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A Comparison of Language and Graphic Products of Students From Kindergarten Classrooms Differing in Developmental Appropriateness of Instruction.

Jean Germany Mosley

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A comparison of language and graphic products of students from kindergarten classrooms differing in developmental appropriateness of instruction

Mosley, Jean Germany, Ph.D.
The Louisiana State University and Agricultural and Mechanical Col., 1992

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A COMPARISON OF LANGUAGE
AND GRAPHIC PRODUCTS
OF STUDENTS FROM
KINDERGARTEN CLASSROOMS DIFFERING IN
DEVELOPMENTAL APPROPRIATENESS OF INSTRUCTION

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Department of Curriculum and Instruction

by

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B.M.Ed., Mississippi College, 1968
M.Ed., Louisiana State University, 1971
May, 1992
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ABSTRACT

This study examines the ways in which kindergartners from more and less developmentally appropriate classrooms negotiate the process of graphic communication. Both quantitative and qualitative aspects of this process are examined.

Eighty-one kindergarten children from four classrooms were asked to tell a story both verbally and graphically. They were encouraged to include drawing, writing, or both on their paper. Then they were asked to tell the story that they had produced graphically. The children were students in one of four classrooms from a single school system that were identified as: (a) most developmentally appropriate beliefs and practices; (b) developmentally appropriate in belief, but not in practice; (c) both developmentally appropriate and developmentally inappropriate beliefs and practices; and (d) least developmentally appropriate beliefs and practices. No statistically significant differences were found in the level of drawing of the children in the four classrooms. On the writing scale, significant differences were found for girls favoring the classroom that was both developmentally appropriate and developmentally inappropriate when mean scores were used for analysis. Analysis of highest writing scores for each child also showed statistically significant differences for girls
favoring the classroom with both appropriate and inappropriate teaching methods. No significant differences were found between classrooms in the areas of writing or storytelling when each child's first session scores were analyzed. For the storytelling scale, significant differences were found favoring the least developmentally appropriate classrooms when mean scores were analyzed.

An investigation of the differences in the use of peer and private speech by the children as they produced their stories on paper was attempted. It was not successful due to whispered speech by some of the children. This speech was difficult to impossible to transcribe, causing transcriptions to be incomplete and therefore not analyzable. Qualitative analysis provided further insight into the problem.
Chapter 1

BACKGROUND OF THE PROBLEM

The problem addressed in this study is the relationship between developmentally appropriate practice and inappropriate practice and kindergartners’ symbolic expression.

In recent years there has arisen a strong dichotomy in philosophy concerning beginning literacy instruction. One group has emphasized the skills based approach, using behaviorism as its theoretical base. Another group has emphasized the whole language approach, using the work of Piaget, Vygotsky, and information processing theorists as its theoretical base. Concern has been voiced over the tendency of teachers and school systems to choose their literacy instruction approach without concern for the developmental needs of children. As a result, the National Association for the Education of Young Children has published guidelines supporting practices that are developmentally appropriate for young children (Bredekamp, 1987). Practices related to literacy development that are supported by this work include the following:

- The curriculum is broadly focused and is designed to develop children’s sense of worth and assurance of their ability to learn.
The approach to learning is active, with all areas of learning integrated.

The communicative nature of literacy is emphasized. Specific skills are taught as needed by the children to enhance their communicative ability.

Unfortunately, the increased emphasis on accountability today has caused both administrators and teachers to support inappropriate methods rather than risk poor scores on standardized tests (Hatch & Freeman, 1988). In addition, Jeanne Chall’s book, Learning to Read: The Great Debate (1967) has had a strong influence on reading instruction. This book placed a great deal of emphasis on the value of phonics instruction. Reading for comprehension was not considered necessary until middle elementary school. A recent review of this work by Marie Carbo (1988) called into question many of the bases on which this work was developed. "Skills are emphasized often to the exclusion of meaning" (Enger, 1989, p. 251). Chall’s emphasis on skill development with no concern for comprehension (Chall, 1988) has not been supported by the more recent work in the field of early literacy. Recent joint work by Dahl (1988) and Purcell-Gates (1988) with low income kindergarten children showed higher scores in the class taught using more developmentally appropriate methods than in classes using more structured techniques. In addition, work by Dyson (1983; 1987a; 1988a; 1988b) has
provided us with evidence that the social setting serves as a scaffolding for children just beginning to write.

One of the most visible spokesmen for developmentally appropriate practice has been David Elkind (1981; 1987; 1988). He has been very critical of the educational system that has ignored both the developmental and individual needs of children in order to push them into a mold set by an arbitrary curriculum. Sigel (1987) has also been critical of the "hothousing" of children. He has expressed concern that children are learning facts without understanding why the learning is important.

Further evidence of the negative effects of developmentally inappropriate practice has come from the stress studies of Burts, Hart, Charlesworth, and Kirk (1990) and Burts, Hart, Charlesworth, Fleege, Mosley, and Thomasson (in press). Overall stress was significantly higher in developmentally inappropriate classrooms in both studies. In addition, males evidenced more stress in developmentally less appropriate classrooms (Burts et al., 1990). Activities most prevalent in developmentally appropriate classrooms included music, center, whole group, and story time (Burts et al., in press). Activities most prevalent in developmentally less appropriate classrooms included whole group, teacher directed small group, workbooks and worksheets, waiting, transition, and punishment (Burts et al., in press). The increased
proportion of these last three activities suggested that activities are not being well matched to the needs and abilities of the children. It also suggested that a larger percentage of learning time was being wasted in waiting and changing activities than was the case in more appropriate classrooms. This finding alone should support the value of developmentally appropriate practice for improving learning in children.

One of our major needs in the area of research at this time is that of data showing that children learn just as effectively or more effectively with more developmentally appropriate methods. Another need is for research that supports a broadening of the curriculum to meet the full range of children's needs. Lauren Resnick's (1987) AERA address was a good start in this direction, but we need research to support her work. Burts et al. (in press) provides a beginning for this support.

At the present time we have only a limited body of comparative or experimental research to support the NAEYC guidelines in the area of early literacy. The following discussion will address various aspects of this problem as they relate to the communicative nature of speech, art, and writing. Attention will be given to the ways in which these three forms of communication mesh to support early literacy development.
Historical Aspects

The purpose of written symbolism is communication. Whether a simple note is scribbled as a reminder, or a complex theoretical paper is produced, the goal is the same - to deliver a message. Implicit in this concept of writing as communication is the social aspect of writing. Writing is used most often as a means of sharing ideas or information with others. As we learn more about the graphic symbolism development in children and other communication methods they use to support this development, our effectiveness in providing experiences for young children that support early literacy in the area of writing can be improved.

In order to understand the changes in methods of guiding literacy development and the changes in the field of early childhood education in general, we must view these topics from a historical perspective. In recent years our view of writing development has undergone a change. Previously writing was viewed as a subject to be taught to children in elementary school.

Some of the earliest work in the area of writing development in this country was a study of the development of name writing in children (Hildreth, 1936), and a study of the use of writing in a drawing context (Hildreth, 1941). In a case study of a child's drawing/writing development, Hildreth (1941) found that at three, the
subject began to write letters and numbers on the trains he
drew. Prior to that he made marks on the train where the
numbers and letters would normally be located,
demonstrating a recognition that the writing found on train
cars served a special purpose. Through this study we have
historical validation for our present view of emergent
literacy (McGee & Richgels, 1990).

Central to the concept of writing development in
children is the concept of communication. Hildreth (1941)
believed that children used their drawing as an early form
of visual communication. The work of Dyson (1982a, 1982b,
1983) has suggested that children combine symbol systems as
they begin to write, often using conversation, drawing, and
writing in combination to effectively present their
message.

The importance of the social aspect of learning is an
old idea. DiPardo and Freedman, (1988) cite a text by
Sterling Andrus Leonard dated 1917 that encouraged the use
of social interaction in writing composition of elementary
school children. While the importance of the social aspect
of early writing development has been discussed (Dyson,
1983; Rowe, 1987), I have found no study that examines the
nature of the influence of differing classroom philosophies
on the visual product, either written or drawn, or on the
oral mediation of that product by the child.
Theoretical Aspect

The development of symbolism has been addressed in a variety of theories. While the work of each of the theorists discussed in this paper emphasizes differing aspects of development, all include symbol development in their theories. An examination of the work of Piaget, Vygotsky, Werner and Kaplan, Freud, and Bandura allows us insight into the various views of symbol development now influencing research in early literacy.

Piaget

Piaget has had a major influence on early childhood education in recent years. He believed that symbol development begins in the second year when the child begins to represent absent objects by means of symbols or signs. Language, symbolic games, drawings, mental maps, and deferred imitation are all considered a part of symbiotic function. The development of language and symbols comes through the differentiation and internal organization of images (Piaget, 1970). One of the major tasks of preoperational children is the development of symbol use (Ault, 1983).

Piaget (1970) separated cognitive functions into operative and figurative. Operative functions involve "attempts to transform reality" (p. 717). Figurative activities are those which make no attempt to transform reality, but rather attempt to represent reality.
Perception, imitation (including graphic imitation) and mental imagery are classified as figurative activities.

Three types of figurative signifiers have been suggested by Piaget. Indexes represent signifiers that are a part of the object being represented. Symbols are signifiers that are separate from the object they represent, but are similar to the object. Signs are signifiers that are chosen arbitrarily and bear no visual relationship to the object which they represent (Piaget, 1970). He believed that each child proceeds through developmental levels from the ability to use indexes to the ability to use symbols, and finally to the ability to use signs (Wolf & Gardner, 1981). Until a child is seven or eight, Piaget theorized that all mental images are static reproductions. After that age, children are able to develop anticipatory images. He saw this as proof of the relation between the development of mental images and operations.

Piaget regarded maturation as only one factor influencing development. Other factors he considered influential are equilibrium, direct physical experience, and social transmission (Weber, 1984). The social environment affects children's learning through a variety of sources. Two of the most important are the educational environment and the cultural environment. Each of these may either support or limit a child's ability to learn.
(Pellegrini, 1987). Maturation was considered a limiting factor in development. According to this theory, many aspects of learning and development can take place only after the necessary physical and mental growth has been completed (Pellegrini, 1987).

Active, physical manipulation of objects was viewed by Piaget as necessary for children to build new representations of the environment in which they live. Information they gain from the physical manipulation of their environment is assimilated into mental structures. If the information does not fit with the existing mental structure, then accommodation takes place. This process involves changing the mental structure to fit the new information. Through the process of balance between assimilation and accommodation, equilibrium is reached. Equilibrium is considered a stable state, but it is not a static state. The child is constantly moving toward a more stable state of equilibrium (Siegler, 1986).

Speech of young children was divided into two categories by Piaget (1955). The first category is egocentric speech, or speech that is not directed to another person. The second category is socialized speech, or speech used to communicate with other people. The first category was considered more important in the study of preschool age children, because Piaget believed that true
social life did not exist for children before age seven or eight.

Three types of egocentric speech were postulated by Piaget. The first is repetition, or imitation of the language of others. This is simply playing with words. The second is monologue. This refers to speech that is related to action. It may serve the function of narration of on-going action, or of regulation of the action. The final category is collective monologue. This is characterized by language that is intended as communication, but fails to fulfill that function. Piaget was more concerned in identifying these forms of language than in explaining why they happened (Zivin, 1979).

Egocentric speech by children for the purpose of description and guidance of their behavior on conservation tasks differs depending on their ability to conserve. Those who conserved were much more likely to use comparative terms to describe their observations, while nonconservers used absolute terms of description more often. This language difference is strongly consistent within the range of children observed by Sinclair-de-Zwart (1969).

Vygotsky

Vygotsky’s theory has provided an important base from which to research symbol development. He believed that a child’s behavior is determined by both physical development
and by the level of development of tool use. According to his theory the combination of speech and practical activity are basic to intellectual development (Vygotsky, 1978). Speech is important not only in communication concerning an activity, it also has a part to play in carrying out the action. "Speech and action are part of one and the same complex psychological function" (Vygotsky, 1978, p. 25). As a child works with more complex problems, speech is likely to be used in a support function. Learning and development were seen as interrelated by Vygotsky, but they were not viewed as being the same thing. Speech and culture were also viewed as being related (Zebroski, 1981).

Central to Vygotsky's theory is the concept of the "zone of proximal development". This is defined as "the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86). The creation of this "zone of proximal development" was believed by Vygotsky to be an essential feature of learning. He viewed this in terms of the child performing a task based on the adult definition of the task, then coming to understand that definition, rather than the other way around (Wertsch, 1979).

Writing development begins as a second-order system of symbolism. That is, writing represents words, which in
turn represent objects or ideas. With development, the spoken language link between the object or idea and writing disappears, allowing written language to symbolize the referent directly. Gestures, play, and drawing are precursors to the development of written symbolism. Written language develops as children learn that they can draw not only things, but that they can also draw words. In the beginning of this period of discovery, children may augment their words with pictures, gestures, or spoken language (Vygotsky, 1978).

**Private Speech**

Early work in the area of private speech was done by Mead. It was his belief that young children become aware of their action through the process of communicating it to others. Knowledge of thoughts and actions prior to communication with others comes only when children communicate with themselves before communication with others (Kohlberg, Yaeger, & Hjertholm, 1968).

Both Vygotsky and Piaget expressed views on the importance of private speech. Private speech was viewed by Vygotsky as a form of self-regulation. With age and maturation, this form of speech becomes more abbreviated and eventually is internalized. However, during difficult tasks, private speech may become audible. Developmentally, Vygotsky believed that three forms of egocentric speech existed. The first form accompanies activity and regulates
behavior only accidentally. The second form serves as emotional release and is also accidental. The third form occurs before activity and is considered social-emotion expression. It serves a planning function for activity (Zivin, 1979).

Piaget believed that children would use more private speech in the presence of adults, while Vygotsky expected more private speech when those present were most like the child (e.g. other children). He reported results of experiments in which private speech declined when the potential for social communication declined, such as in the presence of deaf children or children who spoke a different language (Kohlberg, Yaeger, & Hjertholm, 1968).

Writing and language were seen as important in helping create meaning as well as in transmitting it by Vygotsky (Zebroski, 1981). Piaget, on the other hand believed that language can demonstrate intellectual change, but is not the source of that change (Sinclair-De-Zwart, 1969). While Piaget considered egocentric speech a temporary phenomenon that lessened and finally disappeared as a child developed socially, Vygotsky believed private speech served a self-regulation function that remained after its disappearance from observable behavior in the form of inner speech. Vygotsky saw this form of speech as related to higher mental functions. He believed that it developed first as a social behavior and later become an internal, mental
activity (Wertsch, 1979). He viewed private speech as parasocial in that the child failed to differentiate between speaking to himself and speaking to others (Kohlberg, Yaeger, & Hjertholm, 1968). Both Piaget and Vygotsky also agreed that children are active participants in learning (Zebroski, 1981).

Zivin (1979) has suggested that many of the differences between Piaget and Vygotsky are due to the fact that although they used the same term to apply to egocentric speech, they were not studying the same thing. She believes that their real disagreement concerned the nature of thought and its relationship to language. Piaget was concerned with children’s ability to communicate for social purposes and the limits found in young children’s ability to consider the perspective of others. Vygotsky was concerned with children’s use of language as a tool for self-regulation. Two basic areas of disagreement existed between these two scholars. One concerned whether infants are born with a social nature of not. The other concerned the place language fills in intellectual development. Piaget believed that language simply reflects intellectual development, while Vygotsky believed that language contributes to intellectual development. A review of literature on the subject of private speech has suggested that much private speech is neither self-guiding as suggested by Vygotsky or failed attempts at social
communication as suggested by Piaget and is unrelated to cognitive development (Kohlberg, Yaeger, & Hjertholm, 1968).

To add further to the variety of viewpoints in the study of egocentric speech, Zivin cited the work of Luria (a student of Vygotsky's) as compared to the work of Vygotsky. While it is assumed that Luria's work was done in support of Vygotsky's, Zivin suggests that instead, Luria was considering speech at a much less mature level than that studied by Vygotsky. Vygotsky's interest was in the natural occurrence of egocentric speech while Luria's work initiated speech in a task situation.

Luria (1959) found that the directive function of language develops throughout the early years. In children under two, the directive role of language is in effect only if the language instructions do not conflict with the physical circumstances of the situation. If motor habit has been well developed, even conflicting visual signals cannot override the behavior until after a child is approximately 20 months. At this age, visual clues gain a stronger influence over motor clues, but speech clues still lag behind in their directive function.

The speech function begins to gain importance around age two, but is effective only when very straightforward, simple speech is used. Speech that comes before an expected behavior in order to organize that behavior does
not begin development until age three. This process is completed more than a year later (Luria, 1959). Luria's work was concerned mainly with the limitation of mediation ability of language due to age rather than limitation in the production ability of children (Zivin, 1979).

Speech intended to inhibit a behavior becomes functional later than speech intended to produce a behavior. Children are able to repeat instructions before they are able to follow them. Luria considered the ability to repeat an instruction verification that a child understood the instruction (Luria, 1959). Beiswinger (1968), on the other hand, questions this assumption. Under certain conditions, the child may come to believe that the verbal instructions heard previously match the action he is performing, rather than matching his performance to the actual instructions when the two are in conflict (Luria, 1959).

By age three, children begin to be able to effectively use verbal self-direction to control their behavior. However, this function is not completely developed at this age. Completion typically takes place between ages four and four-and-a-half. At this time, much of the child's directive speech becomes internalized (Luria, 1959). The development of this process requires the transformation of certain cognitive functions. Luria viewed speech as a cognitive system that interacted with the nonverbal
cognitive systems. Either system may influence the development and function of the other (Beiswenger, 1968).

**Werner and Kaplan**

Werner and Kaplan’s (1963) theory of symbolism began with the assumption "that organisms are naturally directed towards a series of transformations" (p. 5). They espouse a principle of spirality. Children move toward differentiation and integration of more complex behavior, yet they retain the simpler behaviors already mastered. Symbolism must be an intentional, active process (Werner & Kaplan, 1963). Regardless of the means of symbolization, children seem to experiment with the properties of the medium before they begin to use it to symbolize. In addition, different media seem to be more likely to be used to produce symbols for different referents (Smith, 1979).

Both the symbol and the object or action it represents are constructed as reality by the child (Smith, 1979), with the symbol directly influencing the construction of the object in the child’s mind (Werner & Kaplan, 1963). Through this process, the child also creates the relationship between them (Smith, 1979). Schematizing is an important part of this activity. This involves, among other things the use by the child of shared features to build the symbol-referent relationship. This relationship may be based on sensory features, functional features, conceptual features, or arbitrary features. Werner believes
that the use of symbols as concrete objects are a part of both primitive cultures and children's early symbolism (Werner & Kaplan, 1963). This view was postulated in the extreme by Cassirer (Gardner, 1982), who believed that symbolic forms create reality for each person rather than reflect it. Language is reality. Symbols are the thought made functional, not simply mechanisms of thought (Gardner, 1982).

The vehicle, or means of symbolization may take the form of body movement, language, graphic materials, previously created objects, play, dreams, or mental images. The term referent refers to the concept being represented by the communicator and being understood by the observer. While traditional thought on symbol formation viewed the referent as fixed, Werner and Kaplan see both vehicle and referent as well as the relationship of the two as being constructed through the communication process. The age of the child as well as past experience with a given symbol system will influence the form of the symbol as well the content of the message (Smith, 1979).

Dynamic-physiognomic thought is considered the characteristic form of thought by children ages 1 to 6. This form of thought is motoric and sensory in nature and is very effective for the development of symbol formation, allowing for free experimentation. It is less effective for developing logical thought (Smith, 1979).
Freud

Freud’s theory has been applied to symbol development by Jan Drucker (1979). Drucker sees symbolism as beginning when the child first begins to see himself as separate from his mother. This separateness is considered a necessary condition for the development of symbolism. The purposes of early symbolism are believed to be communication and exploration of a sense of self in the child. While most theorists see symbolism as a conscious activity, Drucker has suggested that from the Freudian viewpoint, symbols serve to express ideas which are hidden from the child’s consciousness. According to Drucker, the theories of Werner, Piaget, and Freud vary little in their views of the goals of symbolism during the first two years.

Bandura

Bandura (1977), the social learning theorist, believes, as suggested by the name, that social aspects are important in the development of new skills. Bandura believes modeling is the major way in which learning takes place. As a child observes the behavior around him, he sees the consequences of that behavior, which influences his behavior. Therefore the people with whom one comes in contact and the types of behavior they exhibit and value will influence the child. There is not, however, a simple correspondence between the behavior modeled and its occurrence in the observer. Degree of intrinsic reward of
the behavior, salience, complexity of behavior, and the observer’s cognitive limitations all influence the likelihood that a behavior will be imitated.

The ability to learn through observation is viewed by Bandura (1977) as resulting from the human ability to symbolize. Through either imaginal or verbal symbolism, children are able to store information on the behavior they see performed. Rehearsal also aids in storage of information in memory. Finally, symbolic representations are converted into imitative behavior.

Young children usually perform imitations of behavior immediately, while older children are able to respond when the model is no longer present. Bandura has suggested that a general version of a modeled behavior is performed. Then it is improved through self-correction. Reasons for failure of correct imitation of modeled behavior include failure to observe the salient actions, failure to effectively code the behavior in memory, not remembering learned behavior, physical limitations, and lack of motivation.

Behavior of a model can influence children’s behavior. If the model shows no difference in response to imitations differing in quality then the quality of the imitation is likely to suffer. However reinforcement is not considered a necessary condition for imitation to occur. Reinforcements may be external, vicarious, or within the
child. With development of the child, verbal and other symbolic forms of modeling becomes more important, replacing much of the behavioral modeling used earlier. Some forms of modeling, for instance television, are believed to be much more effective than others.

The imitative nature of learning based on a modeling concept does not necessarily limit creativity. If a variety of models are demonstrated for a particular situation, children are likely to combine behaviors from several of the models. In addition, modeling may cause children to direct attention to an object, but behavior may be different from that modeled. In addition to modeling, response consequences are a method of learning suggested by Bandura (1977). Response consequences are viewed as providing information, motivation, and strengthening of responses.

Summary

From the theories discussed, we gain a picture of the development of symbol use from a variety of perspectives. The relationship of symbolism to cognitive development is central in the work of Piaget reviewed in this paper. Through his work we are able to see the reciprocal nature of the development of symbolism, maturation, and cognitive development. The importance of speech and practical activity in cognitive development is presented in the work
of Vygotsky. Werner and Kaplan emphasize the construction by the child of both the symbol and the action which it represents. Freudian theories of symbolism emphasize the communicative nature of symbolism as well as the self exploration allowed by the development of symbolism. Symbols may represent unconscious ideas. Finally, the work of Bandura identifies the ability to symbolize as important in learning through observation. By combining these theories we find symbol development influencing and being influenced by cognitive development, activity, communication, self exploration, and social development. Using these theoretical bases, a sound foundation for developmentally appropriate guidance of early literacy development can be constructed.
Statement of the Problem

The proposed study will be directed to the following questions:

1. Are there differences in quality between the early written and drawn communication and storytelling of five-year-olds from more and less developmentally appropriate kindergarten instructional programs?

2. Are there differences in the amount of peer and private speech during the writing process as evidenced in the behavior of children from more and less developmentally appropriate kindergarten classrooms?

3. Are there differences in the proportion of private speech and peer speech during writing sessions of students from more developmentally appropriate and less developmentally appropriate classrooms when comparing those children who have a more mature concept of written communication with those who have a less mature concept of written communication?
Definition of Terms

**Communication** consists of any means used by a child to share information, ideas, or emotions with another person.

**Written communication** consists of any graphic product of a child which contains conventional letters and/or numbers, or mock letters and/or numbers or scribbled letters and/or numbers or any combination.

**Drawn communication** consists of any graphic product of a child which communicates mainly through pictorial symbols rather than letter symbols. It is recognized that many products collected will contain both written and drawn communication. They will be referred to as graphic products.

