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No. 7460

THE RELATIONSHIP OF DEVELOPMENTALLY APPROPRIATE  
BELIEFS AND PRACTICES OF GREEK  
KINDERGARTEN TEACHERS

THESIS

Presented to the Graduate Council of the  
University of North Texas in Partial  
Fulfillment of the Requirements

For the Degree of

MASTER OF SCIENCE

By

Ioanna Syrrakou, B.A.

Denton, Texas

December, 1997

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Sixty Greek kindergarten teachers were surveyed regarding their teaching beliefs and practices using the Teachers Questionnaire based on guidelines recommended by the National Association for the Education of Young Children. A Varimax factor analysis produced four factors for the Teacher Belief Scale and five factors for the Instructional Activities Scale. Scores on developmentally appropriate factors were consistently higher than factors classified developmentally inappropriate. Correlation between appropriate beliefs and activities was significant ( $r = .470$ ); correlation between inappropriate beliefs and practices was significant ( $r = .475$ ). However, developmentally inappropriate beliefs were also positively correlated with developmentally appropriate practices ( $r = .537$ ). Developmentally appropriate beliefs were not correlated with inappropriate practices. Results were discussed with possible theoretical and practical implications for future research and teacher development.

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## TABLE OF CONTENTS

	Page
LIST OF TABLES .....	v
Chapter	
1. INTRODUCTION .....	1
Statement of the Problem	
Purpose of the Study and Research Questions	
Importance of the Study	
2. REVIEW OF THE LITERATURE .....	7
Philosophies of Early Childhood Education	
The Behaviorist Movement	
Constructivism	
Constructivist/Interactionist Philosophy and	
Developmentally Appropriate Practice	
Teachers Theories and Beliefs	
Conclusion	
3. METHODOLOGY AND LIMITATIONS OF THE	
STUDY .....	32
Methodology of the Study	
Limitations of the Study	
4. PRESENTATION AND ANALYSIS OF DATA .....	37
Results	
Describing Teachers' Beliefs and Practices	
Relationships of Beliefs and Reported Practices	
Demographic Factors Influencing Beliefs and Practices	
5. CONCLUSIONS AND IMPLICATIONS .....	51
Research Questions	
Discussion	
Implications and Suggestions	

	Page
APPENDIX .....	70
BIBLIOGRAPHY .....	77

## LIST OF TABLES

Table	Page
1. Factors From the Teacher Belief Scale .....	39
2. Factors From the Instructional Activities Scale .....	44
3. Factors' Mean and Standard Deviation .....	48
4. Correlation Coefficients Between Belief Factors and Practice Factors .....	48
5. Correlation Coefficients Between Total Belief Factors and Total Practice Factors .....	49

## CHAPTER 1

### INTRODUCTION

During the last several decades a widespread concern has risen among early childhood educators regarding the policies and content of kindergarten programs. Through the 1950s pre-schools and kindergartens in the United States were basically child-centered and developmentally oriented (Hamilton, 1994/1995). In the 1960s, however, these schools came under pressure to change with a tendency to move first grade objectives, activities, and comparative/competitive evaluation methods down into to kindergarten (Bryant & Clifford, 1992; Davis, 1989). Many early childhood educators fear that this emphasis on intellectual development has bred a curriculum favoring teacher-directed activities, encouraging rote-learning and paper-and-pencil activities, offering structured, academically oriented instructional experiences, diminishing the role of play as a vehicle for intellectual growth, and ignoring the individual differences of the children. Clearly, there has been a shift to encourage, if not pressure, children to succeed academically (Davis, 1989; Doliopoulou, 1996; Moyer, Egertson, & Isenberg, 1987). Hamilton (1994/1995) attributed these significant changes in today's kindergartens to "social pressures and the different

points of view concerning the purpose of kindergarten and the ways children construct knowledge” (p. 4).

