variables*

The correlations presented in Tables 2 and 3 indicate that the oral language measures are significantly intercorrelated as are the literacy measures; thus, the language measures are labelled "literate language" and the literacy measures are labelled "literacy."

**Table 4.** Correlation Coefficients Between Oral Language and Literacy

	Cognitive		Linguistic		Literate Terms		
	Term	Contrast	Term	Contrast	Name	Artifact	Rhyme
<b>Proximal</b>							
Read	.06	.27*	.22*	.05	.31**	.36*	.20
Write	.10	.23*	.10	.10	.30**	.08	.01
<b>Distal</b>							
Write	.09	.07	.30**	.29**	.10	.32**	.13
C Print	.02	.10	.11	.31**	.05	.10	.01
Word ID	.19	.01	.28*	.21	.11	.23*	.11

\*  $p < .05$ . \*\* $p < .01$ .

Table 4 displays the intercorrelations between oral language and literacy measures. In examining the individual correlations between oral language variables and measures of literacy, rather clear patterns emerge. Specifically, oral language which encoded linguistic processes and terms associated with literacy events were reliably related to literacy. Terms encoding more general cognitive processes were less likely to be related to literacy.

#### *Predicting Literacy*

In the next series of analyses, hierarchic regression techniques were used to predict an aggregate literacy score (the aggregate of the Concepts About Print, Word Identification, and Word Writing scores). Aggregation, again, is justified in light of the significant intercorrelation among the measures. Predictor measures included the following oral language: cognitive language (aggregate of cognitive terms and cognitive contrast terms), linguistic

language (aggregate of linguistic terms and linguistic contrast terms), and literate terms (the aggregate of names of letters and artifacts, as well as rhymes). Gender  $\times$  friend/nonfriend condition was used as an interaction term. The model accounted for 9% ( $R^2 = .09$ ,  $p < .03$ ) of the variance in literacy, and linguistic language was the only significant predictor. Even when cognitive language was entered before linguistic language, cognitive language did not account for significant variance (contributed less than 1% of the variance).

In the last regression model, we entered emotion language first, and then allowed cognitive and linguistic language. Neither emotional nor cognitive terms contributed significantly to literacy.

#### **Discussion**

Early literacy researchers are currently interested in the social contexts of learning. In this paper, we have extended this line of in-

quiry by explicating more clearly different dimensions of social contexts and the ways in which they relate to literacy learning. Most basically, we have demonstrated the importance of further differentiating aspects of the "peer context." As we have stressed, not all peers are equally facilitative of literacy learning. Methodologically, our work extends the important observations of Kramer and colleagues (Kramer, Bukowski, & Garvey, 1989) who found that individual children's language varied in different peer dyads. They suggested that each dyad presents individuals with a unique context in which to function. While we agree with Kramer and colleagues (1989) that the dyad is an interactive unit, we suggest that the relationships between individuals within dyads is implicated in the interaction processes.

We argue that the differences between peers in dyads may be related to the emotional tenor of their relationships. Specific peer relationships, like friendship, support literate language to the extent that friends, compared to acquaintances, are emotionally committed to each other. This emotional tenor is realized in children's use of emotional terms and conflicts/make-ups with friends. Expression of emotion is related to children's use of emotional terms and literate language. Literate language, in turn, predicted literacy status, as measured by a battery of measures developed by Marie Clay. In short, close relationships, like friendship, support synchronous and cognitively complex interactions. The emotional tenor of these relationships afford children opportunities to reflect upon cognitive and linguistic processes which constitute early literacy (Dunn, 1988; Hartup, in press).

Furthermore, our predictions for Gender x Social Context interactions were, generally, supported. Close relationships for girls, compared to boys, afforded opportunities to express literate language. This finding is consistent with extant literature documenting girls' concern with close relationships (Maccoby, 1990; Waldrop & Halverson, 1975). Also consistent with this literature was the finding that boys were more conflictual than girls.

These results extend our current understanding of social context and learning. At the most basic level, researchers should attend to the nature of relationships between peers, and indeed between children and adults (e.g., Bus & van IJzendoorn, 1988). Relationships between participants in dyads could be partially responsible for the observed instability of child language with different peers (Kramer et al., 1989). We observed differences when children were observed with friends, compared to acquaintances.