**Graphics** refers to any form of symbolization produced on paper.

**Communicative speech** is speech directed to another child in the writing center whether it is related to the work in progress or not.

**Private speech** is speech which the child uses for his/her own personal purposes rather than for communication. The term **egocentric speech** is also used to denote this form of speech.

**Peer speech** refers to speech which is directed to another child for the purpose of communication.

**Developmentally appropriate practice** refers to the classroom practices identified by the National Association
for the Education of Young Children guidelines (Bredekamp, 1987) as most effective for guiding the cognitive, emotional, social, and physical development of young children. These guidelines are based on current research and other literature on this topic. Classrooms were identified using the Teacher Questionnaire (Charlesworth, Hart, Burts, & Hernandez, in press) and the Checklist for Rating Developmentally Appropriate Practice in Kindergarten Classrooms (Burts, et al., 1990). Teachers scoring 1 standard deviation above the mean score for teachers in this school system on the Teacher Questionnaire were classified as more developmentally appropriate. Those scoring 1 standard deviation below the mean for teachers in this school system were classified as less developmentally appropriate.

**Scaffolding** is any behavior on the part of the participating adult that allows the child to work at a higher level than would be possible by the child alone (Vygotsky, 1978).

**Zone of Proximal Development** defines the level at which a child would be able to work if provided with help or scaffolding by an adult or more experienced peer (Vygotsky, 1978).

**Emergent literacy** is the literacy behavior observed in the period from birth until the time when children begin to read and write conventionally (Teale, 1986).
Limitations

Research that takes place in a public school system is limited by the cooperation of the teachers and administrators targeted for involvement. It was difficult to get teachers who used more inappropriate methods to agree to be involved in this work. As a result, only one teacher who was identified as using less developmentally appropriate methods was involved in the study. A larger sample at each extreme of appropriateness would have provided more generalizable data. In addition, the tightly structured curriculum and schedule imposed on the teachers by the administration of this school system limited the extremes of classroom practice.

Limitations as to the days and times that the children were available in each class also restricted the generalizability of the results. In some classrooms work could only be done at the beginning and end of the day. In others work could only be done in the middle of the day. The days of the week on which work was possible in each classroom also varied. As far as possible, the days on which work took place in each classroom were varied. No data were gathered on Friday.

Under ideal circumstances, each group of children would have worked within their classroom or in rooms that were located near their classrooms and were furnished in a similar manner to their classrooms. This was not possible
in all of the schools. The majority of the children seemed comfortable in the research setting, however, especially since they were working with other children from their class. If work samples were taken in the regular classroom setting, problems would have existed in recording speech and in preventing disruption by children not involved in the study.

A greater racial variety would have been helpful to increase generalizability. This school system, however, did not have a large minority population.
Significance and Likely Contribution of the Study

A great deal has been written in recent years about the importance of using methods in the classroom that are appropriate to the developmental level of the child. In addition, changes in our view of how children learn to read has influenced literacy instruction for young children. At the present time, both ends of the continuum are strongly represented in the schools. Many schools strongly emphasize development of isolated skills. Rote learning is stressed. The quality of the finished product is of utmost importance. Other schools support the contention that it is important for children to actively explore the world. Literacy learning is considered an active process in which the child experiments with written forms through the support of play activities. Research can be presented by both groups showing the value of their respective programs. In general, however, this research has focused on only one aspect of literacy or communication. In addition, no research has been found that considers the effects of differences in developmental appropriateness on literacy development. The inclusion of both quantitative and qualitative components of the present study will give a broader perspective on early literacy as communication than would be possible from a study that was solely quantitative or solely qualitative. If literacy is the process of communication through written language, then we must look
at the communication of children as they first begin to develop into literate human beings. There is a need to examine more closely the types of verbal and written communication used during the initial literacy efforts of young children in schools espousing these differing philosophies.
Chapter 2
SELECTED LITERATURE REVIEW

Work from a variety of different areas is relevant to the study of children’s use of various means of communication to support their literacy development. Research in the areas of symbol development, writing development, art, speech, and composition all add to our understanding of this process. In addition, cross cultural studies offer us a broader understanding of the aspects of literacy development that are cultural as opposed to inherent. The following topics will be discussed in this chapter: symbol development, general literacy development, writing development, art and writing, speech and composition, developmentally appropriate practice, classroom practices related to emergent literacy, cross cultural studies, and a summary of the literature.

Symbol Development

Symbolism can be defined as the combining of two expressions of an experience. One expression represents the other. The ability to symbolize does not seem to be present at birth. Its development begins as children interact directly with the objects in their world. Symbolism takes a variety of forms. Some aspects of symbolism develop more rapidly in children than others (Franklin, 1973). A comparison of the development of
symbol use in play and language has been made by Monighan, (1985). She found that both play and language begin with a strong sensorimotor element. With time, behavior in both areas demonstrate an increasing distance between the referent and the symbol.

Recent work in the area of symbol development has been done by Howard Gardner (1986) as a part of his work with Project Zero. He believes that the characteristics of the various symbol systems differ in three ways: (1) the knowledge necessary to successfully develop a given system, (2) the rules for each system, and (3) the physical differences in the various systems (Wolf & Gardner, 1981). In support of this theory he cited works by Gazzaniga, Geschwind, and Sperry suggesting that each symbol system is processed by a different part of the brain. He also cites the differences in age at which each symbol system develops within the child (Gardner, 1986; Wolf & Gardner, 1981).

Several differences between children and adults were suggested in Gardner’s work (1986). Young children have trouble separating experience from fantasy. They also relate to objects through sensory experience while adults see objects as a part of a taxonomy. Children’s brains are more adaptable than the brains of adults. In addition, learning methods seem to be different. Children’s creativity also seems to be greater in general than the creativity of the average adult. Finally, society has
differing expectations of children and adults, which may influence the behavior of each of these groups. Even within childhood Gardner believes that literacy learning consists of a different set of tasks based on the age of the child (Gardner, 1986).

Gardner (1983) has identified three phases of symbol development: mundane symbolization, basic symbolization, and notational symbolization. Mundane symbolization is the development of the most basic understanding and use of symbolism. During this period children learn to read meaning from pictures, understand simple symbols, and understand the structuring of events. This phase is completed around age two. Basic symbolization develops between the ages of two and five. Three waves develop in this phase. The first is the symbolic wave, in which children may symbolize an object on paper by drawing the action the object creates rather than drawing a symbol for the object itself. Another action often seen in this wave is the use of one object for another by using the substitute object in the manner that the original object is normally used (e.g. hopping a banana across the table and calling it a bunny). The second wave of this phase is classed as "topological mapping." This term is descriptive of the development of the child's ability to represent three dimensional objects on paper. It is at this point that simple representative drawing begins. The third wave,
"digital mapping" is the development of an interest in and understanding of numbers. This takes place around age four (Gardner, 1986). The three waves of basic symbolization are found in all children, but the wave of the notational symbolization varies according to the culture in which it takes place. Gardner sees culture as being highly involved in the direction taken by intellectual activities.

"Symbols pave the royal route from raw intelligences to finished culture" (Gardner, 1983 p. 300). Notational symbolization, the phase in which the child begins to communicate through the use of symbols, is complete by age eight. As this phase begins, children learn to invent their own notation for practical purposes (Gardner, 1983). By the end of the phase, the child has begun to use the major features of notational systems: reduction, legibility, and systematicness (Gardner, 1986). He believes that "Humans are as prepared to engage in symbolic processes... as squirrels are prepared to bury nuts" (Gardner, 1983, p. 310).

Gardner’s research (1986) suggests that children fall into one of two classifications in their symbol use. They may be either dramatists or patterners. Dramatists use symbols to tell stories. Patterners use symbols to produce visual configurations. These two groups of children seem to have different ways of learning symbol use.
It is interesting to note that Gardner's work seems to synthesize much of the earlier work in the area of symbolism. His views are ethological in his suggestion that humans are prepared for symbolism as animals are for their tasks. His views are Vygotskian in their emphasis on the importance of the culture in symbol development. His emphasis on the differences in the symbolism skills and methods of children and adults fits well with the work of Piaget. The importance of the symbol in influencing the direction of development of thought is found both in Gardner's and Werner's work. The influence of social modeling of learning is evident in both the work of Bandura and Gardner. This is to no way imply that Gardner espouses all parts of these other theories, for all of them differ in various ways. However, this would suggest that much can be gained by considering several theories in looking at the research being done in the field of visual symbolism today.

Concepts from three theories have a major influence on this work. Piaget (1970) believed that the child is an active learner, additionally his conception of symbolism development was used as a basis of this study. The importance of adult support and use of speech, especially egocentric speech, as a facilitator in learning was postulated by Vygotsky (1978). The impact of social interaction on learning is identified in the work of Bandura (1977).
General Literacy Development

The current emphasis on emergent literacy supports the belief that the nonconventional reading and writing behaviors of young children develop, in time, into literacy as it is understood by adults. This is supported by the strong correlations found between emergent literacy skills of children in kindergarten and their standardized test scores in third grade (Barnhart, 1988). Whereas formerly, children were not considered literate until they were able to read and write conventionally, we now recognize that children have a great deal of knowledge about print long before they are able to use it conventionally (Harste, Woodward, & Burke, 1984).

Our Present View of Literacy Development

Emphasis in literacy has expanded to include the functions of language in social settings and the ways in which language communicates (Norris, 1989). "By conceptualizing literacy development as learning how to participate in a socially organized set of practices involving the use of written materials, we are better able to understand what is involved in young children's literacy learning" (Teale, 1986, p. 7).

In recent years, more recognition has been given to the fact that reading and writing are not isolated skills. Rather, they are used to serve specific purposes. Often these skills serve social needs (McGee, Richgels, &
Harste, Woodward, & Burke (1984) have found that three-year-olds may demonstrate some general knowledge of the relation of print to meaningful language. This happens most often in natural settings, rather than research situations. They suggest that this may happen because all communication systems are more likely to be used in combination in a natural setting. Thus, all systems work together to deliver information. This lessens the amount of graphophonemic information necessary to provide meaning.

Story reading and writing have been identified as valuable in literacy development (Mason, McCormick, & Bhavnagri, 1986). The value of this process can be optimized by providing a time for interaction between the adult and child in order to reinforce the child’s language use and to encourage a wider variety of forms of language in the child (McGee, Richgels, & Charlesworth, 1986). This is particularly important for children who may have language deficits, or "who are not ready for metalinguistic learning" (Norris, 1988, p. 672). Norris has suggested that for these children, learning must take place on the level at which a child is able to experience communication meaningfully. This style of literacy development has been described by Cochran-Smith (1984) in her study of literacy development in a nursery school setting. As stories were read by the teacher, care was given to monitoring
comprehension and mediating any difficulties the children experienced in understanding the message of the text.

Home Literacy and School Literacy Activities Compared

While reading stories is an important aspect of literacy, it is not the only literacy activity in which young children engage. Schickedanz and Sullivan (1984) found in their study of home literacy activities that one fourth of the literacy activities recorded involved the reading of books. However, this was not the limit of the literacy event observed. A wide variety of activities were modified to include a literacy component. Most of the events were initiated by the child, though the parents may have originally introduced the particular activity to the child on another occasion. Writing behaviors were less likely to be child initiated than reading activities. It is interesting to note that children in this study seemed reluctant to participate in a literacy activity alone. Instead, it seemed to have a social aspect, usually involving parents. This social contact was not necessarily constant (Schickedanz & Sullivan, 1984). In a study of differences between the literacy support provided by parents of early readers and nonearly readers, Pikulski and Tobin (1989) found the parents of nonearly reader to be more formal in their support of literacy activities. Parents of early readers, on the other hand, were more informal and spontaneous in their support.
In a study of home literacy activities among low-income families, McIntyre (1988) found the range of literacy materials and activities available in the homes varied greatly. Often literacy activities were for practical purposes. Literacy was not often used as a means of recreation or for the sake of teaching children literacy skills. Most children watched some television that contained literacy learning activities. Most also recognized some environmental print. In only two homes out of twelve in this study were children read to regularly. Often, when children were read to, it was by an older sibling. None of the parents in this study were avid readers.

**Literacy Needs of Special Groups**

The use of shared reading has also been advocated as a means to deal with the problem of children who fail to fit the curriculum. As children talk about the material they are reading or hear, they treat the material as something to comprehend, practice reading strategies, and check their comprehension of the material (Mason, McCormick, & Bhavnagri, 1986).

While much has been written about the deficits in literacy skills among children of lower SES, Neuman and Roskos (1989) have reported no significant differences for gender or SES in scores identifying knowledge of concepts of print. Harste, Woodward, and Burke (1984) reported
similar findings. They noted that the consideration of gender, race, family makeup, and SES did not provide significant differences on the literacy tasks performed as a part of their research.

Environmental Factors Supporting Literacy Development

Children who live in an urban setting come to school familiar with print, because it is a part of the environment in which they live (Ferreiro, 1978). Children seem to work with print based on a logical set of assumptions about how print works. Their assumptions, however are not based on our conventional understanding of print. Children are active in their construction of meaning as it relates to print (Teale, 1986).

Play has been suggested as a form of thought by Daiute (1989). She believes that play serves a function in learning to write and that play is also important in developing critical thinking skills. She has proposed that, just as children’s thinking is different from the thought of adults, so is the child’s writing process different from that of adults. As a result, it is important that children be allowed to play with writing as they play to develop other areas of learning.

Writing Development

The development of writing ability begins during infancy, according to Sulzby and Teale (1985). This
process begins with a child’s first scribbles and rapidly develops into drawing as a means of symbolization. Letters begin to be found as a part of drawings and eventually replace the drawings.

As children begin to communicate with letters rather than drawings, five principles of early writing experimentation can be seen in their work (Clay 1975). The recurring principle is identified by repetition of letters, words, or other shapes. The directional principle deals with the consistent patterns children use to write their words and letters. Children’s use of a limited number of symbols to produce a large amount of writing is explained by the generating principle. The inventory principle can often be found in children’s writing as they list all the letters they know. As children experiment with the letters they know, they use the contrastive principle to identify differences between closely related letters or words. Although the abbreviation principle is seldom used by young children, some examples of it can be found in their writing. The abbreviation principle refers to cases in which a child uses a single symbol to identify a word. This is not the case of a child using only the first letter of a word because he or she is unable to write the rest of the letters, but is a conscious choice on the part of the child to abbreviate the word. The flexibility principle allows children to take a limited number of letters or
symbols and form them in a slightly different way to produce a new symbol. Recent work by Lamme and Childers (1983) has indicated that in some cases, children begin writing their names or other words before they begin representative drawing.

Y. Goodman (1985) has identified three principles of writing development. They are functional principles, linguistic principles, and relational principles. "Functional principles develop as children solve the problem of how writing is used and the purposes and significance that writing serves for themselves and others. ... Linguistic principles develop as children solve the problem of how written language is organized in order to have shared meaning in the culture" (p.17). Relational principles develop as children solve the problem of "what written language comes to mean" (p. 17). While we may choose to study these principles separately, they develop together as children use literacy on a daily basis. Goodman reminded us that the quality of the product may not always improve as the child develops new literacy skills. As the child becomes more independent in his or her writing production, the product may, in fact, be less standard in form. This happens as the child takes over more control of the writing event. The result may be more invented spelling and a more child developed sentence form.
As children learn to use language in written form, they discover many things about written language. They learn that it can be used to control the actions of others. They learn that it stands for ideas. They learn that they can write their own stories. They learn that they can use writing to help them remember things. They learn the many forms that written language can take. Finally, they learn that oral language and written language are related (Goodman, 1985).

Graphic symbolism may also be communicated by two means. The work of Harste, Woodward, and Burke (1984) demonstrates a distinct difference in the form of graphics used by young children in products they label as writing and the products they label as drawing. This difference is evidenced before a child’s writing or drawing become representational and is present even in three-year-olds with poor language development. Children seem to recognize that their name should always be formed in approximately the same way. Comparisons of name writing by three-year-olds on different occasions show remarkable similarities between the products. Differences are also found in the mock letters of children from countries using different writing systems. The most salient features of the symbol system is evident in the mock letters of these children.

The differentiation between writing and drawing has also been shown in the work of Lavine (1977). At age three
the children in her study were able to identify pictures as different from other forms of graphic representation. As the children became older, they were able to differentiate further between the pictures, writing, scribbles, and foreign writing presented to them. The criteria used by the children included a linear quality, the presence of a number of letters or letter-like forms, and variety of form.

Even children who have been identified as being at risk for difficulty in learning to read know a great deal about written language before they are able to read or write it (Goodman, 1984). Y. Goodman believes that children invent their own literacy through discovery. It is a process of learning to make sense of writing and with writing. By first grade, children have also learned to recognize and reproduce the differing organizational structures of written text used for different purposes. At times, recognition of these differences can be seen in the work of children as young as three.

The means by which children begin to represent sounds with letters was the focus of the work of Charles Read (1975). He found a consistent pattern in the invented spelling of preschoolers. This pattern changed as the children developed and were exposed to further information about the formation of words, eventually leading to standard spelling. It is interesting to note that he found
no invention of new symbols in children's early writing attempts.

This process of discovery can both aid and limit writing development in school (Dyson, 1984). In Dyson's study this depended on how well the method of writing instruction by the teacher fit the child's understanding of the processes involved in writing. This would suggest the value of providing writing opportunities in which the children control the process.

Literacy develops best when a child experiences functional literacy in the environment; when literacy is important to those people who are important to the child; through a child's experiences with other symbolic experiences such as speech, gesture, dramatic play, art, music, and dance; and finally, through the child's experiences with his own speech (Dyson, 1986; Goodman, 1984; Karnowski, 1986). Schickedanz (1986) has suggested that learning to write involves learning the following concepts: writing alphabet letters, the relationship between speech and writing, form and style differences related to situational differences, and predicting reader reaction to a written passage. According to Robertson (1984), the development of written language is a part of language development in general. All aspects of language development, including writing, are influenced by language experiences at the preschool level. In a qualitative
study, Robertson found that methods that emphasized the child's role in learning naturally lead to more effective learning of language in the first grade.

Ferreiro (1978) studied young children's understanding of what must be graphed in writing a sentence. She found that children first believe that only nouns must be written, later verbs are viewed as written also. Finally, articles are added to their understanding of what is written. Separation between words is problematic for children because these separations do not match the way in which we pause when pronouncing sentences. Even within the area of the function of a single word, differences are found in children's understanding of the formation. For instance, some children believe that as they grow older, their name becomes longer. They also may believe that the size of the graphic forms used or length of graphic strings should correspond to the size of the object represented (Ferreiro & Teberosky, 1982).

Children's understanding of the necessary characteristics of both the mechanics and process of writing develops as the child grows. The work of Ferreiro and Teberosky (1982) has produced the following levels of understanding of children concerning the necessary traits of writing:

1-Writing must have linearity.

2-Each word may contain the same letters, but the
order of the letters must be different for different words.
3- Each letter must represent a sound (usually a syllable).
4- Letters may be combined to produce a single sound or a group of sounds. (This is close to a standard understanding of alphabet use, though spelling is often not standard due to incomplete representation of the phonemes found in a given word.)
5- Letters stand for phonemes which may be combined to form words.

As children begin to recognize that letters are necessary to form words, they go through a distinct series of levels in their understanding of the relationship between the order of the letters and their meaning. In the early stages, children believe that letter order is unimportant in the determination of word meaning. Children who attended school responded to problems of this nature in different ways from children who did not attend school, suggesting that the literacy instruction experienced in school affects the problem solving skills of children on this task. However, it must be noted that neither group of children used the literacy principles normally taught in a school setting to solve this set of problems. It is interesting to note that six- and seven-year-olds who were preoperational focused on either the number of graphemes or
the order of the graphemes, but not both as they worked at solving this problem (Ferreiro & Teberosky, 1982).

Along with recognition of universal principles of symbol development in young children, we must also recognize individuality in this process. This has been emphasized in the work of Dyson (1986, 1987b); Gardner (1986); Gardner, Wolf, and Smith (1982); and Hubbard (1988).

From the historical point of view, writing seems to have developed out of the needs of the society. In studying writing development in young children there is great value in looking at both the writing process itself and the world in which the writers are working, because each is influenced by the other. To separate them leads us to risk misunderstandings of the processes we observe (Dyson, 1990b).

This can be observed in the research by Cannella (1988) concerning the effect of environmental differences on product quality. The work of third graders was more legible in a teacher directed setting, but the children enjoyed the process more when they were able to structure the setting. Teacher structure was more effective for eliciting more advanced writing in boys. Girls preferred to structure the setting themselves. Among both third graders and kindergartners, "children took more risks" (p.213) and seemed to enjoy the work more in a child
Kindergarten children preferred to work in a "child centered" (p.217) setting. No evidence was found of a shift toward a preference for more structure as the children became older. There is evidence that teachers must realize that for young children, writing can either be correct in form, or it can be communicative. At this age, expecting both at the same time seems to be unrealistic. Effective writers write primarily to communicate meaning; poor writers write to produce a correct product. The emphasis on perfection of form often fails, resulting in a product that is neither communicative or technically correct (Bissex, 1987).

**Writing as Communication**

The development of writing as a form of communication has been studied by Ann Haas Dyson. She found that children often use talk to support and enhance their communication through writing and drawing. She also found individual differences in the style of interaction among these three forms of communication (Dyson, 1981, 1986). Children use talk both to assign meaning to their written work and to guide themselves through the process of developing the visual product they desire (Dyson, 1983). This use of art and peer conversation leads to changes in children's compositions. These changes include changes in the frequency of dialogue, the use of multiple pictures to capture time movement, the addition of emotions to the
context of characters, and the change from drawing as
primary to written text as primary (Dyson, 1988a). Writing
names, lists, talk, and oral-written play are the most
common early writing activities (Dyson, 1981). Rather than
viewing writing as an extension of oral symbolism, Dyson
(1990a, 1990b) views it as a distinct form of symbolism
which is linked to all other forms of symbolism.

Written communication differs from oral communication
in several points. In writing, gesture and intonation are
not normally available to supplement meaning. Shared
activity is also lacking in most writing settings. Wells
(1987) does not believe, however, that this means children
must become proficient with encoding and decoding before
they can begin to communicate using written language. The
literacy activities observed and experienced in the
community allow young children to begin to experience
meaningful literacy before they are able to read and write
independently.

Rowe and Harste (1986) have found that three- through
five-year olds demonstrate an awareness that meaning is
essential to language. This point of view is particularly
strong for written language. Norris (1989) has suggested
that writing may serve to support language development in
children with language disorders.

The components of the writing event as identified by
Dyson (1983) are development of the message, encoding the
message, formation of the letters or other symbols, and decoding of previously written messages. Even two- to four-year-olds seem to distinguish between the form and the function of print. Children this age enjoy play with print as they produce it (King, 1980; Lamme & Childers, 1983). This play is often of the same type found in oral language play at this age (Lamme & Childers, 1983). Writing may take place before children are functional readers. Letter sounds may be self-taught based on the names of letters. Words may be written without divisions between, or may be divided by invented means such as dots (Bissex, 1980).

Combining Writing and Speech to Enhance Communication

One difficulty faced by young children as they begin to negotiate the relationship between speech, print, and the world which they experience relates to the differences in auditory experience and visual experience, according to Holdaway (1986). Our mental organization of these two perceptual entities differ. Children may have difficulty deciding what written language is meant to convey. Does it convey speech sounds (auditory) or does it mean the objects and ideas that speech represents (visual)? Children may also have difficulty deciding the purpose of writing. This causes children to not be sure whether the work they have done constitutes reading and writing. Because written language contains both visual and auditory aspects, it may be particularly effective in helping young children
negotiate the transition to combining visual and auditory experience in learning. He believes that the separation of literacy into reading and writing in the schools has been destructive to literacy learning.

With time and experience, children learn to differentiate the kinds of audiences to which they may be writing. As a result they vary the content of their products to fit the audience. Changes also take place in the form of composition, and the sources from which content is taken (Bissex, 1980).

Britton (1979) has observed that he is familiar with several children who taught themselves to write. In each case, he notes that their first writings were all stories. Early writings of young children are usually for entertainment and play if the children are able to choose what they will write.