Many educators in the field of early childhood education have expressed dismay over kindergarten curricula that emphasize academic skills over child-centered learning. In 1986, the National Association for the Education of Young Children (NAEYC) responded to the call for a national framework concerning indicators of quality in pre-school programs by publishing two position statements regarding developmentally appropriate practice in early childhood programs (Fowell & Lawton, 1992; Hoot & others, 1989). Subsequently, these statements were included in a NAEYC book entitled Developmentally Appropriate Practice in Early Childhood Programs Serving Children From Birth Through Age 8, edited by Bredekamp (1987). In less than 7 years, this work had sold over 500,000 copies and had served as the primary resource for the accreditation of over 3,500 early childhood programs (Parmar & Hoot, 1995). The NAEYC guidelines defined developmentally appropriate practices (hereafter referred as DAP) and developmentally inappropriate practices (DIP) using both philosophical and theoretical ideas as well as practical examples. The guidelines clarified both “why” certain practices are appropriate and suggested “how” appropriate practices should be implemented for each age group (Bredekamp, 1987; Hyson, Hirsh-Pasek, & Rescorla, 1990).



Developmental appropriateness is a philosophy that has as basic tenets both age appropriateness and individual appropriateness. NAEYC's set of developmentally appropriate practices take into account the uniqueness of each child--the child's individual age, needs, culture, and economic background (Bredekamp, 1987; Gallen, 1994; Willis, 1993). Matching the current research-findings related to child development with the demands of the curriculum, this approach lends itself to an integrated curriculum providing physical, emotional, social, and cognitive development (Bryant, Clifford, & Peisner, 1991; Kostelnik, 1993). This approach encourages direct-experience, child-initiated activity, and social interaction (Hyson et al., 1990); allows time for play and exploration in a classroom environment stocked with concrete and interesting materials (Doliopoulou, 1996); and provides opportunities for whole language approach and concrete mathematics and science (Charlesworth et al., 1993).

Teachers' beliefs regarding DAP and how these beliefs, either appropriate or inappropriate, influence their particular classroom practices is a topic which has been studied recently. Many teachers feel distressed in their classroom when caught between the profession's calling for DAP with young children and a reality they perceive coming from an increasingly task-based and task-oriented society, demanding more formal academic work (Bredekamp & Shepard, 1989; Charlesworth, Hart, Burts, & Hernandez, 1991; Spidell-Rusher,

McGrevin, & Lambiotte, 1992). This dilemma has led to an interest in what teachers say they believe philosophically and in what they report that they do. Charlesworth et al. (1993) reported that

professed importance of DAP was stronger than what was reflected in their reported classroom activities and materials. . . . There is still a need to understand why there is this discrepancy in order to find the key to helping teachers teach in line with their professed developmentally appropriate beliefs. (pp. 273-274)

### Statement of the Problem

This study targeted Greek kindergarten teachers and examined their beliefs and practices based on the set of guidelines for DAP published by NAEYC. Congruence between beliefs and practices was examined.

### Purpose of the Study and Research Questions

In a series of studies, Charlesworth and her colleagues attempted to identify and subsequently explore teachers beliefs and teachers' activities (Charlesworth et al., 1991, 1993). Irvine (1993), Hamilton (1994/1995), Fei (1995/1996), and Doliopoulou (1996) used the Charlesworth et al. (1993) questionnaire to survey kindergarten teachers' self-reported beliefs and practices. As a follow-up to these studies, conducted largely in the United States, this study described Greek kindergarten teachers' self-reported beliefs and practices and identified the relationships between them. Specifically, this study addressed four research questions:

1. What are the beliefs of Greek kindergarten teachers regarding developmentally appropriate practices?
2. What are the reported practices of Greek kindergarten teachers? Are these practices developmentally appropriate?
3. What is the relationship between the beliefs and practices of Greek kindergarten teachers? Does a relationship exist between developmentally appropriate beliefs and practices?
4. Are demographic factors (stated influences, years of experience, and number of children in the classroom) related to the beliefs and practices of Greek kindergarten teachers?