Further complicating this picture of "social context" was the fact that children who started off as acquaintances, but not friends, became friends by the end of the school year. Young children who are not initially friends seem to become friends when they share the same environment. Thus, friendship, for young children at least, is related to propinquity (Hartup, 1983). For older children, friendship is based on other factors, such as shared interests and self-disclosure (Hartup, 1983).

The formality of the interactional setting also influenced language between peers. Formality was defined in terms of a contrast between typical "school" tasks (in the form of peer writing assignments made by an adult)

and peer pretend play. Formality of task effects were observed only for linguistic terms. Children generated more of these terms when they interacted in the formal literacy setting than in the informal pretend play setting. This should not be surprising to the extent that the formal setting was a literacy setting and children verbally encoded aspects of that environment. That these were the same terms that also predicted literacy supports Olson's (1977) contention that school-based literacy is something that must be taught; it is not usually learned incidentally. Our data suggest that teaching involves providing children with society's artifacts for school literacy and having them use them with their peers.

This is not to say, however, that pretend play with peers does not support the use of literate language. Both theory (Piaget, 1983; Vygotsky, 1967) and the empirical record (Pellegrini, 1984) suggests that the role of pretend play in early literacy is important during the preschool and early primary grade periods. It may be the case, following practice theories of play (Fein, 1979; Piaget, 1983), that pretend play with peers helps children consolidate the literate language learned in other contexts. This seems to be the case for preschoolers who learn literate language in joint reading events with a parent and then use these forms with peers in pretense (Pellegrini & Galda, 1991).

Lastly, we discuss the ways in which observed language variables (i.e., cognitive, linguistic, and emotion language) predicted children's literacy status. These results are rather clear-cut and consistent with theory. Consistent with theory (e.g., Olson, 1977), talk

about language and literacy was a reliable predictor of literacy. Talk about other mental states do not add significantly to that prediction. This finding replicates earlier research implicating talk about language and literacy events and rhyming in formal literacy attainment (Bradley & Bryant, 1983; Pellegrini & Galda, 1991; Torrance & Olson, 1984). Children's talk about language and rhyming is an indicator of their general metalinguistic awareness, as well as their phonemic awareness (Pellegrini et al., 1995). Children's phonemic awareness is a robust predictor of early reading status (Adams, 1990).

That children's use of emotion language was not directly implicated in predicting literacy also merits discussion. It seems that emotion language was indirectly implicated to the extent that it related significantly to children's use of literate language, which in turn, related directly to literacy. Emotion, in the form of expression of emotions and conflict resolution cycles, provides the emotional tenor that supports children's reflection upon language and literacy. This explanation is consistent with Piaget's (1983) equilibration theory as well as Dunn's (1988) more recent observations of children interacting in another close relationship, with siblings.

In conclusion, this paper represents an effort to explicate "social contexts" and its effect on literacy learning. We have shown that distinctions such as "peer context" are much too global. Different sorts of peer relations and different sorts of instructional settings affect children's interactions and subsequent learning. Future research should look toward making clearer distinctions among peers. For example,



we might expect "best friend" relationships to be more supportive than other more general friends. The observation of Kramer and colleagues (1989) that children's language varies according to dyadic context is an important one. Not only do we need to sample individuals in different dyadic contexts, as suggested by Kramer and colleagues (1989), but we need to understand the nature of relationships of the peers constituting those dyads. Hinde's (1980) relationships model and Lerner's (1984) developmental contextual model provide important guides for this sort of research. In both cases, individuals, and their unique characteristics, are considered in different relationships. That relationships are affected by individual differences is important for future research to consider. The sibling literature can provide important guidance in this area. For example, siblings' temperaments affect their relationships with each other, as well as other interaction patterns (e.g., Brody, Stoneman, & McCoy, 1994).

**Author Note.** This work was supported by grants to Pellegrini and Galda from the National Reading Research Center at UGA and UMD, the Dean of the College of Education (UGA), and the Institute for Behavioral Research (UGA). We acknowledge the support of the principal and kindergarten teachers and children at the Barnett Shoals Elementary School. Thanks are also expressed to Terry Warren, Shuchu Chao, and Judy Kroese for their help with data collection. Correspondence concerning this paper should be addressed to either Pellegrini or Galda at College of Education, Aderhold Hall, University of Georgia, Athens, GA 30602.