**Metacognition**

The metacognitive abilities of young children are generally considered to be extremely limited. However, Rowe (1988) found that the children in her study often checked the effectiveness of the messages they read and wrote to others in a classroom setting. Strategies used included both those that were social in nature and those that were individual. Part of the reason for the limited recognition of metalinguistic capacities in young children may be due to the unconventional use of metalinguistics.
The use of metalinguistics usually takes place only when children experience difficulty in the reading process. Children exhibit behaviors that demonstrate an awareness of the concept of words as separate, although their methods of showing this separation are not conventional. We must always be aware, however, that metalinguistic knowledge is not the goal, but is rather a tool in literacy learning. If its use becomes isolated from meaningful literacy activities, it may actually become a liability (Rowe & Harste, 1986). While young children learn many aspects of reading and writing on their own, the meaning of words related to literacy such as "letter" or "number" do not seem to fall into this category (McGee, Richgels, & Charlesworth, 1986).

**Writing as Symbolization**

While writing is normally considered to be a second-order form of symbolization, Galda, Pellegrini, and Cox (1989) found in their study that for many children, the earliest writing experiences may be first-order symbolization. Writing takes basically three different forms depending on the language it represents. The first is ideographic. The symbol represents the idea. This is the form found in Chinese writing. The second is syllabic. The symbol represents the syllable. This is the form found in Japanese writing. The third is alphabetic. The symbol represents the phoneme. This is the form found in most
western writing. It is interesting to note that children seem to use ideographic forms of graphic communication first, followed by syllabic forms, and finally reach alphabetic forms of writing (Temple, Nathan, & Burris, 1982).

Art and Writing

If writing is to be viewed as a form of communication, then we must begin with the study of drawing, because drawings are often used by children as a springboard from which to begin their writing (Zalusky, 1981). N. R. Smith (1983) believes that early symbolism by children uses designs or modifications of designs that children have already been making. Art serves as a vehicle for material exploration, representation, dramatic play, and rule development by children. The nonstructured nature of most art activities allows children to reduce risk by changing the nature of their activity when they are faced with criticism or with problems they are unable to solve (Yeatman & Reifel, 1989). Just as speech has been found to be an effective support for writing, a review of the literature has suggested that the same is true for early art development. Supportive talk with adults can be especially helpful in the art development of young children (Thompson, 1990).
N. R. Smith (1982) has suggested that the goal of art education for children should be development of comprehension of meaning by the children. Included in symbol development are the understanding of the visual and physical nature of the materials, the development of symbols on paper or with other art materials, and an understanding of the concepts related to the object which the child is representing. Children seem to observe meaning in the art of other children before they make this observation in other children's writing. This was due in part to the fact that children often augment their pictorial communication with verbal communication. This leads children to become aware of the social, communicative nature of their graphic activities (Dyson, 1988c).

Often children use drawing to verify the meaning of their writing (Ferreiro & Teberosky, 1982). Zalusky (1981) studied four possible connections between writing and drawing relating to the concept of message and elaboration. Although her findings were not statistically significant, there was a moderate correlation between message and elaboration, suggesting the worth of further work in this area.

Work by Rowe (1987) suggests that learning in the areas of art, music, and writing is the result of similar processes. The use of these and other means of constructing meaning all served as contexts for promoting
literacy. Differences have been found in the ways in which children write in different classroom settings. Writing in the dramatic play center was more communicative, while the writing center was more often used for working with the alphabet (Harris, 1985).

Dyson (1988b) has been prolific in her work with the writing-drawing connection. She identified drawing and talk as a means of creating order and solving problems. Symbol play allows a child to organize concepts as well as to communicate those concepts.

Kellogg (1979) saw drawing as preparation for reading and writing in several ways. First, as children draw, they see the shapes they have developed and learn to recognize them. Second, she saw the physical activity of hands and eyes as necessary for intellectual development. Finally most English letters are first formed as a part of a child’s drawing. Only G, Q, R, and Y do not occur spontaneously in the art of young children.

The development of differentiation of symbol forms for writing and drawing is identified in DeFord’s (1980) study of children ages two through seven. Differences in the characteristics of the symbols used for writing and drawing were seen even in two-year-olds. With age these differences became more distinct.

According to Ferreiro (1984), the crossover from drawing to writing involves the following steps: 1)
graphemes mixed with drawing, no linearity, 2) organization of graphemes in lines, and 3) variety of graphemes. There is a movement from a large quantity of graphemes to a smaller number, eventually reaching approximate one-to-one correspondence of graphemes and drawn objects. It is at this point that children move from seeing letters as thing in themselves to seeing letters as representing other objects (Ferreiro 1984). This development usually takes place between ages six and eight years at which time children consistently use a single symbol to represent a given referent. Before this time, from ages four to six, children show many changes in the form of their symbolization, often changing the names of the symbol during the drawing process (Mendelowitz, 1953).

Although Ferreiro and Teberosky (1982) believe that the written language system has its own rules, they do not believe that there is a corresponding drawn language system with specific rules. While most four-year-olds know that the message is found in writing rather than in the picture, their understanding of the relationship between print and language is limited. They also perceive print and drawing in a single picture as closely related in meaning. They recognize print as expressive of the content of a communication, but fail to recognize the linguistic relationship.
Although art may support communication through writing this is not always the case. Dyson (1982a) found in her study of kindergarten children, that drawing and writing were often included in the same product. However they were unrelated to each other in 62% of the products she observed. Drawing was combined with writing to supply information about the drawing in 15.6% of the pictures studied, and writing was used as a label for the pictures in 14.6% of the cases. In 6.25% of the pictures, drawing was used as part of the graphics. Drawing to provide meaning for the writing comprised only 1% of the pictures. The terms "write" and "draw" were often used interchangeably.

Drawing can serve the propose of helping children decide what they will write. It also helps children change from speech to print (Graves, 1979). Tough (1977b) reported that children are often more talkative about an experience they have had after they have produced pictures about the experience. She believes that it is important for children to talk with a teacher about their work. She has suggested that without this aspect of the art experience, children may not become aware of the full extent of their knowledge concerning the topic under consideration. Talk with a teacher may also help children discover and solve problems connected with their work.
Decontextualization is an important step in writing development. It often begins in children's art. Development of this concept depends on recognition that self is separate from others (Korzenik, 1977; c.f. Drucker, 1979). Therefore, others do not necessarily share the writer's knowledge. It also requires understanding that the form of communication is different from the thing being communicated. Finally the child must recognize that the pictures or writing may be seen or read at a time separate from the time of the creation of the pictures or writing. Therefore drawing is seen as a form of decontextualized communication by a child. It is a problem-solving task (Korzenik, 1977).

Speech and Composition

The importance of competence in language communication has been emphasized by a variety of scholars (Taylor, 1986; Norris, 1989). Communication begins with gesture and quickly moves to speech. The advent of language allows the child to represent and mentally act on experiences of the past and future as well as the present (Tough, 1977a). This ability increases with age throughout the preschool years (Genishi & Dyson, 1984). While the purposes of language use do not seem to fit a developmental sequence, some forms of language use are found earlier than others. Among the early uses of language are "self-maintaining,
directing and reporting. Predicting, projecting, imagining and reasoning" (Tough, 1976, p. 81) come into play later. Complexity within each category can vary greatly (Tough, 1976).

In a comparison of the language use of three-year-olds from advantaged and disadvantaged homes, Tough (1977a) reported several differences. Disadvantaged children seemed to be limited by the present situation much more than the advantaged children. This was not so much a result of lack of knowledge of the past as it was a result of the apparent belief by these children that they were to give as little information as possible to the adult questioner. Though a series of tasks requiring language for communication, Tough found that disadvantaged children were less willing to elaborate on their knowledge of information related to the task than were the advantaged children.

To facilitate the study of language, Tough (1977a) has classified language according to function. The first is the directive function. Strategies for its use include recognition of a problem, anticipation of a solution, monitoring or directing action, and planning a solution. The interpretative function follows. It includes the analytical strategies and reasoning. The projective function of language includes prediction, imagination, and empathy.
It is natural that as children progress to new forms of communication, they will use the familiar forms to support their exploration of the new forms. Many similarities can be found between speech and writing development.

1. Children are normally active in the development of both speech and writing.

2. Children need to experience language in "meaningful ways" in order to learn both speech and writing.

3. Children develop rules about language, revising them as they have further experience with language. The same is true of writing.

4. Children develop correct speech forms through their own practice and experimentation rather than through direct teaching. This also seems to be the most effective form of learning for written communication.

5. Children learn to vary their speech to meet the needs of the situation. Writing has many different functions also. As children use writing for a purpose they are able to develop their literacy knowledge more effectively.

6. The rules for spoken language are still being discovered and recorded. We would never assume to try to teach a child to talk by explaining the rules.
They are too complicated and at times are difficult to understand. Language is learned by experimentation and discovery. This is also true for written language (Temple, Nathan, & Burris, 1982).

While it is often assumed that writing is simply "speech written down" (p. 347), F. Smith (1975) believes that this is not the case. He has cited several points to justify his belief. First, while we find many differences between speech and writing, we also find as many differences within each category. This suggests that both speech and writing are forms of language, but not necessarily that one is a form of the other. Further, Smith points to the fact that features that are important in speech may have no value for determining meaning in writing. For example, the silences found in speech do not correspond to the spaces found between words. Although writing is comprehended largely through visual means, that is not the full extent of the source of meaning. Prior knowledge held by the reader is also involved. The relative value of visual information versus reader information varies depending on the situation.

The augmentation of written communication with speech may be directed toward self or toward another person (Dyson, 1982b). Golomb (1974) has noted, "At every step the child's representational intention outstrips his ability to draw and model" (p. 32). In a review of
research in the area of private speech, Berk (1985) identifies self-guidance as one of several functions of private speech. Guidance as a function of speech may also be found in preschool dyads. The ability to use speech in this function increases with age. However, competitive language within a dyad also increases with age (Pellegrini, 1984).

**Influences on the Function and Form of Private Speech**

The use of private speech is strong in preschoolers. It declines rapidly between the ages of seven and ten. In the preschool years, IQ is positively correlated with private speech. When a wider range of development is observed, this relationship is found to be curvilinear. In older children who are capable of internalized logic, private speech is almost totally absent. One of the strongest determinants of private speech is the difficulty of the task for all age children (Kohlberg, Yaeger, & Hjertholm, 1968).

A study of preschoolers considered at risk due to low birth weight has suggested differences in private speech from that of normal children. While these children were of normal intelligence, early literacy skills, visual-motor skills, and ability to focus attention showed deficits. A significantly greater amount of private speech was found among these children when compared to normal children. As was expected, this form of speech increased with the
difficulty of the task. However, there was very little whispering during private speech by at risk children. This correlated with reading difficulties. The authors believe that this may indicate a difficulty in internalizing speech, and that this problem may influence success in reading (Diaz & Lowe, 1987).

The use of private speech by learning disabled children in third through sixth grade has also been studied. When compared with a group of children having normal achievement, learning disabled children were found to use task relevant private speech more often than controls. In addition, this trait was stronger in learning disabled children who also had attention-deficit hyperactivity disorder (Berk & Landau, 1991).

The quantity of private speech seems to vary with the success of the task. In a study by Deutsch and Stein (1972), four-year-olds attempted to complete a task in three conditions. Children used private speech more often and more effectively in the personal failure condition than in the task interruption condition or the success condition. The personal failure condition also produced more task-oriented behavior.

In a study of self-regulating behavior, motor activity seems to have had a negative impact on the relevance of speech produced by preschool children and children in the early elementary years. When covert speech was requested,
only preschooler's results were affected. However, overt speech had a negative impact through age seven. This study requested sentence construction by the children in order to identify the affect of motor activity on the language production. The author believes that her work shows that young children cannot integrate language with physical activity. The meaning of the sentence constructed suffered most in the process of dual activity (McCabe, 1979).

In a study of children three to four years old, S. H. Goodman (1981) found that children worked puzzles correctly more often when they also included a great deal of talk. When children spoke of their plans and thoughts and used emotional release words, puzzles were solved more proficiently and more quickly. Although private speech was related to success, this speech was most often found in relation to failure or near failures in the puzzle project. As opposed to McCabe, Goodman found 77% of speech uttered occurred during motor action. The rest came during a pause between actions. The difference in findings may be due to the difference in the nature of the task. Goodman allowed the children to speak as they chose, while McCabe required speech of a specific nature at a specific time.

A broader range of conditions for activity were studied by Balamore and Wozniak (1984). They examined the effects of adult instruction, demonstration, child vocalization, and silence on task behavior in three- and
four-year-olds. Vocalization proved to be the most successful method of improving behavior. This is in keeping with the writings of Luria. It is interesting to note that demonstration had little effect on the quality of task completion for most children. In the silence condition, it was found that many children who had previously succeeded at the task in the vocalization condition were unable to succeed in this condition. This supports the work of Vygotsky (1978) which proposed that young children are unable to use inner speech effectively.

Goudena (1987) has suggested that private speech may serve two functions. One is the personal support of a task; the other is an indirect call for aid from another person. To test this hypothesis, he examined the private speech of children as they performed a task. In one condition, children interacted with a helpful adult, in the other condition, the children interacted with a noncommunicative adult. The previous interaction with the communicative adult produced significantly more private speech than in the noncommunicative condition. No difference was found, however in the quality of task performance.

Differences in task performance have been noted in cases in which a child was working with a scaffolding parent. In this situation, private speech and performance are somewhat correlated. When the task was similar, but no
parent was serving as scaffold, then correlations were much weaker. It is interesting to note that while measures of support, responsiveness, and structure by a parent were positively related to positive task completion, control showed a weaker relationship. It should also be noted that differing parental scaffolding styles show differing effects depending on the age of the child. In general, scaffolding had its strongest effect on immediate performance, while private speech had its strongest effect on delayed performance (Behrend, Rosengren, & Perlmutter, 1989).

A comparison of the differences in the quantity and quality of private speech at ages 5 and 7 produced a variety of findings. The quantity of private speech was greater in younger children only if the task to be solved was difficult. At age 7 private speech was more often used for regulation of activity than at age 5. However, the total amount of speech decreased between ages 5 and 7 (Beaudichon, 1973). Fuson (1979) has suggested that a clearer correlation between private speech and performance can be found if only regulating private speech is examined.

Among first through third grade children, a study of private speech has identified several principles. First, private speech seems to become more related to the task and less audible as a child develops. In addition, a relationship was found between intelligence and the age at
which private speech began to be more internalized, with brighter children internalizing private speech earlier. Use of private speech also served to focus attention and reduced motor behaviors normally related to tension release. It is interesting to note that use of private speech was not positively related to task performance. The author has suggested that in some cases, private speech may serve a tension release function. When private speech is broken down into categories, differences were found in the relationship between private speech and motor behavior.

Level 1 (task-irrelevant) private speech was positively correlated with tension-reducing behavior and negatively correlated with no movement. Level 2 (externalized, task-relevant) private speech was positively related to task-facilitating motor behavior and negatively related to no movement, whereas Level 3 (more internalized, task-relevant) private speech was positively correlated with no movement and negatively correlated with tension-reducing behavior. (Berk, 1986, p.667)

A longitudinal study of first, second, and third grade children found task-relevant speech was not related to achievement in the area studied at the time of the original work. However, it was positively correlated with achievement the following year. While more use of higher levels of private speech was associated with increased
attention to task and self-control, careful analysis revealed this relationship to be bidirectional. Self-control and more focused attention influenced the quality of private speech as much as private speech affected self-control and attention (Bivens & Berk, 1989).

The bidirectional nature of this relationship was further supported by a study of attention-deficit hyperactivity disordered boys ages 6 to 12 and a normal control group. In general, a delayed development of private speech was observed among the subjects. Children observed while taking stimulant medication and on other occasions without medication, showed a greater level of mature private speech while on medication (Berk & Potts, 1989).

**Speech and Play**

Monighan (1985) has studied the similarities of development in the symbol use in play and speech. She found that between ages two and four, private and social play are fairly undifferentiated. The result is parallel play. While we may view solitary play as an immature form of behavior, Monighan has proposed that stages of development may be seen within this type of activity. It begins primarily as a sensorimotor activity and proceeds to become a primarily symbolic activity. Age also seems to be related to the degree of differentiation between social play and solitary play. The same may also be true for
private speech. A wider range of categories of private speech use were found in five-year-olds than in three-year-olds. In addition, children often engage in collective monologues. This is comparable to parallel play. Collective monologues consist of speech that is social in form, but seems to be directed to oneself. It has the traits of social speech, but does not seem to take into consideration the listener or the setting. Although trends in the nature and frequency of various forms of play and speech were found in this study, they do not seem to suggest a hierarchical nature for the differing types of play and speech. Both cognitive and social development seem to influence the amount and relationship of the various forms of social interaction both in play and in language. It is interesting to note that "no significant trend across age groups" (p. 28) was found in the self speech category, nor in the frequency of social speech. The nature of social speech did change with age. No sex differences were found in this work.

Individual Differences

In a review of research on the topic of private speech, Fuson (1979) noted that in most cases the quantity of private speech in each study was limited. She has stated that self-regulation through the use of private speech may not be a universal trait of all children. This suggests that, as with other areas of development,
individual temperament may be involved in findings concerning differing amounts of private speech among children. This is not in keeping with Vygotsky’s theory of private speech.

Several potential problems in the study of private speech have been suggested. The nature of the quality and quantity of private speech may change due to stress in a testing situation. The presence of other people in the room may also confound the results of a study. Difficulty exists in identifying private speech as opposed to social speech. In addition, the quantity and quality of speech may vary as a result of the added social interaction possibility. In general, no sex differences have been noted in the use of private speech. The few sex differences found have applied to specific categories of private speech. While private speech has been often assumed to have a single purpose, Fuson (1979) has identified three functions for private speech: regulation, emotional, and fantasy.

The Social Nature of Speech

Ramirez (1989) has noted that egocentric speech may not necessarily be private in nature. He cites the findings of his work with Hispanic kindergarten children. Children were paired in a drawing task. When they were unable to see the work of their partner, both social speech and egocentric speech decreased by approximately 50%.
Quality of drawings was not effected by the differing conditions. It should be noted that the children were able to see each other. Only the view of their work was obstructed.

The transition from talking with parents to talking with peers was the focus of a study by Asquith and French (1989). They found that the dramatic play area of a preschool classroom produced the longest and most complex conversations. This setting seemed to allow the children to use fantasy to experiment with shifts in time and location. This is believed to serve a support function for cognitive development. The authors believe that the skills developed through fantasy play support later writing development through symbolic play, planning play to fit a particular goal, practice in nonliteral language use, and development of many skills necessary for communication.

This view is supported by Cook-Gumperz (1975) who believes that "both grammatical and communicative competence appear to be learned in somewhat similar ways as social skills" (p. 141). She has noted that children seem to work to develop means for communication rather than working to develop a grammar. Knowledge of grammar seems to come out of the experience of producing language for communication. Rowe (1987) also noted the relationship between social activity and literacy development.
The development of a knowledge of metalinguistic verbs by children beginning the process of literacy has been studied by Galda, Pellegrini, and Cox (1989). They found that the use of these verbs develops as children experience social play of a symbolic nature. Their research showed a positive correlation between writing ability of four-year-olds and their symbolic play. Older three-year-olds showed a positive relationship between symbolic play and metalinguistic verb use. This was not true for the older children. They believe that after children learn to use metalinguistic verbs, they expand the use of them to other situations.

Children often influence the work of their peers (Dyson, 1987a; Yeatman & Reifel, 1989). Lamme and Childers (1983) found that the length of the drawing/writing sessions seemed to increase when an immediate audience was available to provide feedback.

Composition has been studied in children as young as two by Lamme and Childers (1983). They found that for young children, composing is a social activity rather than a solitary one. Style of composition seems to depend on the "immediacy of the audience." In writing notes or letters even young children have a "sense of audience." In the past this was believed to develop when children were older.
Hipple (1985) categorized composition found in kindergarten journals as realism, fantasy, and isolated concepts. The functions of these compositions were to communicate ideas and to deal with feelings.

Speech and Cognitive Activities

Graves (1979) considers speech an essential part of the composition process. "When children first write, they treat writing as speech" (p. 28). Supporting this contention is the work of Birnbaum (1980) that suggests that children who compose for communication produce better work than children who are concerned about neatness or correctness.

A study of the level of cognitive challenge demonstrated in common experiences found in preschools has suggested that creative activities and free play contain more cognitive challenge than teacher-directed activity. Adult-child dyads showed the highest level of cognitive challenge. This would suggest that social interaction is important whether the child is interacting with other children or with adults (Walker, 1981).

Developmentally Appropriate Practice

Concern over the movement of early childhood education in the direction of considerations of only academic development and the resulting classroom policies and practices led the National Association for the Education of
Young Children to publish a policy report supporting practices that are in keeping with the developmental abilities of young children (Bredekamp, 1987). The general thesis of the NAEYC document deals with the question of what kind of early childhood program is appropriate for young children. It is broad in scope. Among the practices supported in the document published by NAEYC on developmentally appropriate practice are meeting of health and safety needs; providing for the developmental need of the child in the areas of social, emotional, cognitive, and physical development; attention to teacher qualifications; parent involvement; and the quality of facilities. The provision for both developmental and individual needs of children are strongly supported by this document. The basis from which guidelines in these areas are discussed is the belief that each child should have both their developmental and their individual needs and interest met in an early childhood program. Both the rights and the responsibilities of the parents to be involved in decisions involving their children as well as participation in these activities is emphasized. Programs, in turn, have the responsibility to provide educated teachers and adequate facilities to meet the health, safety, and developmental needs of the children (Bredekamp, 1987).
**Theories and Philosophies**

Through the years many theories have been produced to explain the development of young children. At this time the three philosophies that seem to have the strongest influence are behaviorist, represented by the work of Skinner, interactionist, represented by the work of Piaget, and maturationist, represented by the work of Gesell. Although slightly less than half of the teachers interviewed by Hatch and Freeman (1988) were behaviorist in philosophy, a much larger percentage of the teachers had behaviorist classrooms. This was usually due to the requirements of the administration. Principals and administrators saw the teacher’s job as implementation of the curriculum. Less than half believed that the teacher had any discretion in meeting children’s needs. Similar results were found by Charlesworth, Hart, Burts, and Hernandez (in press). In their study less than 1/3 of the teachers surveyed believed that they had 50% or more control over their classroom. Behaviorist (developmentally inappropriate) teachers were more likely to practice their beliefs.

A study by Knudsen-Lindauer and Harris (1989) of priorities of parents and teachers for children in kindergarten has provided evidence that parents and teachers are in agreement concerning the most important and least important aspects of the kindergarten curriculum.
"Listening and confidence" (p. 57) led the list, while writing and reading were at the bottom of both lists. Variations were found within the remainder of choices. It is interesting to note that approximately 15% of the teachers surveyed noted that administrators strongly influence the kindergarten curriculum, often in directions away from that agreed upon by parents and teachers.

The relationship between day care quality, play behavior, and social skills was studied by Holloway and Reichart-Erickson (1988). They found that positive teacher-child interaction was strongly related to positive social skills in children. In addition, classrooms with adequate space and a smaller class size per teacher was related to more directed play by children who were alone. A study of the influence of quality community day care, a special intervention program, and home care by parents, showed evidence that both quality community day care and special intervention can have a positive effect on the degree of intellectual development in children from low socioeconomic homes (Burchinal, Lee, & Ramey, 1989).

Negative Influences on Developmentally Appropriate Practice

One of the most damaging pieces of research to the cause of developmentally appropriate instruction has been the Follow Through research. A particular problem is the partial reporting of this research by the popular press. For example, while reports in the newspaper indicated that
direct teaching was most effective, it failed to also mention that greater differences were found in test scores within each program model than between the programs (Anderson, St. Pierre, Proper, & Stebbins, 1978). One of the major problems with this body of research was the narrow range of the evaluation. Success was measured only in terms of academic success on a limited number of instruments that were similar in type (House, Glass, McClean, & Walker, 1978).