### Importance of the Study

This study extends a research effort to determine congruence between teachers' beliefs and practices and on factors that exert influence upon teachers' beliefs and practices. The ultimate goal is to identify what factors contribute the most to forming developmentally appropriate beliefs and practices and subsequently to planning and implementing appropriate educational reforms. The first step, however, is to examine whether teachers already use DAP and if their self-reported beliefs are congruent with their self-reported practices. The next step is to attempt to sketch, based on the above data, teachers' profiles so that they might recognize their own beliefs and practices. The benefit of continuing research is additional information which may increase the number of

teachers using developmentally appropriate practices with young children.

## CHAPTER 2

### REVIEW OF THE LITERATURE

This study examines Greek kindergarten teachers' beliefs and practices related to the National Association for the Education of Young Children's (NAEYC) guidelines for developmentally appropriate practices; congruence between self-reported beliefs and self-reported practices is also investigated. The literature supporting this study falls into three categories: (a) underlying philosophies of current kindergarten practices, (b) nature and need for developmentally appropriate practices (DAP), and (c) prior research related to teachers' beliefs and practices.

#### Philosophies of Early Childhood Education

In 1840, Friedreich Froebel founded the first kindergarten in Germany. The name, "children's garden," suggested a place where children would be carefully nurtured much like growing plants. The Froebelian philosophy became the guiding philosophy of American kindergartens for over a century, at least through the 1950s (Hamilton, 1994/1995; Moyer, Egertson, & Isenberg, 1987). However, Bryant, Clifford, and Peisner (1991) noted that

the teaching of kindergarten has been influenced by periodic shifts in philosophies about the nature of child development and policies about the role of the public schools. . . . At times, kindergarten has

also been viewed as an agent of social reform. Clearly, no method or theory of teaching kindergarten has achieved unanimous support, undoubtedly because the main goals of kindergarten have also varied--socialization, teaching the three Rs, getting ready for first grade, or stimulating creativity and independence. (p. 784)

They concluded that early childhood education has, at different times, been asked to fulfill all of these goals.

The competing goals in early childhood education clearly reflect the different philosophies of education. The philosophical beliefs emphasize, to various degrees, the role of biology and environment in learning. According to Kostelnik, Soderman, & Whiren (1993), four philosophies have played a major role in early childhood education during the 20th century: psychoanalysis, maturationism, behaviorism, and interactionism. However, Spodek (cited in Davis, 1989), emphasized that early childhood programs were shaped primarily by two different views of the nature of man--the behavioral view and the phenomenological view. Following the behaviorist, man is a passive organism with behaviors exclusively modified by the external environment (Mayer, 1996); the phenomenologist, on the other hand, sees the child as a source of action who is motivated by its own internal drive and makes its own choices (Davis, 1989; Wolfgang & Wolfgang, 1992).

The educational implications that derive from these two approaches differ dramatically in the ways each side views the processes

of learning, teaching, and development. Spidell-Rusher, McGrevin, & Lambiotte (1992) stated that

the curricular model that derives from behaviorist beliefs is a teacher-directed approach that emphasizes academics taught predominantly through teacher-directed discussions and paperwork. Lessons are highly structured, with teachers continually assessing student competence, modeling correct procedure, and giving feedback. (pp. 278-279)

In the child-initiated approach the teacher acts more as a facilitator of a self-motivated active child (Rusher, McGrevin, & Lambiotte, 1992).

### The Behaviorist Movement

Behaviorism was the dominant learning theory from the 1920s through the 1960s. Although less apparent today, behaviorist theory still exudes much influence upon contemporary educational practice (Murray, 1996). Thorndike, the forerunner of behaviorism, wanted to develop a “science” of education that would explain and objectively measure all learning. Initially based on research with animals and later applied to humans, his work was founded “on the idea that learning involves the strengthening or weakening of associations between a given stimulus situation and a given response” (Mayer, 1996, p. 152). Skinner and Hull (cited in Mayer, 1996) refined Thorndike’s methods and theory.