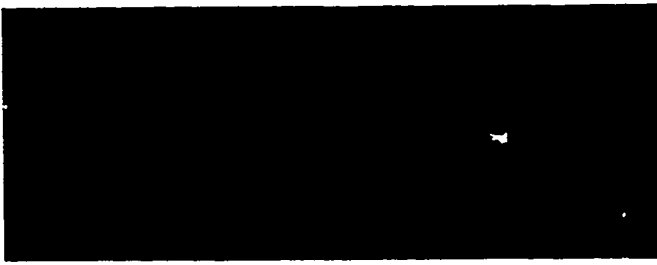
## References

- Adams, M. J. (1990). *Beginning to read*. Cambridge: MIT Press.
- Azmitia, M., & Montgomery, R. (1993). Friendship, transactive dialogues, and the development of scientific reasoning. *Social Development, 2*, 202-221.
- Bradley, L., & Bryant, P. (1983). Categorizing sounds and learning to read: A causal connection. *Nature, 301*, 419-421.
- Brody, G. H., Stoneman, Z., & McCoy, K. (1994). Forecasting sibling relationships in early adolescence from childhood temperaments and family processes in middle childhood. *Child Development, 65*, 771-784.
- Bus, A., & van IJzendoorn, M. (1988). Mother-child interactions, attachment, and emergent literacy: A cross-sectional study. *Child Development, 59*, 1262-1272.
- Bus, A., & van IJzendoorn, M. (1995). Mothers reading to their 3-year-olds: The role of mother-child attachment security in becoming literate. *Reading Research Quarterly, 30*, 998-1015.
- Clay, M. (1981). *1. early detection of reading difficulties: A diagnostic survey with recovery procedures* (2nd ed.). Auckland, NZ: Heinemann.
- Daiute, C., Hartup, W., Shool, W., & Zajac, R. (1993, March). *Peer collaboration and written language*. Paper presented at the biennial meeting of the Society for Research in Child Development, New Orleans.
- DeStefano, J. S. (1984). Learning to communicate in the classroom. In A. D. Pellegrini & T. D. Yawkey (Eds.), *The development of oral and written language in social contexts* (pp. 155-165). Norwood, NJ: Ablex.
- Dickinson, D., & Moreton, J. (1991, April). *Predicting specific kindergarten literacy skills from three-year-olds' preschool experiences*. Paper