Gardner’s (1983) work with multiple intelligences is supportive of our acceptance of individual differences and needs of children in our teaching. He has suggested that intelligence is not a single construct, but rather consists of several areas in which a child may be either strong or weak. By limiting our study of intelligence to a single type of thinking, we fail to recognize the successes of children who are strong in less traditionally recognized areas of intelligence.

David Elkind (1981; 1987; 1988) believes that the choice of the term "Head Start" has had a negative effect on society’s view of education. He has reminded us that education is not a race to be completed as fast as possible, but rather it is a lifelong process. He has been very critical of the educational system that ignores both the developmental and individual needs of children in order to push them into a mold set by an arbitrary curriculum.
Hills (1987) believes that by requiring children to work beyond their level of understanding, we are forcing them to work at a lower cognitive level.

**At-Risk Children**

Minority children often are placed under increased limitations in an effort to improve their learning. A strict emphasis on teacher directed learning in a whole class setting may, in fact, be limiting the learning of these children. These programs often fail to allow children to develop higher level learning skills such as analytical, oral communication, and written communication skills. In addition, teachers often have low expectations and standards for disadvantaged children (Knapp & Shields, 1990). In the elementary grades, ungraded classrooms are believed to be more suited to effective learning in minorities, males, and poor students. These students score higher on achievement tests in a more variably structured setting (Developmentally appropriate education, 1990).

Social behavior is strongly influenced by classroom structure. In a study of high-risk children, a less structured school setting was correlated with both more aggression and more prosocial behavior than more structured settings. Children in more structured classrooms were more conforming to adult standards when adults were present, but in tasks requiring independent work, they were less likely
to stay on task (Huston-Stein, Friedrich-Cofer, & Susman, 1977).

Few researchers have studied the effects of quality preschool on low-risk children. Larsen and Robinson (1989) have examined this issue. They have found that while preschool has no effect on the later achievement of girls, there is a significant effect on scores of achievement for boys.

**Special Problems Related to Implementation**

Standardized testing of young children is another concern expressed by proponents of developmentally appropriate practice. A review of recent literature in the area of kindergarten testing has indicated that these tests are stressful to children and that the results are likely to be neither valid or helpful to those who work with the children. In addition, teachers often feel pressured to teach to the test, leaving more appropriate activities out of the curriculum (Charlesworth, 1990). Assessment that is authentic evaluates classroom work that is related to the curriculum being taught. The area in which this is most often seen is the use of writing as a tool for assessment. This type of testing encourages a curriculum that contains more depth (K-12 Testing, 1990).

A concern voiced recently is the lack of teacher training in developmentally appropriate practice in many education programs. It has been suggested that teachers
need training in effective methods of developmentally appropriate teaching before this philosophy is adopted by the schools (Developmentally Appropriate, 1990).

Our greatest problem at this time seems to be related to the structured approach being implemented in schools today. Although a great deal of new information is now available on how children learn, many administrators are unwilling to risk lower scores on measures of accountability (Hatch & Freeman, 1988). Our greatest need now in the area of research is for data showing that children learn just as effectively with developmentally appropriate methods. A study of standardized testing at the kindergarten level by Burts, Charlesworth, and Fleege (1991) demonstrated that children in developmentally appropriate classrooms and children in developmentally inappropriate classrooms showed no significant overall differences in test scores. Two classrooms were observed for stress behaviors during test taking. Correlation of scores of stress behavior during test taking and of the standardized test scores were significant in the developmentally appropriate classroom, with children who exhibited more stress scoring lower on the test. The inappropriate classroom did not show a significant correlation between stress behaviors and test scores. Work by Burts, Hart, Charlesworth, DeWolf, and Fleege (1991) found that first graders who had spent their kindergarten
year in developmentally appropriate classrooms had higher grades on their report cards than first graders who had been in developmentally inappropriate classrooms for their kindergarten year.

Another need is for research that supports a broadening of the curriculum to meet the full range of children's needs. Lauren Resnick's (1987) American Educational Research association address calls for this change, but we need research to support her work.

Influences on Classroom Practices Related to Emergent Literacy

The present emphasis on developmentally appropriate practice in early childhood education has begun to provide the early childhood professional with support to teach in ways that are believed to be effective with young children. It has also placed on us the responsibility of justifying these beliefs and practices with results.

Language Development

In a review of research, Genishi and Dyson (1984) found that the nature of the classroom structure has a strong effect on the quality of language found in the setting. Included among the influences studied were the number of toys, the type of toys, and the social setting. Talk by teachers was found to have a positive effect both as a means of encouraging language in children and as a
methods of informal assessment. Similar findings were reported by Phillips, Scarr, and McCartney (1987) in their study of child care centers in Bermuda.

Fillion (1987) believes that educators err in failing to acknowledge and build on the language knowledge that children bring to school. In addition to language differences of children entering school, we must recognize and adapt to differences in the ways that children are prepared to learn. We need to recognize that in the home, children are often the ones to begin a language activity or other learning experience. On the other hand, in school, teachers usually control the learning situation. Often this learning is less related to practical experience than is the case in the home. Not only is the nature of instruction controlled in the school setting, but the nature of language use is also controlled. Often this language is more limited than that found in the home. Fillion has suggested that it is faulty thinking to assume "that facility with language is the same as facility in doing the school tasks intended to develop language" (p. 165).

**Parent Expectations of Schools**

Changes in our culture have led to changes in the expectations placed on schooling. Gallagher and Coche' (1987) have cited several factors as playing a part in these changes. An increase in the age at which mothers
are bearing their first child, combined with high rates of divorce and increased maternal employment are leading to children who have less time for interaction with their parents, but possess more material things. In addition, expectations for achievement by children have become higher. These changes combine to cause many parents to overstructure the learning environments of their children.

Often the result of these societal changes is a higher level of stress for children. This is coupled with many changes in the behavior of children from that seen in previous generations. Teachers often describe children as knowing more about the world and having a greater interest in learning. However, this does not mean that teaching is easier than it was in previous generations. Children are also more assertive, less disciplined, and more poorly organized. The acceleration of academic learning has not been paired with a change in the emotional development of young children. If anything, children seem to be less stable emotionally than was true of young children previously (Zimiles, 1986).

The importance parents place on early academic achievement has been found to correlate modestly with the directive nature of parent-child interactions on normal preschool activities. This emphasis on academics is predictive of the type of preschool that parents will choose for their children (Hyson, Hirsh-Pasek, Rescorla,
Family background was also found to be highly influential in the development of children in day care centers in Pennsylvania. When only data for centers which could be classified as adequate or good were analyzed, family background was found to be the most important determinant of the development of each child (Kontos & Fiene, 1987). Research on learning in young children, along with the compensatory education movement, teacher accountability, and the concern for excellence in education have also strongly influenced how children are taught (Nurss, 1988).

**Literacy Development**

At present, many kindergarten classrooms practice literacy development through worksheets and emphasis on discrete skills rather than on the tools of writing for communication and "listening to stories" (Hiebert, 1988). The more structured method has been supported by the work of Gersten, Darch, and Gleason (1988). Their skills approach to learning in low income preschoolers showed positive results. However, other work has suggested that a more child centered approach is just as effective academically as a skills approach, and is more effective in developing social skills (Schweinhart & Weikart, 1988).

Spodek (1986a) has suggested that many of the decisions concerning effective early childhood education are being made without consideration of the assumptions
that underlie the programs. He believes that we must consider the concepts related to development, education, and societal values as we make decisions concerning the value of a particular instructional program. He has suggested that some of the dissatisfaction with kindergarten being exhibited may be due to a lack of harmony between the values of society and the purpose of the educational programs being observed.

While many teachers express concern that they must teach discrete skills in order to prepare their children to read and write, Royston (1988) found no significant difference between the literacy scores of children in a classroom emphasizing discrete skills and one that was developmentally appropriate. A difference was found in scores of social and large motor skills favoring children in the developmentally appropriate classroom.

Much of the research in the area of emergent literacy suggests that a broader definition of literacy is needed in the school setting. Recent work in the field of psychology has changed our understanding of how literacy develops and what constitutes literacy skills. More attention needs to be paid to the wide range of literacy skills children possess when they come to school (Hiebert, 1988).

Beliefs concerning literacy directly influence the expectations of parents and teachers concerning the writing
of young children. The lack of knowledge of sociolinguistics by teachers of young children may cause them to fail to recognize the natural writing development in the children they teach. This may result not only in failure to support the process of natural writing development, but may also make the learning process more difficult for the children. Recognition and affirmation of the learning process used by children leads to more writing, and a greater sense of competence (Schrader & Hoffman, 1987). Read (1975) has suggested that it is important for teachers to know the patterns of early inventive spelling in order to recognize children's development through this process. This will also allow teachers to recognize errors from a standard spelling point of view that are valid constructions from an invented spelling standpoint.

Teaching should use the knowledge and learning strategies a child already posses and build on them. When learning is too tightly structured, little space is available for children to demonstrate their development. Tests and worksheets cannot show us the diversity of children's knowledge (Bissex, 1987).

While story reading has been highly valued by those studying emergent literacy, teachers often consider it simply a pleasant activity to provide a break from the real work of learning. Teachers also may express beliefs
concerning oral language development and learning in general that represent a broad viewpoint, yet believe that writing should be taught from a behavioral standpoint (Harste, Woodward, & Burke, 1984).

While Schickedanz and Sullivan (1984) found a variety of literacy activities in the home, very few of these activities were reported in the school setting. Those that were recorded lacked the quality of adult relationship found in the home setting. In addition, children asked few "literacy-related questions" in the classroom, while this was a normal occurrence in the home. One possible explanation suggested by these authors is the preschool classroom is designed for children, with the teacher becoming a part of the world of children. In the home, on the other hand, the opposite is true.

In her study of literacy activities, Cochran-Smith (1984) observed many of the activities that Schickedanz and Sullivan (1984) reported to be missing in the classroom setting. Books were used in a variety of different settings. Both books and other items of print were salient for both the children and adults in this setting. Writing was considered a suitable activity for adults and children. The experiences children had with print in a variety of situations which were both functional and social helped prepare them for the skills that are normally viewed as
necessary for reading and writing. Adult participation with children in literacy activities was the norm.

Taylor (1986) has suggested four principles for developing an effective literacy program for young children. Children need to be provided with many and varied examples of print. Context must also vary. Written language materials should be meaningful to the child. Finally, written materials should represent aspects of life that are familiar to the child. The importance of literacy activities that are meaningful has been emphasized over and over in the writings related to early literacy (Cochran-Smith, 1984; Teale, 1986; Wells, 1987). Ferreiro and Teberosky (1982) have reminded us that "reading is not deciphering; writing is not copying" (p. 272). Their work has demonstrated that children who are taught reading from the narrow point of view that reading and decoding are synonymous, often have difficulty comprehending what they have "read" and seem to lack the ability to use syntax as an aid to their understanding of the text. Their work suggests that preschool children do not limit their approach to written language to simply decoding. They believe that standard methods of literacy instruction are suitable only for those children who come to school with an advanced understanding of reading and writing.

Harste and Burke (1980) believe that many of the assumptions of teachers that form the basis for early
literacy instruction in school match poorly with current research in the field of literacy development. Bissex (1984) has concurred, stating that schools seem to assume that learning must always be initiated and guided by the teacher. Little credibility is given the notion that children can learn directly from their environment. She has reminded us that "Learning is part of what the human mind does; it is hard to stop it from learning," (p.97). A comparison of elementary classrooms using a literature-based approach or a skills-based approach showed strong differences in the complexity, type of task, and student involvement in developing the tasks (Fisher & Hiebert, 1990). The authors have suggested that students in the two types of programs observed have learning experiences that differ greatly.

Harris (1985) has suggested that teachers should treat the early writing efforts of young children as communicative, much as parents of babies treat early speech play as communicative. A review of the literature on writing development has proposed that children are more successful in learning the technical skills of writing when they are writing for a purpose. Among elementary children, those who focused on the message of their writing were more proficient writers and had more positive attitudes toward their work than the children who focused on the technical aspects of their writing. The author
stated that teaching technical skills before communication in writing is like "requiring the baby to first learn the lexis and grammar of adult language before finding a purpose for their use" (Birnbaum, 1980, p. 203). Exposure to writing materials may be helpful toward encouraging children to explore writing for themselves. In addition, providing "an environment that makes writing salient" (p.94) may play a positive role in helping children develop this skill (Lavine, 1977).

Wells (1987) has found that literacy knowledge and verbal skills at age five are the best predictors of reading ability at age seven. This suggests that a great deal of the difference in reading achievement in the elementary grades is determined by experiences prior to school entry. The only literacy activity significantly related to scores on measures used in the elementary grades was the "frequency of listening to a story" (p. 32).

Evidence from many sources suggests that preschoolers are actively exploring the world of literacy. However the methods used in many schools to teach literacy seem to require that a child be working at the concrete operational level of thought. For many first graders, this level has not yet been reached. In addition, there may be a great distance between the learning that children are developing from their school experiences and what the teachers believe that the children are learning (Ferreiro & Teberosky,
1982). Literacy should be viewed as an experience rather than as a product (Harste, Woodward, & Burke, 1984).

Assessment

Attention should also be given to the nature of assessment methods used with young children. Teale (1988) has suggested that care should be taken to match the skills tested with the skills that children should be developing at this age. In addition, developmental characteristics of the child influence the reliability of testing. He prefers the use of informal methods of assessment with special attention to the strategies that children use to communicate through print. Spodek (1986a) has reminded us that at present, we have little in the way of methods to effectively test social development, creativity, and problem solving. The importance of these areas may be limited in the view of those outside of early childhood education, because they are not as readily assessed as are academic subjects.

Curriculum Goals

One of the things we must consider in teaching is what is important for children to learn. While we teach for future competence, we must also teach for current competence for children. In addition, we must remember that although reading is important, it is not the only skill a person needs to function effectively in our world. Many skills that are not taught as discrete subjects in
school are also necessary for active participation in society. A strong link has been seen between social skills and academic achievement. The tendency to devalue social learning may be limiting the very thing that many educators are trying to achieve by limiting social activity: the development of academic skills. A heavy emphasis has been placed on active learning in the field of early childhood education. It has been suggested that as we limit activity, we may also be limiting what children are able to learn (Spodek, 1986b).

"Formal schooling in North America has relied too much on telling and explaining and too little on showing students how to learn" (Aulls, 1985, p.43). Bissex (1984) believes that one function of school is to "affirm each child's inner teacher" (p. 101). "Early childhood programs should not be built around skills or activities; they should be built around children and teachers" (Teale, 1986, p. 37). Teachers should see children as active creators in the learning experience, and themselves as a guide for children. In addition, teachers should view the classroom as a place of learning for themselves as well as for the children (Wells, 1987).

Cross Cultural Studies

Literacy development has been studied in a variety of cultures. Some of our most enlightening information has
come as a result of studies conducted outside the United States (Ferreirro & Teberosky, 1982; Clay, 1975).

The study of the development of written language in Chinese children has suggested that visual features dominate the early development of writing. Children are aware of the phonetic features of writing. These features are global in early writing and become more differentiated with time (Chi, 1988). These features can also be found in the work of Ferreiro (1984) with Argentine children and the work of Freeman and Whitesell (1985) with American children. Differences are also seen in writing development due to the ideographic nature of Chinese versus the letter-sound relation found in English (Chi, 1988).

In Spanish, there is a strong correspondence of oral language sound to the written form of language. A study by Jimenez and Rumeau (1989) conducted in the Canary Islands found differences in the types of errors and skills produced by children taught using either a global method of instruction or a phonics based method of instruction. They found that phonics emphasis allowed children to be more accurate in their reproduction of language, while instruction emphasizing meaning allowed children to be more effective in their production of written language. The incidence of "writing disorders" decreased more rapidly with instruction directed toward communication development than with instruction directed toward phonics development.
A study of Italian six-year-olds has also supports the view that literacy must be discovered and experimented with by the child (Pontecorvo and Zucchermaglio, 1989).

Cultural differences have also been found by Alland (1983) in his study of the drawings of young children from six different cultures. He has suggested that this is due to examples of writing seen by children in their communities. This work contrasts with the findings of Kellogg and O’Dell (1967) on the effect of culture in children’s early symbol development. They believed that early symbol development was universal. Kellogg found in her work with children’s art around the world that the development of patterns in the formation of objects at each developmental stage was the same universally. In a study of German and Turkish children ages 3-6, differences were found in the developmental stages of their drawings of houses. In addition, grapheme development was also found to be related to age, but not to culture (Krampen, 1986).

The influence of bilingual ability on private speech was studied using a group of Mexican children. It was found that thought became more flexible as the children became more comfortable with a second language. Social speech became more related to the task and private speech was used for a wider variety of purposes. The author considered these findings support for the belief that having a larger pool of words with which to identify
referents frees the child for more effective "use of language as a tool for thinking" (Klingler, 1986, p. 125).

Goals and methods of teaching also vary culturally. Scandinavian children attend kindergarten at six. Emphasis is placed on social development, with no provisions made for experimentation with written language. In Great Britain, the setting and activities are those of what we would consider the typical nursery school. However a great deal of print is available in the room, and children are encouraged to write for the purpose of communication and experimentation. Kindergarten children in the United States are increasingly being exposed to formal, academic learning in the classroom (Nurss, 1988).

Summary

Symbol development begins in the young child with a strong sensorimotor element; it is closely related to play. Through play the child experiments with symbolism in many modes. As the child begins to develop an interest in graphic symbolism as a form of communication, he or she uses art and speech in a scaffolding function for writing experimentation. Through experimentation, children discover the standard forms of written language. Presently all aspects of literacy development are believed to be an active process of discovery and reinvention rather than a static set of skills to be learned. Young children often
modify their activities to include a literacy component. Speech, both social and private, are used by children as they negotiate the graphic communication skills. While metacognitive skills are generally considered limited in young children, evidence has been presented that suggests that metacognitive behaviors are nonconventional rather than lacking.

We are now experiencing an increasing understanding of how early literacy develops, combined with societal changes and a renewed emphasis on classroom practices that are appropriate to the developmental level of each child. At the same time, a great deal of distance remains between goals of various groups concerned with children's school success. Often teachers believe that they must teach in ways that they consider inappropriate in order to meet the requirements of administrators and standardized tests. This has pointed up the need for research into more effective ways to implement our knowledge in the classroom setting.
Chapter 3

METHODOLOGY

This study compares the graphic and language behaviors of kindergartners enrolled in classrooms characterized by more and less developmentally appropriate instructional practice when placed in a setting for writing. Specific characteristics studied includes the use of peer and private speech, the complexity of the story produced, the developmental level of writing, the developmental level of drawing, and the ways in which writing and drawing were combined in the process of telling a story on paper. Both descriptive and statistical findings are reported. Prior to the main study a pilot study was conducted in order to try out procedures.

Pilot Study

A pilot study was conducted in two private preschools in order to determine potential problems with instruments and procedures. The children (N=24) were older four- and five-year-olds. After the Teacher Questionnaire was completed by each teacher, observations lasting a total of three hours were made by two observers. The second observer observed for ten percent of the total observation time in order to establish interrater reliability. Scores for each teacher were very similar for both raters.
In working with the children, it was originally planned to have four children in each group writing session, varying the makeup of each group on a random basis. There was concern that a smaller number might influence the amount of children's speech. Because of a large number of absences during this time and attendance schedules of some children, this was not possible. One group of children only came on Tuesday, while several groups were available on Monday and Wednesday. This meant that the Tuesday group did not vary. Other groups were varied in membership, but due to a great deal of illness during this time, group size varied from two to four children. The amount of speech produced by the children did not seem to be effected by group size.

All work with the children was done in a room other than the classroom. Table size was varied to check for possible problems likely to be encountered in the final study. This factor seemed to make no difference.

Microphones were attached to each child's clothing in order to allow separate transcription of each child's speech. The following instructions were given: "I want you to tell me a story on your paper. You may write your story, or you may draw your story, or you may write and draw your story. You may talk with your friends while you work."
Children were allowed thirty minutes to complete their story. One group took the full thirty minutes. Most groups took from ten to fifteen minutes to complete their stories.

Originally, the speech of each child was coded as private (1) or peer (2) as they worked. It was difficult to code each example for each child, because when one child completed a story, coding had to stop while the verbal story was collected, the microphone unhooked, and the child returned to his or her classroom. At Dr. Charlesworth's suggestion, this process was changed. Thirty second scans were made of each child in turn as they worked on their products.

When the children indicated that they were finished, they were asked to tell about their story. All verbal interaction during the session was transcribed from audiotape. Frequency counts were made of the speech of each child. Each child's speech was coded using the Verbal Storytelling Classification. A complete description of this instrument is found on page 114 and is included in Appendix E.

Graphic products were coded using the Graphic Product Evaluation Scale. This scale consists of three separate classification categories, one for drawing only, one for combined drawing and writing, and one for writing only. This scale was modified for the final study so that each
product was coded on a writing scale and a drawing scale. This scale is described on page 113 and is included in Appendix D.

Results of the Pilot

Major statistical analysis of the results were not included as a part of the pilot study, rather trends in scores for each class were noted and T tests were done. None of the children in either classroom told their stories exclusively in writing. Drawing ratings for the children in the two classes were approximately equal for the first session. In the later sessions, scores for the more developmentally appropriate class continued to rise, while scores dropped in the less developmentally appropriate class. Scores for writing combined with drawing were higher for the students from the less developmentally appropriate class. Most writing consisted of the child's name on his or her paper. Writing names on papers was strongly encouraged in the less developmentally appropriate class. The percentage of peer speech was greater than private speech in both classes, but the difference between peer and private speech was more extreme in the less appropriate class.

The classification of stories told by the children about their pictures showed a higher percentage of labeling (level I) in the less appropriate class and a higher percentage of descriptive action (level III) in the more
appropriate class, but T tests showed no statistically significant differences in the two classes.

Based on the pilot study, some areas of concern were judged to be unimportant in their influence on the data gathered. Specifically, variation in group size from two to four, and table size were found to have no effect on the production of speech or graphics by the children. Some means of gathering data were changed to more effectively identify the findings. First, speech classification was changed to a time scan method rather than classification of all speech for all children to improve accuracy of classification. Second, the Graphic Product Scale was separated into a drawing scale and a writing scale to more accurately identify the writing and drawing efforts of the children. In addition, mechanical problems with microphones and recorders were identified and procedures were modified to reduce the risk of these problems in the main study.

The Main Study

Subjects

The sample for the main study consisted of 92 kindergarten children (5 years 9 months to 7 years 0 months). Subjects were enrolled in one of eight half-day classes taught by four teachers in a small suburban school district in the Southwest. An approximately equal number
of children were chosen from the morning and afternoon class of each of the four teachers chosen to participate in the final stage of this research. In three of the classes, all children who returned permission slips participated in the study. In the fourth class, a larger number of children were given permission to participate by their parents. In order to keep the approximate sample size the same for each class, children in this class were chosen at random for inclusion in the study. Socioeconomic status was identified using paternal occupation. In cases in which no father was listed, maternal occupation was used. Occupations were rated using Hollingshead Four-factor Index of Social Status (Hollingshead, 1975). This method was used as a result of the lack of more specific demographic information in the school files. This procedure for determining socioeconomic status is supported by the work of Hart, Lawrence, Thomasson, and Wozniak (1990). A range of 1 to 9 was found in the socioeconomic status represented in each classroom with means of 5.67 (classroom A), 5.5 (classroom B), 5.95 (classroom C), and 5.42 (classroom D) on a scale of 1 to 9. More children from the upper and lower extremes of the scale were found in classrooms B and C than in classrooms A and D. Each teacher taught a morning class consisting mostly of the younger children in the school district, and an afternoon
class consisting mostly of the older children in the school district.