### The Behaviorist Philosophy of Learning

Behaviorism, as Rowen, Byrne, and Winter (1980) stated, views the child as “a passive receptacle into which learning can be poured”

(p. 7); other influences to learning as previous experience, motivation, and inner rationality are omitted (Hamilton, 1994/1995; Lawton, 1996; Rowen et al., 1980). Behavior is explained in terms of previous or expected rewards leading one to a desired behavior or to the expectation of punishment for unwanted behavior (Wolfgang & Wolfgang, 1992). This reinforcement causes students to become competent learners at any age.

The role of the teacher is to present the facts and the skills and dispense rewards and punishment to their analogous recipients. Repeated connections between stimulus and response lead to gradual increase in the number and strength of learning connections (Berg, 1997; Mayer, 1996). Thorndike's law of effect and law of exercise suggest that all people learn in the same way--regardless of age, competence, or interest. This premise favors a curriculum where rote learning and practice-makes-perfect are the basic tenets. Learning is virtually synonymous with the absence of play, long periods of instruction, drills to reinforce basic skills, and, subsequently, habit formation (Hamilton, 1994/1995; Mayer, 1996; Rowen et al., 1980).

For Skinner, knowledge can be broken into small and simple pieces and presented to the learner gradually and logically. In learning programs, the learner is introduced to information in logically ordered small steps and is "required to respond at each step. . . . Learners then receive immediate feedback about how accurate their answers and



thereby their learning are at that point” (Murray, 1996, p. 190). Constant success and reward at each small step typically strengthens the learning bond (Murray, 1996).

### The Influence of Behaviorism

The practical applications of behaviorism cover a range from child raising and education to therapy; early computer learning packages for school or home often incorporated Skinnerian principles (Murray, 1996). The circumstances in the late 1950s and early 1960s--the launching of Sputnik in 1957 by the Russians and the “war of poverty”--resulted in a view of education as the panacea for all the ills of society (Bidne, 1989). Skinner’s programmed textbooks and teaching machines flourished. The sequential behaviorist perspectives about learning shaped the primary schools’ curricular and its teaching methods (Hamilton, 1994/1995; Kostelnik et al., 1993). A new emphasis on testing was also consistent with behaviorism. Rowen et al. (1980) noted that this behavioral orientation “not only has been popular in academic environments, but it has filtered down to kindergartens”(p. 8). The effectiveness of the kindergarten focus on children’s emotional needs was questioned and an academic emphasis prevailed (Bryant & Clifford, 1992; Kostelnik et al. 1993).

By the 1970s, early childhood professionals wanted to balance teaching and self-discovery learning. They wanted children to participate in teacher-directed activities but also for the child to play; they wanted to

increase the child's academic skill, but not at the expense of its self-esteem. Educators became increasingly interested in the philosophy and research of Piaget which focused on how children developed their thinking through interaction with their surroundings (Kostelnik et al., 1993).

## Constructivism

### Cognitive Constructivism

Piaget conceived human cognition as a “network of mental structures created by an active organism constantly striving to make sense of experience” (Berg, 1997, p. 212). For Piaget and other psychologists and educators who support a constructivist learning theory, knowledge is not an external package that is constructed by an intrinsically motivated cognitive being through interaction with the environment (Berg, 1997; Crain, 1992; Kostelnik et al., 1993; Murray, 1996; Rowen, 1980).

According to Piaget, schemas--organized ways of making sense of experience--change with age. Cognitive development takes place through four stages: sensorimotor, preoperational, concrete operational, and formal operational. Although children may pass through stages at different rates, Piaget claimed that his sequence is invariant and universally applicable (Berg, 1997; Crain, 1992). Each stage of development is characterized by qualitative changes in schemas through

two intellectual procedures--adaptation (assimilation and accommodation) and organization. Piaget explained how these changes occur. Effective schemas are produced when assimilation (interpretation of the world according to existing schemes) and accommodation (the adjustment or creation of new schemes in order to interpret new information) are in dynamic balance (Berg, 1997; Gottlieb & Rasher, 1995; Marshall, 1996).