- presented at the Society for Research in Child Development, Seattle.
- Dunn, J. (1988). *Social understanding*. Cambridge: Harvard University Press.
- Fein, G. G. (1979). Echoes from the nursery: Piaget and Vygotsky, and the relationship between language and play. In E. Winner & H. Gardner (Eds.), *Fact, fiction, and fantasy* (pp. 1-14). San Francisco: Jossey-Bass.
- Fein, G. (1981). Pretend play: An integrative review. *Child Development*, 52, 1095-1118.
- Galda, L., Cullinan, B., & Strickland, D. (1993). *Language, literacy, and the child*. Ft. Worth, TX: Harcourt, Brace Jovanovich.
- Garvey, C. (1990). *Play*. Cambridge: Harvard University Press.
- Garvey, C., & Kramer, T. L. (1989). The language of social pretend. *Merrill-Palmer Quarterly*, 9, 364-382.
- Garvey, C., & Shantz, C. U. (1992). Conflict talk: Approaches adversative discourse. In C. U. Shantz & W. Hartup (Eds.), *Conflict in childhood and adolescence* (pp. 93-121). New York: Cambridge University Press.
- Hartup, W. (1983). Peer relations. In E. M. Hetherington (Ed.), *Handbook of child psychology*, Vol 4 (pp. 103-196). New York: Wiley.
- Hartup, W. (in press). The company they keep: Friendships and their developmental significance. *Child Development*.
- Hartup, W., French, D., Laursen, B., Johnston, K., & Ogawa, J. (1993). Conflict and friendship relations in middle childhood: Behavior in a closed-field situation. *Child Development*, 64, 445-454.
- Heath, S. B. (1983). *Ways with words*. New York: Cambridge University Press.
- Hinde, R. A. (1982). *Ethology, its nature, and relations with other sciences*. New York: Oxford University Press.
- Hollander, M., & Wolfe, D. A. (1973). *Nonparametric statistical methods*. New York: Wiley.
- Howes, C. (1993). *The collaborative construction of pretense*. Albany: State University of New York Press.
- Jones, I. (1995, April). *First-grade students' computer-assisted writing: Metacognitive and linguistic effects*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco.
- Kramer, T. L., Bukowski, W. M., & Garvey, C. (1989). The influence of dyadic context on the conversational and linguistic behavior of its members. *Merrill-Palmer Quarterly*, 35, 327-341.
- Lerner, R. (1984). *On the nature of human plasticity*. New York: Cambridge University Press.
- Maccoby, E. (1990). Gender and relationships: A developmental account. *American Psychologist*, 45, 513-520.
- McLoyd, V. (1980). Verbally expressed modes of transformation in the fantasy play of Black preschool children. *Child Development*, 51, 1133-1139.
- Murray, F. (1972). Acquisition of conservation through social interaction. *Developmental Psychology*, 6, 1-6.
- Olson, D. R. (1977). From utterance to text. *Harvard Educational Review*, 47, 257-281.
- Pellegrini, A. D. (1984). Identifying causal elements in the thematic fantasy play paradigm. *American Educational Research Journal*, 21, 691-703.
- Pellegrini, A. D., & Galda, L. (1991). Longitudinal relations among preschoolers' symbolic play, metalinguistic verbs, and emergent literacy. In J. Christie (Ed.), *Play and early literacy development* (pp. 47-68). Albany: State University of New York Press.



- Pellegrini, A. D., & Galda, L. (1993). Ten years after: A reexamination of symbolic play and literacy research. *Reading Research Quarterly*, 28, 163-175.
- Pellegrini, A. D., Galda, L., Stahl, S., & Shockley, B. (1995). The nexus of social and literacy experiences at home and school: Implications for primary school oral language and literacy. *British Journal of Educational Psychology*, 65, 273-285.
- Piaget, J. (1983). Piaget's theory. In W. Kessen (Ed.), *Handbook of child psychology, Vol 1* (pp. 103-128). New York: Wiley.
- Rushton, J., Brainerd, C., & Pressley, M. (1983). Behavioral development and construct validity: The principal of aggregation. *Psychological Bulletin*, 94, 18-38.
- Scarborough, H. S., & Dobrich, W. (1994). On the efficacy of reading to preschoolers. *Developmental Review*, 14, 245-302.
- Scollon, R., & Scollon, S. (1981). *Narrative, literacy, and face in interethnic communication*. Norwood, NJ: Ablex.
- Shatz, M., Wellman, H., & Silber, S. (1983). The acquisition of mental verbs: A systematic investigation of the reference to mental states. *Cognition*, 14, 301-321.
- Snow, C. E. (1983). Literacy and language: Relationships during the preschool years. *Harvard Educational Review*, 53, 165-189.
- Sullivan, H. S. (1953). *The interpersonal theory of psychiatry*. New York: Norton.
- Torrance, N., & Olson, D. R. (1984). Oral language competence and the acquisition of literacy. In A. D. Pellegrini & T. Yawkey (Eds.), *The development of oral and written language in social context* (pp. 167-182). Norwood, NJ: Ablex.
- Vygotsky, L. S. (1967). Play and its role in the mental development of the child. *Soviet Psychology*, 5(3), 6-18.
- Waldrop, M. F., & Halverson, C. F. (1975). Intensive and extensive peer behavior: Longitudinal and cross-sectional analyses. *Child Development*, 46, 19-26.
- Wertsch, J. V. (1979). From social interaction to higher psychological processes: A clarification of Vygotsky's theory. *Human Development*, 22, 1-22.



---

**NRRC** National  
Reading Research  
Center

---

*318 Aderhold, University of Georgia, Athens, Georgia 30602-7125  
3216 J. M. Patterson Building, University of Maryland, College Park, MD 20742*