Kindergarten classrooms in this district were fairly homogeneous with regard to curriculum and scheduling. All teachers in the district were encouraged to attend a monthly meeting with the elementary supervisor and the kindergarten supervisor where ideas for classroom materials and activities were shared. As a result, there was a great deal of continuity from one classroom to the next. For example, most classrooms displayed the same calendars for recording birthdays. It consisted of twelve dittoed pages with a coloring book style picture representing the month on each page along with the name of the month. Children who had birthdays in a certain month had their name written on that page.

Classrooms for this study were chosen based on results of a questionnaire (Charlesworth, Hart, Burts, & Hernandez, in press) designed to identify teachers' beliefs and practices concerning kindergarten education. Verification of the questionnaire was made through classroom observation using Checklist for Rating Developmentally Appropriate Practice in Kindergarten Classrooms (Burts et al., 1990). A complete description of this instrument is found on page 112 and is included in Appendix C. In addition, willingness of teachers to participate in the study played a part in the selection process. Twenty-three teachers in
this school system completed the Teacher Questionnaire. A complete description of this measure is found on page 110 and is included in Appendix B. Means and standard deviations for the Teacher Beliefs Scale and the Instructional Activities Scale portions of the Teacher Questionnaire were used for classroom identification for the rest of the study. They were taken from the data gathered within the school system. Two of the classrooms participating in the main part of the study were housed in the same school. The other two classrooms were housed in two other schools.

One teacher was selected because her scores on the Teacher Questionnaire fell at least 1 SD below the mean in appropriate beliefs and practices, 1 SD above the mean in inappropriate practice, and near 1 SD above the mean in inappropriate beliefs. This was identified as teacher D (least developmentally appropriate). No other teacher who scored strongly on inappropriate beliefs and practices was willing to participate in the study.

Another teacher was selected because her scores fell within the top quarter of the appropriate factors in both beliefs and activities, and within the bottom quarter on inappropriate beliefs. This was identified as teacher A (most developmentally appropriate). Although other teachers scored more strongly on the appropriate side of the Teacher Beliefs Scale, classroom observation using the
Checklist for Rating Developmentally Appropriate Practice in Kindergarten Classrooms indicated that either their understanding of appropriate practice was not completely valid, or their implementation was poor. This instrument is described in full later in the chapter and is included in Appendix C.

The remaining teachers were chosen based on strong inconsistencies in their questionnaire responses. One teacher scored high on positive teacher beliefs and also high on negative teacher beliefs. She also scored high on both positive and negative instructional activities. It was suspected that this was due to a bias in the way she answered the questionnaire. Observation in her classroom, however, showed that the answers given on the questionnaire were accurate. She believed and practiced both the most appropriate and most inappropriate instructional methods in her classroom. She was identified as teacher C (extremes of appropriate and inappropriate beliefs and practices).

The other teacher scored high on the positive beliefs scale and low on the negative beliefs scale. However, on the instructional activities portion of the questionnaire, her scores were high on both the positive and negative activities. These incongruencies in belief and practice provided an opportunity to study the effects of differing mixes of beliefs and practice. She was identified as teacher B (appropriate beliefs, inappropriate practices).
In neither case did this mix appear to be due to pressure by the administration although both of the teachers with mixed beliefs and practices taught in the same school. Although occasionally these teachers worked together, in general, their teaching styles and activities varied from each other.

Description of the Classrooms

Each classroom looked very similar. Materials used for the daily math lesson were on bulletin boards in cups or on small cardboard shelves tacked to the bulletin boards. They consisted of unifix cubes on a small shelf to count the days in the month; sticks bundled into tens and hundreds to symbolize the days in the school year; and quarters, dimes, nickels, and pennies stuck to a piece of paper to allow the children to transfer their knowledge of counting days in the year to counting money. Toys and learning materials were arranged on shelves. Tables were located on one side of the room or around the edge of the room. A large carpeted area was free of furniture for use during free play and group time. Each classroom used the same math program and social studies materials (a series produced by a well known textbook company consisting of a flip chart with teacher instructions). A pre-reading program using flip charts from a well known textbook publisher was also found in each classroom.
Schedules differed in the way in which they were implemented, but each classroom included the same activities. They consisted of free play time, whole group activities, centers, outdoor play, and snacks. Free play time usually took place first, as the children were arriving. In classroom A (most developmentally appropriate) this activity took place in the middle of the morning, with centers first.

Centers showed the most differences between classes. Teacher A allowed children to choose their center. When they completed work in that center, they were free to choose a different one. To assure that the children worked in a variety of centers, colored strips of paper were placed by each child in a pocket labeled with his or her name. At the end of the week, all centers were to have been visited at least once. Classroom B (appropriate beliefs, inappropriate practice) used worksheets. While the teacher told the children not to talk as they worked, very few children followed her instructions. Classroom C (extremes of appropriate and inappropriate beliefs and practices) included a variety of activities in centers. Each child was assigned to a given center for the day, with center assignments rotating throughout the week. In classroom D (least developmentally appropriate) center time was used to do worksheets, with all the children working on the same sheet. When the worksheets were completed,
children were allowed to go to other centers to work. Talking was not allowed during worksheet time, and the children knew that they were not to look at each other's work.

While social studies material was available in all four classrooms, it was used only once in a single classroom during the observation for this study. Science seemed to be left to each teacher to plan. It was found occasionally, but did not seem to be valued very highly.

Language arts and pre-reading activities varied from whole language activities in classrooms A (most developmentally appropriate) and C (extremes of appropriate and inappropriate beliefs and practices) to traditional phonics with paper and pencil in addition to the required materials used in each classroom in classrooms B (appropriate beliefs, inappropriate practices) and D (least developmentally appropriate). A hands-on, discovery approach to math was used in all kindergarten classrooms in this school system. While the counting of days, weeks, and money by the whole class was observed in all classrooms, the use of more discovery oriented activities was not often observed. Outdoor play was listed on the schedule of each classroom, but was seldom observed. A combination of extremely windy weather and a short time in which to teach the children led to the deletion of this activity most days. Teacher A (most developmentally appropriate) allowed
a great deal more choice by the children in classroom activities. Written language activities included a typewriter, an electronic spelling game, and an art center in which the children were free to write as well as draw. Talking was always acceptable in this classroom unless someone was addressing the whole class. The classroom was busy, but under control. A happy respect seemed to exist between teacher and children. This teacher preferred discovery learning to the flip chart programs she was expected to use. As a result, she used the required material quickly, then expanded her teaching in that area with center activities.

Teacher B (appropriate beliefs, inappropriate practice) knew what was valuable in an early childhood classroom. Sayings about valuing the thoughts and ideas of children covered her walls. However, she did not seem to know how to implement her beliefs. With the exception of free play, the entire morning was spent with each child doing exactly the same thing at the same time.

Her behavioral expectations were clearly known to the children, but she did not require the children to meet these expectations. Worksheet time was accompanied by constant talking in spite of her directions to remain silent. While being observed, she spoke kindly to the children. However, while the researcher was working with children in an adjacent classroom, teacher B could often be
heard shouting angrily. The children in this classroom often seemed to be very angry with each other.

Teacher C (extremes of appropriate and inappropriate beliefs and practices) completed a degree in early childhood education, then decided that she did not feel fully prepared to teach, so she stayed in school an extra year and completed further elementary course work. She seemed to enjoy both the children and teaching. Her classroom contained materials suitable for the early childhood classroom as well as materials suitable for the lower elementary classroom.

In this class, language experience stories were written by the class. Then a list of new words from the stories was put on the wall for the children to memorize. The children took turns reading the stories they had written. Children who were ready for this activity enjoyed it and participated eagerly. Children who were not ready learned to sit inconspicuously so that they would not be called on. When asked about how her class as a whole did on this activity which seemed rather difficult for some kindergarten children, the teacher stated that she had a particularly capable class. She did not seem to realize how many of her children were not able to succeed at the activity. In addition to the language experience stories, a writing center was set up in this room during some of weeks of school.
Teacher D (least developmentally appropriate) was very defensive about her teaching methods. She justified them based on standardized testing and first grade requirements. The fact that she felt the need to defend her methods when the researcher's beliefs had not been stated suggests that she may have been under pressure from the district administration to conform to more appropriate techniques. She was kind and gentle in her interaction with the children, but it seemed to be understood that her directions were to be followed. On one occasion a child was asked to go with the researcher to another room. When the child protested that they had already done that activity, the teacher told the child to follow directions rather than explaining that the research activity was to be repeated.

Instruments

To explore the relation of writing development to developmentally appropriate practice, five instruments were used to gather data for the study. The Teacher Questionnaire (Charlesworth et al., in press) was designed to identify teachers with the most appropriate and least appropriate beliefs and classroom practices (Appendix B). The Checklist for Rating Developmentally Appropriate Practice in Kindergarten Classrooms (Burts et al., 1990) (Appendix C) was used to validate the results of the Teacher Questionnaire. The Graphic Product Evaluation
(Appendix D) was used to identify the developmental level of the drawings produced as a part of the storytelling process. The Verbal Story Classification (Appendix E) was used to identify the degree of development found in the stories the children told about their graphic products. Speech was classified as peer or private based on Vygotsky's work (1978). A frequency count of speech was taken through timed sample observation (30 seconds) for all children during the story writing sessions.

**Teacher Questionnaire.** The position statement of the National Association for the Education of Young Children on developmentally appropriate practice for 5-8-year-olds (Bredekamp, 1987) served as the basis for this questionnaire. The first section of this measure provides for demographic information as well as the teacher's educational background and teaching experience. The rest of the questionnaire consisted of two subscales: Teacher Beliefs Scale and Instructional Activities Scale.

The Teacher Beliefs Scale consists of 30 statements concerning the importance of various classroom activities to be rated on a Likert scale with 1 defined as "Not Important At All" and 5 defined as "Extremely Important." Four reliable factors were identified in a prior factor analysis (see Charlesworth et al., in press). They were Developmentally Appropriate, Appropriate Positive Teacher/Child Relationships, Inappropriate Materials and
Management, and Inappropriate Literacy Activities. A range of .68 to .85 on the four factors was found in a subscale reliability assessment using Cronbach's alpha (see Charlesworth et al., in press).

Teachers' perceptions of children's participation in various classroom activities was assessed using the Instructional Activities Scale. This scale also used a 5-point scale, which ranged from "Never or Almost Never (less than monthly)" to "Very Often (1-3 times daily)." Prior analysis identified six reliable factors with internal consistency as estimated by Cronbach's alpha, ranging from .60 to .75 (see Charlesworth et al., in press). The factors identified were Developmentally Appropriate Materials, Choice Making, and Pacing; Appropriate Creative/Exploratory Learning; Appropriate Art Activities; Developmentally Inappropriate Literacy Activities; Inappropriate Rote Learning; and Inappropriate Teacher Directed Learning/Control.

**Checklist for Rating Developmentally Appropriate Practice In Kindergarten Classrooms.** This checklist contains items comparable to those found in the teacher questionnaire. It is also based on the NAEYC guidelines for developmentally appropriate practice (Brededamp, 1986). Eight areas were represented in the checklist. They include Curriculum Goals, Teaching Strategies, Integrated Curriculum, Guidance of Social-Emotional Development,
Motivation, Parent-Teacher Relations, Evaluation, and Transitions. A five-point scale was used to rate each item with 5 representing the most appropriate practice and 1 representing the least appropriate practice. This checklist was used to verify the results of the Teacher Questionnaire. Two observers used this checklist in the eight classrooms that had been identified in the questionnaire as being at the extremes of developmental appropriateness within the school system being studied. The most extremely inappropriate classrooms were eliminated from the study because those teachers refused to participate.

The first observer observed each classroom teacher for a total of three hours with the time divided between morning and afternoon classes. The second observer observed each class for thirty minutes. After completion of the observations, the scores of the two observers were compared. While scores for each were very similar on the pilot study, the second rater scored each teacher in the main study very high in appropriate behaviors. However, even with this problem, both observers scored the same teacher as most appropriate and the same teacher as least appropriate. Scores of the other two teachers chosen for the final stage of this study were chosen based on the incongruity of their beliefs and practices, therefore differences in observational findings were not considered.
important. In at least one case, the short observation time of the second observer caused her to see classroom activities that would not be considered typical of that classroom.

**Graphic Product Evaluation.** Scores were given to each graphic product using the Graphic Product Evaluation. This instrument was developed using Hardy’s writing evaluation scale (1982), Ferreiro’s observations of children’s developmental level of understanding of writing (1984), and the Early School Inventory, a part of the Metropolitan Readiness Assessment Program (1986), as the basis for the writing codes. Smith’s (1983) work describing the levels of drawing development in children served as the basis for the drawing codes. Modifications were made in the drawing scale in order to more clearly differentiate the levels of drawing produced in this study. This consisted of dropping the lowest level (kinesthetic drawing) because it is normally observed in children three or younger, and describing the first two levels of drawing in terms that more closely matched the drawings observed in this study.

A separate code is given for writing and drawing because of the wide number of possible combinations of rating within these two forms of graphic representation. Both the writing scale and the drawing scale are designed to rank the level of development represented by the graphic product. All products were scored by the primary
researcher. Ten percent of the products were also scored by a second researcher trained in the use of this instrument. Interrater reliability was 89.5 using Cohen's kappa (Cohen, 1960).

Verbal Storytelling Classification. This instrument was designed to identify the developmental level for each story told by a child about his or her graphic product. The classification was based on the work of Monroe (1951) and Blank, Rose, and Berlin (1978) with modifications as suggested by J. Norris (personal communication, June, 1990). It consists of levels of meaning ranked from lowest (Level 0) to highest (Level VII) with each level representing a more complex level of explanation of the graphic product in story form. Levels ranged from refusal to tell a story (Level 0) to metalanguage (Level VII). Stories that fit into more than one category were coded at the highest level observed. Ten percent of the stories collected were coded by two raters. Interrater reliability was .89 using Cohen's kappa (Cohen, 1960).

Speech was classified as peer or private. Criteria for this classification was based on the work of Vygotsky. Peer speech was defined as speech that is directed to another child for the purpose of communication. Private speech refers to speech which the child uses for his or her own personal purposes rather than for communication. Private speech is often used by a child to direct his or
her work when it is at a level that is difficult for him or her. Each child was observed for 30 seconds, and each sentence or phrase said by the child was classified during the scan time. Ten percent of the scans were coded by two researchers to establish interrater reliability. A reliability rate of .63 was established using Cohen's kappa (Cohen, 1960). The majority of disagreement between the two raters was due to speech not coded by one or the other of the researchers at the beginning or end of the observation period.

Procedure

Letters explaining the study were sent the parents of children in the four classrooms chosen for this study. An approximately equal number of children were chosen from the morning and afternoon class of each of the four teachers chosen to participate in the final stage of this research. In three of the classes, all children who returned permission slips participated in the study. In the fourth class, a larger number of children were given permission to participate by their parents. In order to keep the approximate sample size the same for each class, children in this class were chosen at random for inclusion in the study. Children whose parents gave permission for them to participate in the study were assigned randomly to groups of three or four children from their own class for each session.
An empty room in each school was used for this activity. For three classes, the speech room was used. For the fourth class, the library workroom was used. Children and researcher(s) sat around the table with the tape recorders placed in the middle of the table.

Each child was given a piece of unlined paper and two black markers, a fat one commonly used for drawing and a thin one commonly used for writing. Markers were chosen based on the work of Tan-Lin (1981) who found that children prefer markers for writing. This tool is suitable for either writing or drawing and is not associated with either activity to the exclusion of the other. Black markers only were used to direct the children’s attention to the line formation rather than color relationships. As in the pilot study, microphones were attached to each child’s clothing in order to allow separate transcription of each child’s speech.

Children were given the following instructions: "I want you to tell me a story on your paper. You may write your story, or you may draw your story, or you may write and draw your story. You may talk with your friends while you work." Each session lasted a maximum of thirty minutes. Most children completed the task long before the time limit. Conversation of each child was recorded on a separate audio tape recorder attached to the child by a lavaliere microphone. As the children worked, peer and
private speech was coded along with a few words from the beginning of each sentence to serve as a double check on which sentence was being coded. When each child completed his or her picture, he or she was asked to tell the story on his or her paper. Three separate sessions were completed by each child, with groups randomly reassigned for each session. Because of scheduling requirements within each classroom, it was impossible to be completely random in assigning the days of the week on which the sessions took place. No sessions were conducted on Friday. Time of day at which sessions were conducted was also limited by the scheduling requirements of the teachers.

In spite of being told that talking was acceptable, some children either refused to talk, or they whispered, even when spoken to by another child. Whispered conversation was difficult to understand on the tapes as well as being difficult to identify with a specific child. In some cases whispers were picked up more clearly on the tape of the child to whom the conversation was being directed than on the tape of the child speaking. Because of these difficulties, all whispered speech was not included in the data. Most whispers fell into two categories: conversation with another child or sounding out words the child wished to spell.
Chapter 4

RESULTS

This study investigated both graphic and verbal forms of communication of kindergarten students from classrooms with differing instructional practices. Children's use of art as a support for beginning writing was studied, as well as the developmental level of the story told about the graphic product. Finally, a comparison of the amount of peer versus private speech was recorded for each session. Both quantitative and qualitative analyses are presented.

Quantitative Analysis

Comparison of Graphic Products

Graphic products were coded on two bases: drawing and writing. Drawing was originally coded on a scale of one to four ranging from scribbles to detailed representation. The majority of children in this study produced pictures that were coded either three (first representation) or four (more detailed representation). These are the drawing levels that would be expected in a kindergarten classroom. Since level three drawing behavior is normally begun between ages three and five (Smith, 1983), the first three categories were collapsed into a single category for analysis purposes. Level four, the level that the majority of these children would be expected to attain, was retained as a separate category.
Three samples of each child's work were obtained. A great deal of variation was found in the responses for each child. No pattern was found in this variation.

Missing data were dealt with using substitution of the mean. Because each child had at least two of the possible three data points, it was decided that substitution of the mean for each individual child would be used rather than substitution of the mean for the entire group. This allowed for a more accurate representation of each particular child's expected performance.

In order to study several possible ways in which children could vary in their response to the tasks of this study, scores were investigated for differences in capacity, predominance, and initial experience. The capacity of the child to produce literate communication was operationalized as the highest score of the work produced by each child on each measure. Capacity was studied to identify the level of knowledge that each child was capable of applying. The predominant level of work was operationalized as the score produced most often on a given measure by each child. Predominance was studied to identify the level at which each child most often worked. When no score was predominant, the median score was used. For example, if a child's scores for the three sessions were 1, 2, and 3, then 2 was used for analysis. The initial score consisted of each child's score on the
products of their first session in this study. Initial scores were studied because most children seemed to work most carefully during the initial session.

**Drawing.** A chi square analysis was performed on this data. No significant differences were found between the drawing levels in the four classes using predominant scores, first scores, or highest scores.

**Writing.** The written products of the children in this study were originally coded on a nine point scale ranging from no writing to writing with correct spelling. The large number of potential categories in comparison to the number of subjects produced several empty cells. To correct this problem, categories were collapsed into three: no writing present (originally category 0), experimentation with writing (originally categories 1-8), and invented or correct spelling (originally categories 9 and 10). As with the drawing analysis, the predominant response across the three trials was used with the median score being taken when no predominant category existed.

A comparison of invented versus correct spelling in the four classes showed four examples of invented spelling and two examples of correct spelling in class A (most developmentally appropriate). Five examples of invented spelling and no examples of correct spelling were noted in class B (appropriate beliefs, inappropriate practice). Class C (both appropriate and inappropriate beliefs and
practice) produced 22 examples of invented spelling and 3 examples of correct spelling. Four examples of invented spelling and four examples of correct spelling were found in class D (least appropriate class). With the exception of class D, the majority of highest level samples were invented rather than correct spelling.

A chi square analysis was first performed using the predominant score for each child in order to study a representative sample of each child's work. Significant differences were found in the mean writing scores for children overall, $X^2 (6, N=91)=17.51, p < .01$. Only classroom C (extremes of appropriate and inappropriate beliefs and practices) showed more children using invented or correct spelling than experimenting with writing or not writing at all. The other three classes showed more children not writing at all (See Table 1). These findings should be interpreted based on significant sex differences within these classrooms.

No statistically significant results were found for boys. However, for girls significant differences were found, $X^2 (6, N=51)=17.03, p < .01$. Again classroom C (extremes of appropriate and inappropriate beliefs and practices) showed the highest percentage of girls using correct spelling. Classroom D (least developmentally appropriate) exhibited a higher percentage of girls experimenting with writing, while classrooms A (most
Table 1

Percentages of Predominant Scores on Writing Scale for All Children as a Function of Classroom Identity

<table>
<thead>
<tr>
<th>Writing Classification</th>
<th>Classroom Identity</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>Pearson p &lt; .01</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Classroom A</td>
<td>63</td>
<td>33</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Classroom B</td>
<td>54</td>
<td>46</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Classroom C</td>
<td>33</td>
<td>29</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Classroom D</td>
<td>50</td>
<td>36</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>

Table 2

Percentages of Predominant Scores on Writing Scale for Girls as a Function of Classroom Identity

<table>
<thead>
<tr>
<th>Writing Classification</th>
<th>Classroom Identity</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>Pearson p &lt; .01</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Classroom A</td>
<td>57</td>
<td>36</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Classroom B</td>
<td>57</td>
<td>43</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Classroom C</td>
<td>21</td>
<td>21</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Classroom D</td>
<td>25</td>
<td>50</td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>

Classroom A - most developmentally appropriate
Classroom B - appropriate beliefs, inappropriate practices
Classroom C - extremes of appropriate and inappropriate practices
Classroom D - least developmentally appropriate
developmentally appropriate) and B (appropriate beliefs, inappropriate activities) produced more girls not writing at all (See Table 2).

A second chi square analysis was completed, using the highest score of each child in order to study the level at which each child was capable of working. Significant differences were found for children overall on the analysis of capability, $X^2 (6, N=91)=19.42, p < .01$. Classroom A (most developmentally appropriate) showed more children not writing at all. Classrooms B (appropriate beliefs, inappropriate practices) and D (least developmentally appropriate) produced more children writing at the experimental level. Only children in classroom C (extremes of appropriate and inappropriate beliefs and practices) manifested the highest level of children using invented or correct spelling (See Table 3). These findings should be interpreted based on significant sex differences within these classrooms.

Significant differences were also found in a chi square analysis of the highest scores of girls, $X^2 (6, N=51)=18.27, p < .01$. Classification of these scores by class were equivalent to those found in the classification of scores for the classes as a whole on analysis of highest scores (See Table 4). No significant differences were found for boys on the measures for capability of writing.
Table 3
Percentages of Highest Scores on Writing Scale for All Children as a Function of Classroom Identity

<table>
<thead>
<tr>
<th>Classroom Identity</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom A</td>
<td>46</td>
<td>33</td>
<td>29</td>
</tr>
<tr>
<td>Classroom B</td>
<td>36</td>
<td>42</td>
<td>21</td>
</tr>
<tr>
<td>Classroom C</td>
<td>5</td>
<td>33</td>
<td>62</td>
</tr>
<tr>
<td>Classroom D</td>
<td>18</td>
<td>59</td>
<td>23</td>
</tr>
</tbody>
</table>

Table 4
Percentages of Highest Scores on Writing Scale for Girls as a Function of Classroom Identity

<table>
<thead>
<tr>
<th>Classroom Identity</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom A</td>
<td>43</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>Classroom B</td>
<td>29</td>
<td>50</td>
<td>21</td>
</tr>
<tr>
<td>Classroom C</td>
<td>7</td>
<td>14</td>
<td>79</td>
</tr>
<tr>
<td>Classroom D</td>
<td>0</td>
<td>67</td>
<td>33</td>
</tr>
</tbody>
</table>

Classroom A - most developmentally appropriate
Classroom B - appropriate beliefs, inappropriate practices
Classroom C - extremes of appropriate and inappropriate practices
Classroom D - least developmentally appropriate
Because most children in all four classes seemed to work most carefully during the first session, a chi square analysis of writing scores from the first session only was completed. No significant differences between classes were found on this analysis. Only 7% of the boys in any of the classrooms wrote at the highest level of writing measured in this study, while 60% produced no writing.