Piaget's work has been labeled cognitive constructivism partly to differentiate it from social constructivism (Marshall, 1996). Cognitive constructivism identifies the individual as the central determinant in the construction of knowledge; at the other end of the constructivism spectrum, the social constructivists emphasize the influence of the social environment and culture in the construction of knowledge (Reynolds, Sinatra, & Jetton, 1996).

### Social Constructivism

While Piaget focused on the interaction between the child and the environment, Vygotsky emphasized another element yet in constructivism--the interaction of the child with the social environment. Both Piaget and Vygotsky agreed on the fundamental biological nature of human learning, but Piaget had a more internal orientation (Berg, 1997; Berg & Winsler, 1995). Vygotsky created a theory that "combines the 'natural line' from within and the 'social-historical line' influencing the child from outside" (Crain, 1992, p. 194). Cognitive development

was the result “of the internalization of social interactions mediated by symbol systems, such as language” (Reynolds et al., 1996, p. 98).

Piaget’s theory suggested universal stages of cognitive development, while Vygotsky suggested individual development differences based on cultural and social interchange. Finally, Vygotsky believed Piaget placed too much emphasis on development as prerequisite for learning. Vygotsky (cited in Berg & Winsler, 1995) perceived “development and learning as identical” (p. 103 ). As Vygotsky (cited in John-Steiner & Mahn, 1996) claimed:

Learning is not development; however, properly organized learning results in mental development and sets in motion a variety of developmental processes that would be impossible apart from learning. Thus learning is a necessary and universal aspect of the process of developing culturally organized, specifically human, psychological functions. (p. 198)

More mature members of society play a fundamental role in learning when they operate within the child’s zone of proximal development--“the distance between a child’s independent problem-solving ability and his or her potential for success through collaboration with others” (Reynolds et al., 1996, p. 98).

### Teaching According to Piaget and Vygotsky Theories

Despite differences between them, Piaget and Vygotsky agreed that a strictly behaviorist theory of learning is inadequate to explain how people learn. Cognitive and social interactions of many kinds lead to a highly individual set of schemas. Rather than merely a reinforcement of

learning connections, experience provides many opportunities for learners (of all ages) to assimilate and accommodate (Berg, 1997; Gottlieb & Rasher, 1995). The educational implications derived from Piaget and Vygotsky theories clearly have features in common, such as the opportunities for active participation, inquiry oriented experiences, and the acceptance of individual differences (Joyce & Weil, 1996).

Piaget's theory embraces discovery learning, sensitivity to children's readiness to learn, and acceptance of individual differences. In a Piagetian classroom, self-initiated discovery is promoted. Teachers provide a rich variety of activities for both individuals and small groups designed to promote exploration and permit children to choose freely. The child is a busy, self-motivated explorer who forms ideas and tests them against the world without pressure. Teachers are not to impose new skills unless children indicate interest or readiness. Knowledge is acquired by an innate drive supported by a rich, stimulating environment (Berg, 1997; Crain, 1992; Joyce & Weil, 1996).

A Vygotskian classroom promotes assisted discovery. Teachers guide children learning with explanations, demonstrations, and verbal prompts, carefully tailoring their efforts to each child's zone of proximal development. Assisted discovery is promoted by peer collaboration. In a Vygotskian classroom, pupils who vary in ability and age work in groups structured in a way that cooperative learning may occur. Cooperative learning and reciprocal teaching are the Vygotskian-based educational

innovations. Knowledge is acquired by maturation and interaction with knowledgeable members of each one's culture. The concepts of scaffolding and the zone of proximal development led to different educational practices than Piaget's (Berg, 1997; Berg & Winsler, 1995; Murray, 1996).

According to Kostelnik et al. (1993), the amalgamation of learning theories (Piaget, Vygotsky, Erikson, Dewey, Bandura, and Gardner) and instructional practices "emphasizing the interaction between biological and environmental influences" constitute "the interactionist philosophy" (p. 20). This philosophy affected decisions in all the levels of the educational reality as well as goals, teacher's role, and organization of materials. The early childhood educators who have tried to design constructivist/interactionist approaches emphasized the value of active play, many concrete experiences, and problem-solving. The adult assists the child through modeling and natural language, rather than didactic lesson. The interactionist classroom is more child-centered with adult support and stimulation. The natural impulse for learning is nurtured through student choice of activities which might be organized themes or other ways of connecting ideas. The teacher plans activities age and individual appropriate so that children are challenged. Play is viewed as a learning procedure, which involves "not only materials and equipment, but also words and ideas that promote literacy and develop thinking skills. In addition to the three Rs, play promotes problem-solving,

critical thinking, concept formation and creativity” (Moyer, Egertson & Isenberg, 1987, p. 238).

### Constructivist/Interactionist Philosophy and Developmentally Appropriate Practice

Although Piaget was first studied in the 1950s and 1960s, by the 1980s many early childhood educators embraced the cognitive/interactionist philosophy and advocated it as the basis for educational programs, especially for young children (Kostelnik et al., 1993). In 1986 the NAEYC through consultation with a wide range of educators, published two position statements regarding developmentally appropriate kindergarten practices across all areas of the educational procedures (Bryant et al., 1991). The guidelines were strongly based in the interactionist philosophy of learning and teaching and were actually “translate interactionist principles into effective classroom practices” (Kostelnik et al., 1993, p. 20). Gottlieb and Rasher (1995) noted that the theoretical basis of DAP lies in the constructivist orientation of many developmental psychologists and the experience-based educational ideas of John Dewey.

Developmentally appropriate practices respect and modified accordingly to age, interests, and the various needs, cultures, and socioeconomic backgrounds of the children (Galen, 1994; Kostelnik, 1992). Gronlund (1995) highlights three essential aspects in DAP:

active learning, purposeful play, and elaboration of learning from simple to complex through many activities.

### Standards for Developmentally Appropriate Practice

In 1987 the statements were included in a book entitled Developmentally Appropriate Practice in Early Childhood Programs Serving Children From Birth Through Age 8 and edited by Bredekamp. Developmental appropriateness is determined as the successful implementation of child development knowledge into classroom practices. By identifying classroom practices consistent with and practices which are at odds with the philosophy, Bredekamp delineated what the profession as a whole defined as appropriate. The book includes guidelines which publicize and clarify standards for appropriate practices in early childhood programs. A general statement of the DAP philosophy including concepts of age appropriateness and individual appropriateness precede the guidelines. Play is recognized as an essential component of a developmentally appropriate program and a vehicle for intellectual growth. A DAP curriculum addresses all areas of child development: physical, emotional, social, and cognitive.

General DAP guidelines are related to four main components of early childhood education: curriculum, adult-child interaction, home and program relationship, and, finally, developmental evaluation of children. DAP is implemented in an unbiased, child-sensitive, and acceptable



social context. An individualized curriculum provides learning through concrete experiences, active exploration, and interactions; while teachers-facilitators “scaffold” children’s learning. Adults are responsible, caring, and responsive, enhance children’s self-esteem, and facilitate their learning. They offer comfort, support, and opportunities for communication and interaction. Parents and teachers should be partners with their main goal being the child’s welfare. Teachers are responsible to welcome parents’ participation and share insights and resources with them. Evaluation is a multifaceted endeavor and cannot be based on single screening. Observation seems to be the most powerful tool to evaluate and plan accordingly.