Comparison of Language Products

Storytelling. A 4(classroom type) x 2(sex) analysis of variance (ANOVA) was conducted to examine differences due to classroom type and sex in children's verbal storytelling. Scores for each child were averaged to produce a representative score for each child from the three trials. The analysis found a significant main effect for classroom type $F(3, 91)=2.77, p<.05$. Similar findings were obtained where SES was held constant. No other main or interaction effects were significant. Tests of mean differences (Newman-Kuels) indicated that children in Classroom D (the least developmentally appropriate classroom) scored significantly higher than children in Classroom B (appropriate beliefs, inappropriate activities)[$M's=3.295$ and $2.243$; $SD=1.517$ and $1.716$ respectively]. Classrooms A ($2.903$) and C ($2.540$) scored between these two extremes.

A second ANOVA was performed using each child's highest score in order to compare the scores showing
capability. No significant differences were found in these scores.

A third ANOVA was performed using the storytelling scores from the first data gathering session in order to study the work from the session in which most children seemed to do their best work. No significant differences were found in the scores from this data.

**Private and Peer Speech.** The incidence of speech in each session varied widely. Overall, the percentage of speech coded by the researchers was low. As a result, this data could not be analyzed statistically for the percentage of peer versus private speech. In general, speech was more likely to be social in nature. The private speech observed included both self-directing speech as hypothesized by Vygotsky (1978) and speech that had begun as social speech, but had degenerated into noncommunicative speech as hypothesized by Piaget (Zivin, 1979).

Additional problems existed in accurately identifying the amount of speech produced by each child. Whispered speech was often picked up equally in the tape of the target child and on the tape of the friend to whom he or she was talking. Some whispered speech was not recorded at all. As a result, any analysis of amount of speech in different classrooms would be of doubtful reliability. Therefore research questions # 2 and # 3 could not be addressed in the quantitative analysis.
Qualitative Analysis

The qualitative aspects of the children's behavior during the group sessions and the resulting products provided further insight into the writing/drawing/speaking process. From the behavioral observations, taped and dictated narratives, and graphic products trends emerged regarding the sharing of ideas, the approaches to spelling, and the meaning of the concept of story. In addition the behaviors of some of the individual children were of special interest.

Sharing Ideas

The sharing of ideas seemed to be a normal part of the storytelling process. It has been noted by Lamme and Childers (1983) that sharing work and discussing materials was common in their study of the composition process. The influence exerted by children on the work of their peers has also been noted (Dyson, 1987a; Yeatman & Reifel, 1989). "Taylor, I think you're drawing the same thing I am," (Class B, appropriate beliefs, inappropriate activities). However, the attitude toward this practice differed from class to class. Class D (least developmentally appropriate) considered copying a bad trait, while children from class A (most developmentally appropriate), B (appropriate beliefs, inappropriate practices), and C (extremes of appropriate and inappropriate beliefs and practices) accepted it as a part of the process. "Nobody
can't copy me. No, don't copy me," (Class D). "You better not copy off him. That's not nice, copying," (Class D). "Hey, Sid, do you think it should be nighttime? Sid, mine's gonna be at nighttime is yours?" (Class C). "Look at my picture if you wanna spell the cat or the dog. It's easy to spell," (Class B). "I'm a little bit copying off of her, but... mine is like this," (Class C).

In spite of the negative attitude toward shared ideas in Class D, there was a great deal of observation of work between children in all classes. Children often waited to begin their work until another child had started to be sure that they were doing the project correctly. This was more pronounced in Classes B and D than in Classes A and C. As noted in Figure 1, imitation was found in the story topic, the wording of the story, and the patterns used in pictures. Examples of imitation in story topic included people being laughed at for various reasons (Group 41), stories about rain (Group 66), stories about apples (Group 20), stories about Halloween (Group 19), and stories about rainbows (Group 14).

Exact wording was also imitated in some groups. In these cases the basic action of the sentence was the same with substitutions in the characters performing the actions (Groups 25, 38, and 82). Subjects of pictures were often shared as seen in figure 2 (Houses, trees, and suns) and figure 3 (houses, people, and rainbows). Some groups
Figure 1

Shared Story Ideas

CLASS A

Group 25

Child 1: A cat and a dog were trying to get out of the rain.
Child 2: Two cats are trying to get out of the rain.
Child 3: Two kids are playing in the rain.
Child 4: Two flowers were trying to get out... three flowers were trying to get out of the rain. (Carrie began her story like those of her friends, realized that it did not fit the picture she had drawn, and changed it.)

Group 41

Child 1: This, this kid's laughing at that girl, these two kids are laughing at that girl because she has the littlest house.
Child 2: These two people here are laughing at him because he's too little.
Child 3: Making fun of these two people because they have glasses.

CLASS B

Group 66

Child 1: Once upon a time it was raining alphabets.
Child 2: Is it raining? Yes it is raining.
Figure 1 Continued

Group 38

Child 1: I love my Mom and Dad.
Child 2: I love my cat and my dog.

CLASS C

Group 20

Child 1: On this month the tree has apples and some of them fall off and this is my big mama and even the z’s and that apple and that guy doesn’t need a mouth yet and that guy has a mouth on and um I made this tree and it’s easy to make, anyway it, up there uh, nothing, and also this, my guy, uh, eating a apple too, he’s took the stem off and this my, he just has his apple.

Child 2: This is a little girl picking apples that have dropped and putting ’em in a basket and she’s gonna make applesauce out of ’em.

Child 3: Umm, there’s this little old guy, ummm, this uh, this is a man. This is his son and he’s standing taller. Um, and he’s eating an apple, and he dropped an apple and it’s a little sun up on top on top.

Group 19

Child 1: Uh, my story is about Halloween. Oops, I forgot to write my name.

Child 2: This is about Halloween. And it’s a vampire.
Figure 1 Continued

with dots all over it.

Child 3: This is a vampire uh, a vampire uh, this is a vampire bunny, this is a clown, and uh this is just a black box. These are just little worms.

CLASS D

Group 14

Child 1: This is me and a rainbow and I saw the end of the rainbow and I got a whole bunch of gold.

Child 2: Uh, it's about a little girl swinging over a rainbow.

Group 82

Child 1: It's about a boy.

Child 2: It's about a girl.
Figure 2. Shared Picture Subjects
shared both subjects and patterns. One group of children all drew houses and people, adding a shared pattern of wavy lines along the bottom of the page (figure 4). Another group drew houses also, but included a circular pattern that represented a swimming pool, a head, or a design in different pictures (figure 5). Figure 6 shows a standard subject, a house, shared by the first three artists. Note that the first artist also included the pattern used by the fourth artist as she drew her house.

Often line patterns were shared by children, but the meaning of those lines differed. In figure 7 two circles connected by a line serve as glasses in one child's picture, while they form two cheeks and a mouth in another picture. A large half circle became a hill in one picture, a cave in another, an elephant in a third picture, and a house in the final picture (figure 8). While all four pictures in figure 9 show wheel-like objects near the bottom of each page, it is obvious that each vehicle drawn differs in shape and purpose from those drawn by the other children in this group. The middle picture in figure 10 shows characteristics borrowed from two other pictures. The uplifted hands and arms were taken from the top picture, while the dots and hooked shapes were taken from the bottom picture. The turtle shell pattern from the top picture in figure 11 became the pattern for Captain Hook's boat in the lower picture. It is interesting to note that
Figure 4. Shared Subjects and Patterns
Figure 5. Shared Subjects and Patterns
Figure 6. Shared Subjects and Patterns
Figure 7. Shared Patterns
Figure 8. Shared Patterns
Figure 9. Shared Patterns
in spite of the large amount of imitation taking place, children usually incorporated the shared ideas in such a way that the finished products were different from the product of the child whose work they were copying.

**Spelling Words the Way They Sound**

One of the rationales for teaching phonics is that children will then be able to sound out words as they read and write (Chall, 1967). My observations as this group of kindergartners worked suggests that Chall’s beliefs are true with certain limitations. Many children sounded out words as they wrote parts of their stories. One, however, was not able to read what she had written, in spite of the fact that I could easily read her sentence. This is supported by Bissex’s (1980) observation that children may begin to write before they are functional readers.

Another problem with sounding out words is related to kindergartners’ pronunciation of words. Examples were found in the transcripts of substitutions: "A mommy’s (mummy’s) tomb," "safety batrol (patrol) balloon," "a poto (pogo) ball," "you quit coppling (copying) me," "acrobacks," "typerope walker," "I call them comma, but they’re not comma’s, comics," "acause the tape’s still moving." Dropped syllables were also common: "scuse me," "sa farm (it’s a farm)," and "c’ear (can hear)." Finally, added letters were found, especially at the end of words:
"once apont, pon, pond," "I don’t like gray poupont," "my circust."

These findings suggest that encouraging children to spell words by sounding them out is effective for allowing them to experiment with sounds and to communicate on paper, but not for producing correct spelling. Bissex (1987) found that effective writers write for the purpose of communication while poor writers seem to be more concerned with correct work. As a result, poor writers often fail to either communicate or to produce a correct product. Just as we accept the mispronunciations noted above, we need to accept the misspellings connected with them during the early composition process.

An interesting example of an early writer experimenting with diphthongs took place during one of the story sessions.

I still don’t know what’s in the middle of ‘uv time’
Maybe a is apple, t in time

... How do you spell muh?
Hey, look, it just says tahm

It says timeaw, timeaw, oh well, the best I could do.

Finished product: WuSAPOD USV TAmom (Once upon a time)

Children also struggled to combine their own knowledge of various words with the help given them by their friends.

T: How do you spell three?
S: F, f-r-, f-r-e-e-. I don’t know the other letter.
T: How?
S: F-r-e-e-y, think it is.
T: t-f-r-e-e

Finished product: The TFree Bes

In spite of conversation that suggested that these children watch a great deal of television, only three stories included Saturday morning cartoon heroes. A larger number of stories included monsters, ghosts, or adventure themes, but this was certainly not the majority of the stories.

Communicating Through Writing

While writing was not the chief means of graphic communication used by the children in this study, it was included in many of the children's graphic stories. This writing was found in a variety of forms and served a variety of purposes. At the simplest level, it served as signs within the picture (figure 12) or as cartoon-like words in bubbles (figures 13 and 14). Frequent use was made of writing for labeling purposes (figures 15, 16, and 17). Description was also common among the writing samples (figures 18 and 19). For some children, "once upon a time" identified the work as a story (figures 20, 21, and 22). The clouds surrounding the words in figure 20 were drawn as a way of covering mistakes in the writing without detracting from the picture. For some children, stories described action (figures 23 and 24). For others, it followed the structure of simple storybooks found in their classroom (figure 25).
Figure 12. Signs Within Pictures
Figure 14. Cartoon-like Words in Bubbles
My Family

Dad  Chris  Mom

Figure 15. Labeling
the 3Brean

Figure 16. Labeling
Figure 17. Labeling
Figure 18. Description
Figure 19. Description
Figure 20. "Once Upon a Time"
Figure 21. "Once Upon a Time"
Figure 22. "Once Upon a Time It Was Raining Alphabets"
Figure 23. Description of Action
The gorn is a live and there is a parsn in the gorn.

Figure 24. Description of Action
Figure 25. Storybook Form
Telling Stories: Children’s Understanding

The term "story" seemed to have a broad meaning among the kindergarten children studied. Some children "read" their products, using halting speech and simplified language. In some cases this matched words on their pages, in others, only pictures were found on the page. Still these children knew that stories must be read and that reading used limited words and expressionless speech. Other children enjoyed the process of producing events on paper and sharing the events they had produced with their friends.

A total of nine themes were identified in the stories told. These included activities of people, familiar children’s stories retold, monsters and fantasy, animals, family, weather, holidays, scenic descriptions, and no story. Classes B (appropriate beliefs, inappropriate practices) and C (extremes of appropriate and inappropriate beliefs and practices) included stories under each of these topics. Class D (least developmentally appropriate) included everything but holiday stories. Class A (most developmentally appropriate) included no examples of familiar children’s stories, holiday stories, and was the only class in which each child told a story when asked for this information. It is interesting to note that only in the most appropriate class did children create only new stories rather than retelling or drawing old familiar
stories. This is particularly surprising in light of the writing center found in classroom C (extremes of appropriate and inappropriate beliefs and practices). It would be expected that the children in classroom C would also create their own stories. It should be noted that only two children in this classroom retold familiar stories, all other stories were original.

**Individuals**

Four children in this study showed clearly the differences in beliefs and behaviors of kindergarten children as they negotiate the process of discovering written communication. Symbol use was a particular interest in this study, as it has been suggested that symbol systems are combined by children as they make the transition to communication through writing (Graves, 1979). The most extreme example of this was found in a picture drawn by Ross. (See figure 26) As he drew he talked about Ben sitting in a tree with Katie, who loved Ben, according to Ross. The tree was drawn in a typical kindergarten style. Ben was depicted at the top of the tree in writing. Katie's love was symbolized by hearts all over the paper.

Ross understood that letters were important and that a certain form was necessary as they were used. On another occasion his graphic product was completely pictorial. However, as he began his work, he said, "R-O-S-S-P-S-L-S-T-U-V-W-X-Y-Z Amen". Children develop rules about language
Figure 26. Combined Symbol Use
through experimentation and discovery (Temple, Nathan, & Burris, 1982). Ross had developed rules about written language based on the patterns that were most familiar to him - the alphabet and prayers.

Jonathan, a Black child, worked carefully and much longer than the other children in his group. His care extended to his speech as well. As he spoke to another child, he stopped mid-sentence to correct his grammar. "If ya'll take mine I'll takes yor...I'll take yours." Apparently learning to translate speech into standard English takes much practice. In Black Dialect, plurality and possession are not indicated by the addition of an s. Other words are added to the sentence to clarify ownership or number (Smitherman, 1977). Jonathan seemed to recognize that the letter s serves to indicate possession in standard English. Placing the s correctly, however, was difficult for him. I never observed Jonathan's teacher correcting the children's speech, so I have no way of knowing whether Jonathan's correction was the result of his observation of speech differences within the classroom, or of encouragement from the teacher.

Sarah's teacher was eager for her to be included in this study. One of the other children told me that Sarah could read. Sarah's stories, however, consisted of labels for the word she was able to write on the page or simple sentences that she knew she could spell correctly. There
was no richness of detail and little continuity. Her papers consisted of words, letters, scribbles, and poorly formed people superimposed on each other. In the first session her words combined to form a group of sentences listing all the people that she loved (figure 27). In the third session she abandoned this practice and simply wrote "TO Little INDIAN BOYS" along with disconnected words. Sarah was absent for session two. She was in Class D. Hills (1987) found that children working beyond their level of understanding work at a lower cognitive level. In the case of the third session, Sarah’s knowledge of the writing process was separated from meaningful literacy activities. As a result, the quality of the product suffered. This problem has been noted by Rowe and Harste (1986).

Lindsay was the only child besides Sarah who was identified by her peers as being a reader. However, Lindsay took a different approach to using her reading ability. In her first storytelling session, Lindsay wrote a story and illustrated it (figure 28). Rather than limiting her story to words that she was sure she could spell, Lindsay concentrated on communicating her story, using invented spelling when necessary to tell the story of a cat and dog playing together. This process of combining various systems of communication during the writing process has been noted by Dyson (1986) in her work. In the second session Lindsay abandoned writing altogether as she told a
Figure 27. Sarah's Writing
The cat & dog took along Alex and Candy and playing & laughing so so so the cat said the cats & cats.

Figure 28. Lindsay's Writing
story through pictures about her family in a fantasy adventure. In the third session, Lindsay drew her story, but wrote the day of the week and the date on the back of her page. Lindsay was in Class B.

Summary of Findings

Statistically significant findings in the area of graphic representation were limited to the writing scale, with girls only showing significant differences between classrooms in the area of writing on analysis of representative work (predominant score). Statistically significant results were also found for capability scores of girls only. Higher scores were consistently identified in classroom C (extremes of appropriate and inappropriate beliefs and practices). Lowest scores were found in classroom A (most developmentally appropriate). No statistically significant results were found on analysis of initial responses. Statistically significant differences were also lacking in an analysis of the drawings of the four groups. However, when the products themselves were observed and compared with transcripts of the speech that accompanied the graphic work, a great deal of information concerning the process of learning to communicate on paper was discovered. Correct spelling is limited not only by lack of phonics knowledge, but also by variations in pronunciation present in the speech of kindergartners. At
times spelling errors were a direct result of the recognition by children that they often dropped ending letters from words in their speech, therefore when these words were written, letters that were dropped in speech must be added (poupond, circust).

The analyses of stories told by the children showed with a significant main effect for classroom type when data were analyzed for representativeness. Further analysis indicated that the children in the least developmentally appropriate classroom (classroom D) scored significantly higher than the children in the classroom with appropriate beliefs and inappropriate practices (classroom B) for story level. No significant differences were found in the analyses for capability or first session. As with the graphic products, stories told by the children show a variety of understandings of the storytelling process. Some children communicated their stories in the form normally used for a verbal story, using the full capabilities of their language skills. Others limited their stories to the forms found in storybooks written for beginning readers.

A broad variety of themes were found in the stories told by the children. Most topics could be identified as related to things the children experienced or to themes found on television or in books. Only a small number of
children told stories related specifically to television characters.

Most children involved in this study seemed to enjoy the storytelling experience. A few seemed to be concerned that they complete the task correctly. They waited to begin until someone else had started his or her work, then the hesitant child would base his or her work on the work of the more confident child. This appeared to be more prevalent in Classroom D (least developmentally appropriate) in spite of the fact that these children verbalized more disapproval of copying than did children in the other three classes.
Chapter 5
SUMMARY, DISCUSSION, AND IMPLICATIONS

Summary

Strong differences presently exist in the fields of early childhood education and literacy and among the general public concerning both the most effective methods for teaching young children in general and the most effective methods for guiding the literacy development of young children. This study has examined the ways in which kindergartners from more and less developmentally appropriate classrooms negotiate the process of graphic communication, both written and drawn.

Eighty-one kindergarten children from four classrooms were asked to tell a story both verbally and graphically. They were encouraged to include drawing, writing, or both on their paper. Then they were asked to tell the story that they had produced graphically. The children were students in four classrooms from a single school system that were identified as: (a) most developmentally appropriate; (b) developmentally appropriate beliefs, developmentally inappropriate practice; (c) both developmentally appropriate and inappropriate beliefs and practice; and (d) least developmentally appropriate. No statistically significant differences were found in the level of drawing of the children in the four classrooms. On the writing scale,
significant differences were found for the total sample and for girls only favoring the classroom that was both developmentally appropriate and developmentally inappropriate when mean scores were used for analysis. Analysis of highest writing scores for each child showed statistically significant differences for the total sample and for girls only favoring the classroom with both appropriate and inappropriate teaching methods. Findings for the total sample should be interpreted based on significant sex differences within these classrooms. No significant differences were found between classrooms in the areas of writing or storytelling when each child’s first session scores were analyzed. For the storytelling scale, significant differences were found favoring the developmentally least appropriate classroom when mean scores were analyzed.

An investigation of the differences in the use of peer and private speech by the children as they produced their stories on paper was attempted. It was not successful due to whispered speech by some of the children. This speech was difficult to impossible to transcribe, causing transcriptions to be incomplete and therefore not analyzable.
Discussion

As data were analyzed, large variations were found in the quality and quantity of work produced both verbally and graphically in repeated sessions by most children. This may be due to the degree of effort that a child choose to put forth on a given day, circumstances within the classroom and community that may have been distracting, or the nature of the young learner.

Drawing

No significant differences were found in the level of drawing produced in the different classrooms studied. This is interesting to note in light of the differences in approach to art and graphic production found in the four classrooms. While art was a part of all classrooms, Classrooms B (appropriate beliefs, inappropriate practices) and D (least developmentally appropriate) emphasized product oriented art while process oriented art was emphasized in Classrooms A (most developmentally appropriate) and C (both developmentally appropriate and inappropriate beliefs and practices). While art was a part of the kindergarten curriculum in this school system, it was not an important developmental goal for each classroom. It was rather a means toward development in other areas. In addition, many of these children were likely to have attended preschools in which art was a major activity.
Therefore, a great deal of their artistic skill may have developed before they attended kindergarten.

In addition, Smith (1983) has suggested that the developmental levels of art measured in this study are usually reached before a child is six. Many of the children in this study had reached their sixth birthday. All others were nearing this age. As a result, a ceiling effect may have been experienced.

Writing

The writing scale showed statistically significant differences for the total sample and for girls on measures of representative work (predominant scores), as well as on measures of capability (highest scores) of all children and of girls. These findings should be interpreted based on significant sex differences within these classrooms. The influence of gender on the results differs from the findings of Newman and Roskos (1989) in their study of concepts of print and the findings of Harste, Woodward, and Burke (1984) in their study of literacy development. In both of these studies, no differences were found in writing ability due to gender. However, the study of stress in kindergarten classrooms by Burts, Hart, Charlesworth, and Kirk (1989) and Burts, Hart, Charlesworth, Fleege, Mosley, and Thomasson, (in press) noted gender differences, with boys being more affected by developmentally less appropriate teaching methods. It should be noted that in
the present study, no direct comparison of the scores of boys and girls took place. Gender differences were noted only by the significant differences in scores of girls. This significance was lacking in the analyses of scores for boys. The greater interest of girls in school-related activities as compared with boys also play a part in these findings. The possibility also exists that many of the boys in these classes had not reached the level of maturity needed to combine production of letters and words with the process of communication through that means. This problem was noted by Cannella (1988) in her study of environmental differences on the quality of written product.

Additionally, it is possible that boys are less likely at the kindergarten level to work consistently at the level of their capability. It is interesting to note that the class which had the highest writing scores on both the scores for representativeness and capability was classroom C (both appropriate and inappropriate beliefs and practices). This is the classroom in which group stories were written by the class. It was also the only classroom that contained a center that was designated specifically for writing. Among the appropriate practices found in this room was a writing center. Therefore it would be expected that these children were comfortable with the type of task that they were asked to do.
According to Mendelowitz (1953), a traditional understanding of the use of the written symbol takes place between ages six and eight. Curriculum changes resulting in earlier introduction of many reading and writing skills have taken place since Mendelowitz completed his research. These changes may have resulted in an earlier understanding of written symbolization by girls. This may be more true for girls than for boys due to the earlier maturation of girls (Shepard & Smith, 1988).

Classrooms B (appropriate beliefs, inappropriate practices) and D (least developmentally appropriate) both used a variety of worksheets. Many of the activities were done by the whole group at the same time. Emphasis was on doing worksheets alone and not copying. The emphasis on more academic activities would lead one to expect higher scores on writing activities. This was found to be true only for classroom D in the analysis of representative writing, however.

In classroom C (both appropriate and inappropriate beliefs and practices), stories were written by the class. New words from the stories were put into word lists for the children to memorize. In addition, a writing center was available to the children often, but not every day. The teacher worked to keep learning unpressured and interesting. At times she did not succeed. Some of the
children seemed to have difficulty reading the group stories; however, the teacher was not aware of this.

In classroom A (most developmentally appropriate), children experimented with drawing, writing, reading, and other learning activities. Few of their activities were directed toward developing a finished product of a literate nature. A typewriter was available for their use. The drawing center was always open. The only structured literacy activity in which they engaged was a spelling game in which they were rewarded for correctly matching the spelling of words on a lighted screen. These children were comfortable with experimentation and sharing ideas.

While school work is often assumed to be a solitary activity, these kindergarten children seemed to view learning tasks as a shared experience. This seemed to be true for children in classrooms in which collaboration was discouraged as well as those in which it is valued. One would expect major differences in the amount and type of imitation found among classroom differing greatly in emphasis on one correct answer and acceptance of shared ideas. It would seem reasonable to find much less imitation and sharing of ideas and patterns in the classroom in which copying was discouraged. However, very little difference was found in the frequency of this trait. Differences in attitude toward the process, however, seemed to vary greatly, based on the children's conversation as
they worked. Children from classroom D (least developmentally appropriate) considered copying bad, while children from classrooms A, B, and C accepted copying as a normal part of classroom behavior.

Both Piaget (1955; 1970) and Vygotsky (1978) discussed the value of peer contact as support for cognitive development. Piaget emphasized the value of peer interaction in the learning process over adult-child interaction. The children in this study seemed to practice this process of peer interaction even when they believed that it was wrong. Vygotsky (1978), on the other hand, believed that more effective learning was achieved through adult-child interaction. This study was not designed in a way that would allow for comparison of adult-child versus child-child interactions as they influenced graphic production.

Phonics based approaches to reading and writing assume that children correctly hear and pronounce words. They also assume that phonics rules apply to most words. Examination of transcripts of the children’s speech as they worked demonstrates letter substitutions, dropped syllables, and added letters in many of the children’s pronunciations. In addition, some pronunciation and spelling errors suggest that children know enough about standard spelling to recognize that often sounds that are spelled are dropped in normal pronunciation.
Observation of the children in the present study suggests that children who had the opportunity to experiment with writing skills in an unpressured setting, while at the same time being encouraged to cultivate literacy skills, were most successful at the writing task. This supports the findings of Harste, Woodward, and Burke (1984).

Cannella (1988) also found greater writing success in a writing environment that was structured by the child at the kindergarten level. Among older children, enjoyment was greater when the environment was structured by the child, but writing was more legible when the environment was structured by the teacher. This leads us to the question of how to balance the more academic value of legible writing with the longterm value of writing as a enjoyable activity, which in turn may lead to more practice of writing skills and therefore improved writing ability.

In these four classes differences could be seen in the enjoyment of the task by the children from different classes as well as in the degree of risk with which the children felt comfortable. Children in the least appropriate class were much more hesitant to risk incorrect work than were the children from the other three classes. Harste, Woodward, and Burke (1984) have noted the value of risk taking in early literacy development. In addition to differences in willingness to take risks, more children
from the least appropriate classroom seemed to find the research task unenjoyable. Children from the other three classes seemed to enjoy the process of producing stories together. Cannella (1988) has pointed to increased enjoyment by children of their writing tasks when the setting is structured by the child rather than teacher structured. The differences in the degree of enjoyment in the research setting closely correlated with the degree of teacher structure in each classroom.

**Storytelling**

Analysis of stories based on representative work showed significant differences in the stories told by the children in this study about their pictures, with Classroom D (least developmentally appropriate) having significantly higher scores on the story quality than Classroom B (appropriate beliefs, inappropriate activities). As with the analysis of the writing data, no statistically significant differences were found when data were analyzed based on capability or first session only.

Through their stories, many of the children in this study showed an awareness that writing is more that simply "speech written down" (Smith, 1975, p. 347). Temple, Nathan, and Burris (1982) suggest that just as children vary their speech to meet the demands of the situation, they also vary their writing to suit the purpose of the task. This was observable in many of the stories told by
the children. The differences in scores of classroom B and D on the first analysis seem to be due to the consistency of the children in classroom D across the three data gathering sessions. It is possible that the pressure these children felt to perform correctly caused them to work more consistently at their level of capability. The lack of significant results on other analyses of this data would suggest that capability alone does not account for these results. Data are lacking to pinpoint how long the children in classroom D would continue to work at the peak of their capability.

The need to observe the work of another child’s work before beginning their own work would suggest that many of the children in classroom D (least developmentally appropriate) felt pressured to create a correct product. In addition, one child verbalized his feelings about the task by whispering under his breath, "I hate this."

Data are lacking to show how strongly the children in this classroom were stressed in the process of working to their highest capability over this extended time. Fincham, Hokoda, and Sanders (1989) found little difference in the test scores of children who did or did not evidence test anxiety at the third and fifth grade levels. While research on the effects of a more pressured academic setting for kindergartners abounds (Hills, 1987b; Hatch & Freeman, 1988; Burts, Hart, Charlesworth, & Kirk, 1990;
Burts, Charlesworth, & Fleege, 1991; Gallagher & Coche', 1987; Shepard & Smith, 1988), little has been written in that literature that would justify the results found in this study. Children from classroom B (appropriate beliefs, inappropriate practices) produced the lowest scores on story quality. They seemed to enjoy the social aspect of the storytelling task and gave no indication through their behavior of taking seriously the task they were given. From these observations, it is believed that they did not often work at their true capacity.

Another possible explanation for differences in scores is differing levels of motivation for the children in different classes. The use of nonspecific praise by teachers has been identified as reducing positive self-concept and failing as a motivation technique. Specific praise, or encouragement, on the other hand, promotes a positive self-concept and leads to active exploration which produces more effective learning (Hitz & Driscoll, 1988). Stipek and Mac Iver (1989), on the other hand, found in a review of the literature that at the lower grades, children strongly rely on teacher praise to determine their own ability. In addition, young children believe that effort is strongly related to ability. However, classroom observations did not provide data with which to judge this as a possible explanation for the results found. While class B (appropriate beliefs, inappropriate practices) and
class D (least developmentally appropriate) were the only two classes observed that used worksheets, there was a major difference in the seriousness with which the two groups of children worked. Behavior of the children in classroom D suggested that they believed that school work was to be taken seriously, using their best effort. Class B, on the other hand, enjoyed the social aspects of school. They seemed to work only at the level that required minimal thought.

Possibly the children in classroom B (appropriate beliefs, inappropriate practices) had not recognized that increased performance was expected of them as kindergarten students over the performance expected of them in preschool or at home. Recognition by children of these increased expectations may motivate children to work to their potential (Curry & Johnson, 1990). In general, preschool teachers are less likely to correct children's work and more likely to provide a great deal of positive reinforcement than teachers in the lower elementary grades (Stipek & Mac Iver 1989). Results of the Teacher Questionnaire would suggest that teacher B (appropriate beliefs, inappropriate practice) believed in the value of preschool methods of interacting with the children while teacher D (least developmentally appropriate) believed in the values of elementary methods of interaction. In practice, teacher B may have simply been ineffective at
implementing either the beliefs she professed or the classroom practices that were observed.

**Speech**

The use of speech during the composition process varied greatly between children and within individual children from session to session. Some children seemed to be unable to work unless they were also talking. Others were uncomfortable talking during the work process. Fuson (1979) also found major variations in the use of private speech. She has suggested that differences in temperament of individual children may play a part in these findings. The majority of children talked for social purposes when they were with good friends or with a prolific talker and were silent or nearly so if these conditions did not exist.

Much of the private speech used for self-direction or problem solving was whispered. It has been noted that private speech becomes less audible with age and maturation (Fuson, 1979). Because the private speech was difficult or impossible to transcribe from the tapes, most of the private speech data was lost. Overall, speech was sporadic. As a result, the amount of speech was insufficient to allow statistical analysis of this data.

Piaget (Zivin, 1979) believed that private speech was often begun as social speech, but that through poor communication skills, dialogue was not achieved. Several examples of this phenomenon were noted in this study. This
was particularly true of children who talked a great deal. Vygotsky’s view of private speech was more easily recognizable than that of Piaget in this study. Vygotsky believed that private speech served a directing function as the child attempted to achieve success in a new skill. He theorized that as children became more effective at self-direction, their speech would become less audible until it eventually became internalized. In this study, this behavior was often observed as children attempted to write. While some children spoke aloud, many whispered. This played a major part in the difficulties encountered in transcribing the speech of the children. The fact that this problem was not foreseen in the pilot study with younger children would suggest that internalization of private speech may begin to take place during the kindergarten year.

Synthesis of Discussion

The results of this study were not expected based on a review of the literature in the area of developmentally appropriate practice. It is possible that the tight control on curriculum and classroom schedule by this school system limited the differences that one would expect to find in classrooms of teachers differing so strongly in their beliefs. The higher representative scores found on storytelling in the least developmentally appropriate classroom may be the result of the continued efforts of
the children in this classroom to find the "right answer" that they believed was expected of them. Children in the other three classrooms worked with less effort after the first session, enjoying the process of producing a story with their friends rather than striving for correct schoolwork. It is possible that their view of school and their responsibilities related to school were different from those of the children in classroom D (least developmentally appropriate). Children in classrooms A (most developmentally appropriate), B (appropriate beliefs, inappropriate practice), and C (extremes of appropriate and inappropriate practice) seemed to see school as an activity to be enjoyed while children in classroom D seemed to view school as work to be correctly completed. Honig and Lansburgh (1990) have suggested that children who expect to succeed are more likely to do well than children who expect to fail. In the present study this did not seem to be the case for storytelling.

On the other hand, the children in classroom C, who had had the opportunity to practice writing in an experimental setting in the classroom, were more successful at this skill. It is interesting to note that children in classroom D (least developmentally appropriate) were most successful in an area that did not seem to be emphasized by their teacher. The scores representing writing skills (emphasized by this teacher) were highest in the class
which emphasized experimentation with writing and group story development.

Scores on measures of writing ability were highest in classroom C (extremes of appropriate and inappropriate beliefs and practices). This was the only class in the study which had a center in the classroom that was specifically designated for writing. Children in classroom A (most developmentally appropriate) experimented with writing through the art center, but were not specifically encouraged to write. Children in classrooms B (appropriate beliefs, inappropriate practices) and D (least developmentally appropriate) were encouraged to learn to write through the use of worksheets. Neither of these extremes in practice produced the quality of work found in the classroom which encouraged children to experiment with the writing process. While writing scores for girls showed the same results as scores for the groups as a whole, no significant differences were found for writing scores of the boys in the four classrooms.

Telling stories had different meanings for different children. For some it consisted simply of labeling pictures, for others it meant reproducing primer style sentences, and for still others it provided the opportunity to create an imaginary world of action.

Sharing ideas by the children served as a springboard for each child's imagination, rather as a means for
identifying material to be copied exactly. This process was a part of the storytelling procedure in each class, regardless of the teacher's positive or negative view of this behavior.

Implications

These results lead one to examine the question of how we motivate children to work at the peak of their capabilities without placing undue pressure on them. Green (1990) reminds us that providing a rich learning environment is not enough to ensure learning in each child. It is necessary to be aware of the individual interests and needs of the children we teach. In some cases, children who are able to perform effectively when assignments are specific, will be unable to do assignments requiring the development of independent ideas. This problem is more likely to be found in the upper grades (Rimm, 1986).

A study of children's methods for dealing with upsetting situations found that younger children were more likely to use behavioral strategies for coping with the situation, while older children were more likely to use cognitive strategies (Hoffner, 1991). This may explain part of the age difference in the influence of children's perceptions of their capabilities on performance.

Based on these ideas, children in less developmentally appropriate kindergarten classes would be likely to
exhibit quality work. However, as they begin to reach upper elementary school and assignments became more abstract they would be expected to demonstrate more difficulties in school. This concept is in agreement with the thesis, discussed often in the area of literacy development, that risk-taking is an important part of the learning process (Harste, Woodward, & Burke, 1984).

The results of the storytelling portion of this study were unexpected. Classroom observations do not help explain these findings, nor do they correspond with research in this area.

It would be convenient if we could say that children learn what they are taught and apply that supposition only to academic subjects. However, it seems that children also learn what they are taught concerning the learning process and how they are to function in school as well. This seems to have a major effect on how they apply the academic knowledge they possess and the process they use to discover new knowledge. An example of this difference can be seen in a comparison of the two girls in this study who were identified by their peers as readers. One expended all of her thought to correctly producing the knowledge she possessed. The result was a very limited story. The other used her knowledge as a tool for communication. When she reached the limits of her knowledge she experimented in order to produce a rich story.
Differences in learning may be seen even between classrooms of teachers who appear to have the same beliefs concerning appropriate practice. Simply providing a setting for exploration without also providing activities that encourage children to explore in specific areas of learning and teacher support for those activities appear to result in limited learning by children. Children whose classrooms are appropriate but not challenging may not be learning negative things about the learning process, but they may also not be learning to enjoy the challenge of discovery and may not be reaching their full potential.

One question that must be answered is what do kindergartners need to know? Chall (1967) would tell us that communication is not a goal for beginning readers. Only skills for the mechanical process of reading are valid for these learners. Others (Carbo, 1988; Dyson, 1990b; Bissex, 1987; Wells, 1987) would disagree, citing the communicative purpose of reading as an important aspect of the process of learning to read. Children in all four classes seemed to consider the storytelling task to be a communicative effort. In fact, the verbal story reached its highest level in the class which most strongly emphasized a skills-based approach to beginning literacy.

A rationale given for teaching kindergarten in a more structured manner is the necessity of preparation for standardized testing. Neither the statistical results nor
the observation of these children at work would suggest that the children in the more inappropriate academically structured classroom possess more written language skills than children in the classrooms that were more developmentally appropriate. This would suggest that many kindergarten teachers are using a false rationale as a basis for their teaching.

Dyson (1990a) has reminded us that children use creative activities to explore the world and to try out their ideas concerning it. As a result, she believes that materials that allow children to experiment as they "invent worlds" (p. 56) are more valuable for learning than structured workbook style materials.

It is easy to assume that developmentally appropriate practice will automatically produce effective learning. In these classrooms that was not the case. Honig and Lansburgh (1990) discuss the importance of teaching each child at a level that is challenging. This is also emphasized by Vygotsky (1978) in his writings on the "zone of proximal development".

The results of this study would suggest that simply providing a sound learning environment may not be enough to assure that learning will take place. Previous work in the area of developmentally appropriate teaching techniques has suggested that even when appropriate methods of teaching are used, large differences in what is learned can exist
(Mosley, 1988). As a result, it is important that kindergarten teachers monitor the learning of the children in their classrooms, rather than simply assume that because the activity planned uses appropriate materials the desired concepts will be learned. "Scaffolding" by the teacher will also help children begin to apply the skills they are learning to a broader range of activities. This is especially important for guiding children to think about the processes which they have used in their writing activities (Dyson, 1990a).

The higher writing skills found in children whose classroom contained a writing center suggests that this means of helping children learn to write is more effective than either worksheets or simply hoping children will discover writing on their own. Based on these findings, a special time for exploring the process of writing seems to be of value for the kindergarten classroom. This is supported by research in the field of writing development (Hipple, 1985; Cannella, 1988; Dyson, 1990a).

While sharing ideas is often assumed to be synonymous with copying, observations from this study suggest that this belief is untrue. Rather, children seem to take basic concepts and modify them to fit their own interests, ideas, and abilities. This would suggest that the concerns that many teachers express regarding copying of work by children
may be unfounded. Rather, copying seems to be a means that children use to expand their own ideas and explorations.

These children seemed to be active in their efforts to combine the things that they knew about print, phonics, and speech to create a product that made sense to them based on their knowledge. For most of the children, writing was not an operation to be memorized, but rather was an active process of development.

Individual children used a variety of techniques to negotiate the graphic communication process. Some combined several symbol systems, while others used only one. This trait has been noted by Dyson (1990a) in her study of writing development. Even errors made by the children showed an awareness of the rules related to language in both spoken and written form. These children were certainly not empty vessels waiting to have knowledge introduced in its finished form. They were builders, discoverers, creators of graphic communication.

It appears that in this school system, many of the negative aspects of developmentally inappropriate practice were eliminated from these kindergarten classrooms. This was particularly true in the area of academic requirements because of the tight control of the curriculum. Observations of the children would suggest that control of the curriculum is less effective for teaching practices that prepare the child to view himself/herself as a
competent learner and to teach the child the skills needed for independent learning. While the least appropriate classroom had higher scores in storytelling, an area not normally tested in standardized tests, scores of writing ability, a subject more likely to be included in testing, were higher in a more appropriate classroom. These findings may help to reduce the pressure teachers may feel to teach inappropriately in order to raise test scores based on the writing skills demonstrated in the classroom using exploratory approaches to writing. The lower level of perceived competence observed in many of the children in the least appropriate class leads to concern over future success of children in developmentally less appropriate classrooms based on the work of Fincham, Hokoda, and Sanders (1989).

Suggestions for Further Research

The higher scores of children in the least developmentally appropriate classroom on the analyses of representative stories suggests the need for further study in this area. Observation during the data gathering process would indicate more stress in many of the children in the group with the highest representative scores. Further study is needed into ways in which children can be encouraged to work at their level of capability without inducing stress. In addition, the possibility exists that
classrooms that are different in style may vary in their effectiveness for children of different ability levels, personality types, or learning styles.

Further examination of these four classrooms to identify the differences in motivational techniques used by the teachers would be helpful in identifying possible reasons for the differences in scores. In addition, a longitudinal study of these children would allow for study of the hypothesis presented by Rimm (1986) concerning later school achievement in children from more structured classrooms.

Story themes in which children expressed negative social behavior toward other children were found in the work of the children in classroom D (least developmentally appropriate) more strongly than in the other classrooms. This suggests that further study into the extent and nature of this phenomenon in various styles of classrooms could provide helpful information. Schweinhart, Weikart, and Larner (1986) in their controversial paper have suggested that delinquency is more prevalent among at risk children at age 15 who attended preschools using a highly structured teaching method. Could this trait also be found among middle income children during their early school years? Mallick and McCandless (1966) suggest frustration as an antecedent to aggression. Anxiety concerning the potential for failure may also lead to negative behavior (Honig &
Children who are expected to work using processes that are inconsistent with their level of development may be experiencing frustration that would predispose them to aggressive thoughts or behavior.

In classroom observations, a variety of attitudes seemed to exist on the part of the teachers concerning the role of the child in the learning process. A careful reading of the guidelines for developmentally appropriate practice suggests that an attitude of respect toward children is an underlying theme of many of the individual guidelines. We need more specific information about the effects of these attitude differences on the learning process of children in the kindergarten year and of their long-term effects on the way a child carries on the learning process.

While most authors discuss private language use in a learning setting from either the point of view of Piaget (Monighan, 1985; Ramirez, 1989) or Vygotsky (Deutsch & Stein, 1972; Goodman, 1981; Bivens & Berk, 1989), this research found both processes taking place. How does the language of children combine these two theories? What implications could this knowledge have on the ways we use peer speech in the learning setting?

Positive statistical results were found for girls on the writing scale while none were found for boys. It is possible that a study of this type for boys in first grade
may yield the same type of data found for girls in kindergarten.

Similarly, a study of the drawing of younger children might give us a clearer picture of the effects of developmentally appropriate practice on the drawing development of children.
REFERENCES


Dyson, A. H. (1990b, April). *The word and the world: Reconceptualizing written language development or Do rainbows mean a lot to little girls?* Paper presented at the meeting of the American Educational Research Association, Boston.


Harris, S. F. (1985). A case study approach to the formative evaluation of a curriculum to support the growth in literacy in three, four, and five year old children. (Doctoral dissertation, Miami University, Ohio, 198) Dissertation Abstracts International,


APPENDIX A

TEACHER LETTERS,
PARENT LETTERS,
AND PERMISSION FORMS
Dear Kindergarten Teachers:

I am a graduate student in Early Childhood Education at Louisiana State University. The beginning of the process through which children begin to write is of special interest to me. My dissertation will examine the ways in which classroom style influences this process.

I appreciate your assistance in my research. I believe that through this work we can learn more about how kindergarten teachers' beliefs about teaching and instructional activities influence what is learned by their students. Please fill out the attached questionnaire and return it to your principal as soon as possible. In order to assure the integrity of the data, please complete the questionnaire before discussing it with anyone. Please remember, all individual information that you provide will be strictly confidential and will not be shared with anyone.

If you have any questions, please feel free to contact me at 491-9964. Once again, I appreciate your cooperation and look forward to seeing you in the near future.

Sincerely,

Jean Mosley
I, ______________________, volunteer to participate in the study on kindergarten teachers' beliefs and practices conducted by Jean Mosley of Louisiana State University. I understand that I can withdraw from the study, that I will remain anonymous, that my performance in this study may be used for additional approved projects, and I will be given an opportunity to ask questions prior to the start of the study and after my participation is complete.

____________________
signature

____________________
date
Dear Parents:

Your child’s kindergarten class has been selected from the kindergarten classes in this school district to participate in a study of kindergarten classrooms conducted by Jean Mosley of Louisiana State University. This study is designed to analyze kindergarten teachers’ beliefs and practices and their impact on children’s writing development. Your child’s teacher has already participated by answering a questionnaire concerning her beliefs about kindergarten classroom practices. I now want to find out more about how children begin to learn the writing process in the kindergarten classroom. For this I will need to observe each child for approximately 30 minutes on three separate occasions as he/she participates with other children in a special writing task. This writing task is not a test and will not become a part of your child’s records. To strengthen the overall study, we will also need to look at your child’s records in order to obtain demographic information. Be assured that all individual information will remain completely confidential. The principal of your child’s school, the superintendent, and elementary curriculum director have given their support and approval of this project.

If you have any questions, please do not hesitate to contact me at 491-9964. Please return the permission form on the next page to school with your child by

Your participation in my study is greatly appreciated!
Thank you.

Sincerely,

Jean G. Mosley
Doctoral Student
Louisiana State University
PERMISSION FORM
FOR WRITING DEVELOPMENT STUDY

I give permission for my child,
______________________________, to participate in the study of kindergarten classrooms (as explained above) conducted by Jean Mosley. I understand I can withdraw my child from the study, that he/she will remain anonymous, and I will be given an opportunity to ask questions prior to the start of the study and after my child's participation is complete.

I do not give my child, ________________________, permission to participate in this study of kindergarten classrooms.

_____________________________  _______________________
Signature                      Date
Dear Teachers:

Thank you for agreeing to participate in my study of kindergarten teachers' beliefs and practices and kindergarten children's writing development. Your help is invaluable!

Your participation is very important since it will provide useful information concerning ways that teachers turn beliefs about kindergarten teaching into practice and how children respond to those practices. When I am in your classroom, I will make every effort to be as unobtrusive as possible. Please remember, all individual information that you provide will be strictly confidential and will not be shared with anyone.

If you have any questions, please feel free to contact me at 491-9964. Once again, I appreciate your cooperation and look forward to seeing you in the near future.

Sincerely,

Jean Mosley
491-9964

enclosure
TEACHER INFORMATION QUESTIONNAIRE

Name____________________________________
(Confidentiality of the respondent is guaranteed. Names of respondents nor schools will not be used in any reporting of the findings from this study.)

Highest degree earned_____________________

Year of graduation_______________________

Name of college or university___________________________

Name of this school___________________________

Is this school public, private, or parochial?______________

Is this kindergarten class transitional or regular?___________

How many years have you taught kindergarten?______________
(including this year)

How many years have you taught in this school?______________
(including this year)

How many years have you taught in other schools?______________

Number of children in classroom_____________________

Developed by Sue Hernandez, Lisa Kirk, Craig Hart, Diane Burts, & Rosalind Charlesworth, Louisiana State University.

For information write: Dr. Rosalind Charlesworth, LSU College of Education, Baton Rouge, LA 70803. (504) 388-2443.
TEACHER BELIEFS QUESTIONNAIRE

1. Rank the following (1-6) by the amount of influence you feel that each has on the way you plan and implement instruction. (Please be sure to use each number only once.)

- parents _______
- county or school system policy _______
- principal _______
- teacher (yourself) _______
- state regulations _______
- other teachers _______

Please respond to the following items by circling the number that most nearly represents YOUR PERSONAL BELIEFS about the importance of that item in a kindergarten program.

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<tr>
<td>Not important</td>
<td>Not very important</td>
<td>Fairly important</td>
<td>Very important</td>
<td>Extremely important</td>
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<tr>
<td>at all</td>
<td>important</td>
<td></td>
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</tbody>
</table>

2. As an evaluation technique in the kindergarten program, standardized group tests are ______.

3. As an evaluation technique in the kindergarten program, teacher observation is ______.

4. As an evaluation technique in the kindergarten program, performance on worksheets and workbooks is ______.

5. It is _____ for kindergarten activities to be responsive to individual differences in interest.

6. It is _____ for kindergarten activities to be responsive to individual difference in development.

7. It is _____ that each curriculum area be taught as separate subjects at separate times.
8. It is ____ for teacher-pupil interactions in kindergarten to help develop children's self-esteem and positive feelings toward learning.