The guidelines are clarified and translated to everyday classroom practices and actions in part 5 of the book. Selected developmentally appropriate examples of each aspect of the early childhood curriculum are contrasted with corresponding developmentally inappropriate practices. In the brief introduction the interactionist philosophy on cognitive development and the teacher’s role is articulated. Bredekamp (1987) stated that “developmentally appropriate teaching strategies are based on knowledge of how young children learn. Curriculum derives from many sources” and the effectiveness of the program is based on “the degree to which both teaching strategies and the curriculum are developmentally appropriate” (p. 53). The guidelines have also been

endorsed by the Association for Childhood Education International (Moyer, Egertson, & Isenberg, 1987).

### Rationale for Developmentally Appropriate Practices

The necessity to define what exactly constitutes DAP emerged from the increasing use of formal academic curricula on younger and younger children; this trend is described by Shepard and Smith (cited in Bredekamp & Rosegrant, 1992) as “the downward escalation of curriculum” (p. 3). These product-oriented kindergarten programs seem to ignore child development findings on how children construct knowledge and define the learning process in terms of measurable performance in specific skill acquisition (Burts, Hart, Charlesworth, & Kirk, 1990; Mattke, 1990). Children that fail to succeed to the predetermined set of skills that kindergarten curricula sets are tracked into transition classes (Mattke, 1990). Many early childhood educators fear that the retention tactic and the emphasis on academic achievement may have harmful effects on kindergartens. However, little empirical data exists to document this contention (Burts et al., 1990). Systematic research on the effectiveness of DAP programs is needed. Recent efforts are only a start.

The initial study of Burts et al. (1990) attempted to explore the potential relation between frequency of stress behaviors and type of program (appropriate and inappropriate) children attend. Two

classrooms were selected where teachers were classified using DAP and developmentally inappropriate practices (DIP) respectively, according to their scores on the initial version of the Teachers Questionnaire (Charlesworth et al., 1991). The Classroom Child Stress Behavior Instrument was used to document stress indices. The results indicated different rates of stress in both classes according to the type of activity; more overall stress behaviors were exhibited by children in the developmentally inappropriate classrooms than by the children in the developmentally appropriate classrooms. Males exhibited more overall stress behaviors than females. In a follow-up study, Burts et al. (1992) investigated stress behaviors of 103 children in developmentally appropriate programs and 101 children in developmentally inappropriate programs; race, socioeconomic status, and gender differences were taken into account. The results indicated more overall stress behaviors for students of developmentally inappropriate classrooms and for all low socioeconomic status, black students--regardless of the type of program. Gender and race differentiate the amount of stress behaviors in developmentally inappropriate classrooms; male and black children exhibited more stress than the corresponding students in developmentally appropriate classrooms. Gender and race differences were not found in developmentally appropriate classrooms (Burts et al., 1992).

Hyson, Hirsh-Pase, and Rescorla (1990) examined relationships between type of pre-school programs (developmentally appropriate and inappropriate) and academic skills, creativity, and anxiety. Children from formal programs scored a little higher in academic skills than the children from developmentally appropriate programs, but in a follow-up study at the end of kindergarten the gap had been bridged. The children from the inappropriate programs exhibited a higher rate of anxiety and less creativity compared to the children from the appropriate programs.

Burts et al. (1993) explored the relationship between type of program (developmentally appropriate and developmentally inappropriate) and the academic level in reading, language, spelling, mathematics, science, and social studies of the children in first grade. The sample was constituted by 166 first-grade report cards of children who had attended kindergarten classrooms identified as developmentally appropriate or developmentally inappropriate. Findings did not contribute higher achievement to formal teaching. The interesting finding was the higher overall averages of low socioeconomic status in developmentally appropriate classrooms compared to the low socioeconomic status in the developmentally inappropriate classrooms. Socioeconomic status was not a significant variable in developmentally appropriate classrooms.

Despite the increasing documentation of DAP positive effects on the physiological and intellectual status of the children, a broader

implementation is limited. Bryant et al. (1991) documented the extent of DAP in 103 kindergarten classrooms. Results showed that only 20% of the classrooms exceeded the criterion of developmental appropriateness. It is becoming more imperative to survey what teachers' perceptions are about developmentally appropriate practices and potential constraints for the implementation.