9. It is ____ for children to be allowed to select many of their own activities from a variety of learning areas that the teacher has prepared (blocks, science center, etc.).

10. It is ____ for children to be allowed to cut their own shapes, perform their own creative drama, art, and writing activities.

11. It is ____ for students to work silently and alone on seatwork.

12. It is ____ for kindergartners to learn through active exploration.

13. It is ____ for kindergartners to learn through interaction with other children.

14. Workbooks and/or ditto sheets are ____ to the kindergarten program.

15. Flashcards (numbers, letters, and/or words) are ____ to the kindergarten program for instructional purposes.

16. The basal reader is ____ to the kindergarten reading program.

17. In terms of effectiveness, it is ____ for the teacher to talk to the whole group and make sure everyone participates in the same activity.
18. In terms of effectiveness, it is _____ for the teacher to move among groups and individuals, offering suggestions, asking questions, and facilitating children's involvement with materials and activities.

19. It is _____ for teachers to use their authority through treats, stickers, and/or stars to encourage appropriate behavior.

20. It is _____ for teachers to use their authority through punishments and/or reprimands to encourage appropriate behavior.

21. It is _____ for children to be involved in establishing rules for the classroom.

22. It is _____ for children to be instructed in recognizing the single letters of the alphabet, isolated from words.

23. It is _____ for children to color within predefined lines.

24. It is _____ for children to form letters correctly on a printed line.

25. It is _____ for children to have stories read to them individually and/or on a group basis.

26. It is _____ for children to dictate stories to the teacher.

27. It is _____ for children to see and use functional print (telephone books, magazines, etc.) and environmental print (cereal boxes, potato chip bags, etc.) in the kindergarten classroom.
28. It is _____ for children to participate in dramatic play. 1 2 3 4 5

29. It is _____ for children to talk informally with adults. 1 2 3 4 5

30. It is ____ for children to experiment with writing by inventing their own spelling. 1 2 3 4 5

31. It is _____ to provide many opportunities to develop social skills with peers in the classroom. 1 2 3 4 5

32. It is _____ for kindergartners to learn to read. 1 2 3 4 5

33. In the kindergarten program, it is _____ that math be integrated with all other curriculum areas. 1 2 3 4 5

34. In teaching health and safety, it is _____ to include a variety of activities throughout the school year. 1 2 3 4 5

35. In the classroom setting, it is _____ for the child to be exposed to multicultural and nonsexist activities. 1 2 3 4 5

36. It is _____ that outdoor time have planned activities. 1 2 3 4 5

37. Input from parents is ____. 1 2 3 4 5
INSTRUCTIONAL ACTIVITIES QUESTIONNAIRE

Please respond to the following items by circling the number that most nearly represents how often your children participate in the following activities on the average.

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<th>2</th>
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<td>Almost Never</td>
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<td>(less than</td>
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<td>monthly)</td>
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<tr>
<td>1. Building</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
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<tr>
<td>with blocks</td>
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<td>2. Children</td>
<td>1</td>
<td>2</td>
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<td>4</td>
<td>5</td>
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<tr>
<td>selecting</td>
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<td>centers</td>
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<td>(home, book,</td>
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<td>math, science,</td>
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<td>writing, etc.)</td>
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<td>3. Participating in dramatic play</td>
<td>1</td>
<td>2</td>
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<td>4. Listening</td>
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<td>to records</td>
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<td>and/or tapes</td>
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<td>5. Doing</td>
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<td>creative writing</td>
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<td>(combining</td>
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<td>symbols/ invented spelling and drawing</td>
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<td>6. Playing</td>
<td>1</td>
<td>2</td>
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<td>with games and puzzles</td>
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<td>7. Exploring</td>
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<td>animals, plants, and/or wheels and gears</td>
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<td>8. Sings and/or listening to music</td>
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<td>9. Creative</td>
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<td>movement</td>
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<td>10. Cutting</td>
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<td>their own</td>
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<td>shapes from</td>
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<td>paper</td>
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<td>11. Playing</td>
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<td>with manipulatives such as pegboards, puzzles, and/or legos</td>
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<td>12. Coloring</td>
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<td>and/or cutting</td>
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<td>predrawn forms</td>
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<td>13. Children</td>
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<td>reading in</td>
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<td>ability level</td>
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<td>Almost Never (less than monthly)</td>
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<tr>
<td>Occasionally (monthly)</td>
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<td>Sometimes (weekly)</td>
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<tr>
<td>Regularly (2-4/week)</td>
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<td>4</td>
<td>5</td>
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<tr>
<td>Very Often (daily)</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

14. Circling, underlining, and/or marking on items on worksheets
15. Using flashcards with sight words and/or math facts
16. Rote counting
17. Practicing handwriting on lines
18. Reciting the alphabet
19. Copying from the chalkboard
20. Sitting for longer than 15 minutes
21. Waiting for longer than 5 minutes between activities
22. Large group teacher directed instruction
23. Children coordinating their own activities in centers
24. Tangible rewards for appropriate behavior and/or performance
25. Losing special privileges (trips, recess, free time, parties, etc,) for misbehavior
26. Social reinforcement (verbal praise, approval, attention, etc.) for appropriate behavior and/or performance
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<tr>
<td>Almost Never (less than monthly)</td>
<td>Rarely (monthly)</td>
<td>Sometimes (weekly)</td>
<td>Regularly (2-4/week)</td>
<td>Very Often (daily)</td>
</tr>
</tbody>
</table>

27. Using isolation (standing in the corner or outside of the room) to obtain child compliance

28. Games/activities directed by or made by parents

29. Specifically planned outdoor activities

30. Multicultural and nonsexist activities

31. Competitive math activities to learn math facts

32. Health and safety activities

33. Drawing, painting, working with play dough, and other art media

34. Math incorporated with other subject areas
APPENDIX C
CHECKLIST FOR RATING
DEVELOPMENTALLY APPROPRIATE PRACTICE
IN KINDERGARTEN CLASSROOMS
CHECKLIST FOR RATING CLASSROOM STYLES
IN KINDERGARTEN CLASSROOMS


School_________________________Principal__________________________
Teacher_________________________Ages of Children______________
Number of children in room _______Number of adults_____________
Observed/rated by _________________________________

Date(s) Time(s) Activity/Activities

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

Five points are listed for rating each item. Under 5 the most appropriate practice indicators are listed, under point 1 the most inappropriate practice indicators are listed. Point 5 indicates close to 100% appropriate, point 4 indicates more appropriate than inappropriate. Point 3 indicates a fairly even split between appropriate and inappropriate. Point 2 indicates more inappropriate than appropriate. Point 1 indicates close to 100% inappropriate. Below each item there is a space for a brief description of what you observed or found out by questioning the teacher that underlies your rating.

Developed by Rosalind Charlesworth, Jean Mosley, Diane Burts, Craig Hart, Lisa Kirk, and Sue Hernandez, Louisiana State University, Baton Rouge.
CURRICULUM GOALS

1. Range of Curriculum Areas for Which Program is Designed

5.............4...............3..................2.............1
 .Physical                  .Narrow focus
 .Social                    .Intellectual emphasis
 .Emotional                 .Discrete academic
 .Intellectual              skills emphasis
 .Learning how to learn

Description:

2. The Place of Children’s Self-esteem, Sense of Competence, and Positive Feelings Toward Learning in the Curriculum and Instruction

5.............4...............3..................2.............1
 .Each child is given an equal amount of positive attention
 .Children who conform receive more attention
 .Children are given attention according to their level of academic performance

Description:

3. View of Growth and Development

5.............4...............3..................2.............1
 .Work is individualized .Evaluated against a group norm
 .Children move at their own pace .Everyone is expected to achieve the same narrowly defined skills
 .Everyone does the same thing at the same time

Description:
TEACHING STRATEGIES

4. The Emphases in the Curriculum

5. Organization of the Curriculum

Description:
6. Teacher Preparation and Organization for Instruction

Learning centers are set up which provide opportunities for writing, reading, math and language games, dramatic play. Children are encouraged to critique their own work. Errors are viewed as normal and something from which children can learn.

Little time for enrichment activities. May be interest centers available for children who finish their seatwork early. May be centers for children who complete a prescribed sequence of teacher directed activities within a controlled period of time.

Description:

7. Instructional Activities

Children work and play cooperatively in groups. Projects are self selected with teacher guidance. Activity centers are changed frequently. One or more field trips. Resource people visit. Peer tutoring. Peer conversation.

Children work alone, silently on their worksheets or workbooks. Little, if any, peer help is permitted. Penalties for talking.

Description:
8. Learning Materials and Activities

5................4..................3..................2..............1

- Concrete, real, and relevant to children's lives
- Blocks, cards, games, arts and crafts materials, woodworking tools, science equipment, etc.
- Flexible work spaces (tables, carpet, etc.)
- Limited primarily to books, workbooks, and pencils
- Permanent desks that are rarely moved
- Mostly large group instruction
- Playful activity only when work is done

Description:

INTEGRATED CURRICULUM

9. Language and Literacy

5................4..................3..................2..............1

- Technical skills are taught as needed
- Generous amounts of time are provided to learn through: literature and nonfiction reading; drawing, dictating and writing stories; bookmaking; and library visits
- Daily reading aloud by teacher
- Subskills such as letters and phonics are taught individually and in small groups using games
- Literacy is taught through content areas such as science and social studies
- Children's invented spellings are accepted
- Teaching is geared to passing standardized tests
- Reading taught through skills and subskills
- Reading taught as a discrete subject
- Silence is required
- Language, writing, and spelling instruction focus on workbooks
- Teaching focuses on reading groups with other children having an adequate amount of seatwork to keep busy
- Phonics instruction stresses learning rules rather than relationships
- Everyone must complete the same basals no matter what their abilities
- Everyone knows who is in the slowest reading group
- Acceptable writing has correct spelling and is standard English

Description:
10. Math

- Children encouraged to use math through exploration, discovery, and solving meaningful problems
- Integrated with other areas
- Skills acquired through play, projects, and daily living
- Math manipulatives are used
- Math games are used daily

Description:

11. Social Studies

- Themes may extend over a period of time
- Learned through playful activities, discussion, trips, visitors, writing, reading, social skills development, (planning, sharing, taking turns)
- Art, music, dance, drama, woodworking, and games are incorporated

Description:
12. Science

Discovery, built on the children’s natural interest in the world.
Projects are experimental exploratory, encourage active involvement of every child.
Plants and pets in the classroom.
Through projects and field trips children learn to plan, apply thinking skills, hypothesize, observe, experiment, verify.
Learn science facts related to their own experience.

Description:

13. Health and Safety

Projects designed to help children use personalized facts.
They learn to integrate facts into their daily habits.
Dictate or write their own plans.
Draw and write about these activities.
Read about these activities.
Enjoy learning because it is related to their lives.

Description:
14. Art, Music, Movement, Woodworking, Drama, and Dance

5. Integrated throughout the day  
4. Specialists work with teachers and children  
3. Children explore a variety of art media and music  
2. Children design and direct their own products and productions  
1. Taught as separate subjects once a week  
2. Specialists do not coordinate closely with classroom teachers  
3. Representational art is emphasized  
4. Crafts substitute for artistic expression  
5. Coloring book type activities  
6. Use patterns and cut-outs

Description:

15. Multicultural Education

5. Materials and activities are multicultural and nonsexist  
4. Materials and activities lack evidence of attention to cultural diversity and a nonsexist point of view

Description:

16. Outdoor Activity

5. Planned daily so children can develop large muscle skills, learn about outdoor environments, and express themselves freely on a well designed playground  
4. Limited because it interferes with instructional time or  
3. Provided as a time for recess to use up excess energy

Description:
GUIDANCE OF SOCIAL-EMOTIONAL DEVELOPMENT

17. Prosocial Behavior, Perseverance, and Industry

5...........4.................3................2.................1

- Stimulating, motivating activities are provided that promote student involvement.
- Individual choices are encouraged.
- Enough time is allowed to complete work.
- Private time with friend or teacher is provided.
- Lecturing about the importance of appropriate social behavior.
- Punishes children who become bored with seatwork and whisper, talk, or wander around.
- Punishes children who dawdle and do not finish seatwork in allotted time.
- No time for private conversations.
- Only the most able students finish their work in time for special interests or interaction with other students.

Description:


5...........4.................3................2.................1

- Daily opportunities to develop social skills such as helping others, cooperating, negotiating, and talking with others to solve problems.
- Little time to develop social skills---mostly independent seatwork and teacher directed activities.
- Only social opportunity is on the playground but no adult is available to provide consistent guidance.

Description:
19. Guidance Techniques

5..............4..............3.............2..............1

- Positive guidance techniques are used:
  - Clear limits are set in a positive manner
  - Children involved in establishing rules
  - Children involved in problem solving misbehavior
  - Direction is used
  - Meets with child who has problems (and with parents)

- Recognize that every infraction doesn’t warrant attention and identifies those that can be used as learning opportunities

Teacher is in adversarial role
- Emphasis on power to provide rewards and punishments
- Maintaining control of the classroom is primary

Teachers:
- Enforce rules
- Give external rewards for good behavior
- Punish infractions

When there is social conflict, participants are separated and quieted—social issue is avoided

Teacher attitude is demeaning to child

Description:

20. Overstimulation (Fears and Excitement)

5..............4..............3.............2..............1

- Teachers limit or contain overexposure to stimulation such as exciting, frightening, or disturbing real or fantasy events
- When such events occur, teachers help children deal with and express feelings
- Teacher notes signs of overstimulation and provides alternative calming activity rather than punishment

Not sensitive to signs of overstimulation
- Treat overstimulation behavior as misbehavior or escalate behavior by encouraging children to release pent-up energy in uncontrolled activity

Description:
MOTIVATION

21. Internal vs. External Sources of Motivation and Rewards for Achievement

5............4.............3.............2.............1

. Encourages development of internal rewards and internal critique
. Guide children to see alternatives, improvements, and solutions
. Guide children to find and correct own errors
. Teacher points out how good it feels to complete a task, to try to be successful, to live up to one’s own standards for achievement
. The reward for completing a task is the opportunity to move on to a more difficult challenge

Uses external rewards and punishments
. Corrects errors; makes sure children know right answers
. Rewards children with stickers, praises in front of group, holds children up as examples
. Motivation is through: -percentage or letter grades -stickers -stars on charts -candy -privileges

Description:

22. Teacher as a Model for Motivation

5............4.............3.............2.............1

. Through relationship with teacher, child models teacher’s enthusiasm for learning, identifies with teacher’s conscientious attitude toward work, and gains in self motivation
. Children identify with teacher’s lack of enthusiasm and interest in his or her work and emulate it

Description:
PARENT-TEACHER RELATIONS

23. Teacher’s View of Parents

5.............4.............3.............2.............1

- Parents are partners
- Periodic conferences are helpful
- Parents are welcome at school
- Home visits by teachers are encouraged
- Teachers listen to parents and respect their goals for the child, their culture, and their family configuration
- Teachers not given adequate time to work with parents
- Subtle messages make parents feel unwelcome at school
- Parents’ role is to carry out the school’s agenda

Description:

24. Parent Involvement in the Classroom

5.............4.............3.............2.............1

- Family members are encouraged to help in the classroom
- Family members are encouraged to help outside the classroom (such as making instructional materials)
- Family members are asked to help with decision-making where appropriate
- Schedule is too tight to include parents
- Parent participation policy is not followed up
- Teachers’ only contact with parents is attending formal PTA/PTO meetings
- Contacts are formal through report cards and conferences once or twice during the year

Description:
EVALUATION

25. Evaluation methods.

5................4................3................2................1

Assessment through observation and recording at regular intervals. Results are used to improve and individualize instruction. Children are helped to understand and correct errors.

Regular testing on each subject. Graded tests sent home or filed after they are seen by children. Teach to test to ease children’s stress.

Description:

TRANSITIONS

26. Transitions Within the School.

5................4................3................2................1

Children are assisted in making smooth transitions between groups or programs throughout the day by teachers who maintain continuity, maintain ongoing communication, prepare children for each transition, involve parents, and minimize the number of transitions necessary.

Day is fragmented among many different groups and programs with little attempt by adults to communicate or coordinate successful transitions.

Description:
27. Transitions Within the Classroom

5...............4...............3...............2...............1

- Transition activities (i.e. special song)
- Warning signals are given
- Next activity is intrinsically enticing

Description:

- Single announcement
  - Abrupt changes
  - Wait for all to arrive
  - Little time is allowed for transition
  - Individuals are singled out for being slow or distracted
APPENDIX D

GRAPHIC PRODUCT EVALUATION
Graphic Product Evaluation, first Version

**Drawing**
1-Scribbles
2-Prerepresentational patterns and shapes
3-First Representation (beginning with tadpole people)
4-Storytelling
   (based on Smith, 1983)

**Crossover**
Graphemes with pictures, no linearity
1-mock letters
2-real letters
Graphemes in lines, pictures also included
3-mock letters
4-real letters, name only
5-real letters, other than name
6-Approximately one-to-one correspondence of
t   letters and drawn objects
   (based on Ferreiro, 1984)
When two categories are represented, the highest level
will be coded.

**Writing**
Letters
1-Linear scribbles
2-mock, no linearity
3-mock with linearity
4-real, no linearity
5-real with linearity
Words in groups
6-mock letters
7-real letters, no attempt to relate to word sounds
8-invented spelling
9-correct spelling

Nonlinear scribbles will be coded under drawing, because
there is no way to tell whether the child intended to write
or draw without verbal communication.
   (based on Hardy, 1982; Metropolitan Readiness Assessment)
Graphic Product Evaluation, Modification

Drawing

1-Scribbles
This classification refers to uncontrolled, random lines or dots formed for kinesthetic purposes only.

2-Prerepresentational patterns and shapes
This classification includes both closed shapes or patterns and lines that seem to have been formed through controlled actions. While they seem to depict no specific object, their shape seems to be purposeful and non-random in nature.

3-First Representation (beginning with tadpole people)
Early representations of people may be found in this classification. While these people may have separate bodies, arms or legs may be missing. If both arms and legs are present, they will be in the form of sticks. Animals look more like people with specialized ears or a tail. Legs will still be in stick form. Trees and plants consist of a circle with a trunk or stem and possible rays extending from the circle (equivalent to the sun).

4-More Detailed Representation
People are formed with more detail in this classification. Arms and/or legs will be drawn as loops rather than sticks. If stick limbs are drawn, hair and other body details are included. Facial features are included and properly placed on all representations of people. Fingers and toes as well as other details are often included. Houses are either decorated with lines, have curtains at the windows, or include an unusual architectural detail. Animals include more than a simple outline, or two circles with stick legs. Grass or some other indication of a horizon may be included, but this is not necessary. Often children in this stage will include a corner sun. However, this feature does not always identify this classification. Some children who are working at a much less detailed level of drawing will include a corner sun in imitation of a friend’s work.

(based on Smith, 1983)
Writing
Letters
1-Linear scribbles
2-mock, no linearity
3-mock with linearity
4-real, no linearity
5-child’s name only
6-real with linearity
Words in groups
7-formed with mock letters grouped in word forms
8-formed with real letters or numbers grouped in word forms, no attempt to relate to word sounds
9-invented spelling
10-correct spelling

Nonlinear scribbles will be coded under drawing, because there is no way to tell whether the child intended to write or draw without verbal communication.

(based on Hardy, 1982; Ferreiro, 1984; Metropolitan Readiness Assessment)

In this form of the instrument, “name only” is coded before other words or real letters with linearity because some teachers emphasize name writing before children have discovered the use of letters or words in other situations.
APPENDIX E

VERBAL STORYTELLING CLASSIFICATION
VERBAL STORYTELLING CLASSIFICATION

Level 0: Refusal
No story is told. Child refuses to say anything.

Examples: "I don’t know"
"It’s just a picture"

Level I: Naming
Objects in the picture are labeled. No attempt is made to relate objects to each other or to indicate action.

Examples: "That’s a tree, and this is a pumpkin."
"This says ‘go’, that’s my name."

Level II: Description (Static)
Objects in the picture are related to each other and are explained as a static state. No action is described.

Examples: "The tree is in a pumpkin patch"
"This says "go, Jay.‘"

Level III Description (Action)
Objects in the picture are related to each other and are explained as a part of an action.

Examples: "The tree is blowing in the breeze. That keeps the pumpkins cool."
"This tells me to get going."

Level IV: Interpretation
Information can be seen in the picture, but it is attributed to a specific reason rather than simply described.

Examples: "The tree is taller than the pumpkins. It ate more food and grew faster."
"This tells me to go. (I’m getting ready to run a race)."

Level V: Inference
Objects in the picture are coordinated with previously gained knowledge and experience. This may include cause and effect.

Examples: "The tree is waiting for the farmer to come make the pumpkin into a jack-o-lantern because it’s nearly Halloween."
"I’m running a race. I have a number on my
shirt. If I run faster than everyone else, I win. Everyone is cheering me."

Level VI: Evaluation or Judgement
Evaluation or judgement is made concerning the events in the story based on concepts related to the events rather than the events or objects themselves.

Examples: "Halloween is lots of fun."
"You have to work hard to win races."

Level VII: Metalanguage
Speech suggests that the child is thinking about the process of writing.

Examples: "I like writing stories."
"This letter looks like a pumpkin."

If storytelling fits more than one category, then the highest level observed will be coded.
APPENDIX F

LANGUAGE EVALUATION GUIDELINES AND FORM
Language Evaluation Guidelines

Private Language should be coded when the child is looking at his paper, the ceiling, or out into space. Under the following circumstances, Peer Language should be coded instead: when the target child calls another child’s name as he speaks or when he uses a term to call his work to the attention of another child. ("Look, Danny," "Hey, you guys,"").

Peer Language should be coded when the child is looking at another child or at another child’s paper. This category should also be used when another child’s name is called or the target child uses any other method to call the attention of his peers to his work. In addition, when the child comments on the work of another child this category should be used. Private Speech should be coded instead if the child talks about the work of his friends in third person ("They all made circles") unless the child is obviously talking to one child about the work of another child.

If a child begins talking while looking down, but looks at his peers after the speech is completed or toward the end of the speech, code the incident as peer speech.
Language Evaluation

Observer_____________ Date_________ Time__________ Group________

School_________________________ Class____________________

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<th>Name</th>
<th>Code</th>
<th>First Words</th>
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VITA

Jean Germany Mosley graduated from Mississippi College in 1968 with a BMEd. She taught choral music in the West Baton Rouge Parish, Louisiana school system for one year. Following this, she was employed by Southside Baptist Preschool in Baton Rouge, LA for sixteen years, serving as four-year teacher, two-year teacher, and director.

In 1971 she completed requirements for a MEd from Louisiana State University in elementary education. She returned to LSU in 1987 to begin work on a doctorate in early childhood education. While there she served in a variety of teaching positions, including field supervisor for the course Reading Instruction in the Elementary School, instructor for Developmental Reading I, and instructor for Foundations and Principles of Elementary Education. Research duties included developing a program to teach low-income parents how to use questioning techniques as they read to their children, and assisting in a study of stress among kindergarten children in classrooms varying in their degree of developmental appropriateness. While a graduate student at LSU, she was awarded the Alice B. Teddlie Scholarship for 1988 by the Louisiana Association on Children Under Six.

She resides in Tulsa, Oklahoma, where she has taught at both the preschool and elementary levels. She has conducted numerous workshops and written preschool church
literature for the Southern Baptist Sunday School Board. She is presently serving as consultant for Oral Roberts University in the development of a graduate program of early childhood education.
DOCTORAL EXAMINATION AND DISSERTATION REPORT

Candidate:  JEAN G. MOSLEY

Major Field:  EDUCATION

Title of Dissertation:  A COMPARISON OF LANGUAGE AND GRAPHIC PRODUCTS OF STUDENTS FROM KINDERGARTEN CLASSROOMS DIFFERING IN DEVELOPMENTAL APPROPRIATENESS OF INSTRUCTION.

Approved:

Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

Craig H. Hart

Jane Wolk

Diane C. Busto

Date of Examination:  OCTOBER 31, 1991