To understand the guiding theory that determines teachers' decisions in planning, teaching, and assessing we need to understand what teachers believe to be important and what they believe not to be important are critical issues. These beliefs can then be compared with classroom practice to determine the relationship between beliefs and practice. (Charlesworth et al., 1993, p. 256)

### Teachers' Theories and Beliefs

A variety of researchers have looked at the thought process of teachers. Clark and Peterson (cited in Fang, 1996) categorized teachers' thought processes "into three fundamental types: (1) teacher planning, (2) teachers' interactive thoughts and decisions, and (3) teachers' theories and beliefs" (p. 49). The focus of conventional research on teaching has been teachers' actions and their observable effects on student achievements; thus, relatively little information is available on teachers' thought processes (Charlesworth et al., 1993; Fang, 1996).

Recently, the research interest has shifted from studies on teaching behaviors to an investigation of implicit theoretical systems that drive teacher's thought processes. This new line of research is purported to

enhance understanding of the nature of teaching. The importance of understanding not only what and how teachers teach but the underlying reasons for their actions and choices are considered critical (Fang, 1996; Hamilton, 1994/1995; Isenberg, 1990; McNamara, 1990; Spodek, 1988).

Implicit theories are differentiated from the explicit theories included in professional literature and course instructions. As defined by Charlesworth et al. (1993), “implicit theories are the ideas about instruction that teachers develop from their personal experience and practical knowledge” through which teachers perceive, process, and act upon information in the classroom (p. 256). To understand the nature of teaching, “one must understand teachers’ process of thinking about teaching and the belief systems that drive these processes” (Spodek, 1987, p. 197). Teachers’ theories and beliefs “represent the rich store of general knowledge of objects, people, events, and their characteristic relationships that teachers have” which affect the internal mental processes that take place prior to, during, and after teachers’ actions and decisions (Fang, 1996, p. 49).

Brousseau, Book, and Byers (1988) used the Educational Beliefs Inventory to conduct a cross-sectional study. They described and contrasted beliefs or orientations about teaching between undergraduate students and experienced classroom teachers. Evidence of both uniformity and diversity of the teaching culture emerged from the

analysis. The only variable that showed a significant effect on the vast majority of beliefs measured was years of experience. They concluded that the experience of working and being responsible for one's own classroom has a measurable impact on the individual beliefs (Brousseau et al., 1988).

Spodek attempted to go beyond the study of individual teachers and look at early childhood teachers as a group. He was interested if a set of implicit theories were held more generally by teachers. Spodek's study in 1988 represents a first step in this line of inquiry. The diversity of teachers' implicit theories which he found seemed to suggest fewer commonalities among implicit theories than expected. Spodek also found that kindergarten teachers, like preschool teachers, emphasized classroom management, instructional processes, and planning and organization in stating their theories of instruction. However they differed from preschool teachers in placing less emphasis on play and more on work in order to socialize the children into elementary school. Kindergarten teachers also based their theories on personal values and experience rather than theory (Spodek, 1988).

### Developmentally Appropriate Beliefs and Practices

The relationship between teachers' beliefs and practices and the practical implications for teacher education is attracting increasing attention (Isenberg, 1990). Educators are now beginning to realize that

teachers do hold implicit beliefs on the nature of teaching, on how children learn, the subject they teach, the curricula, and evaluation approaches; what teachers think is strongly related and shapes their actions and classroom decisions (Fang, 1996; Hamilton, 1994/1995; Maitland, 1996/1997; O'Loughlin, 1989; Spodek, 1987).

Although a substantial number of studies supported the notion that teachers' theoretical beliefs become apparent in their pedagogy (Bednar, 1993; Lynott & Woolfolk, 1994; Maitland, 1996/1997; O'Loughlin, 1989), the problem is that the beliefs were apt to be situated and tacit (Orton, 1996). Thus, teachers may have difficulty when attempting to articulate their beliefs explicitly (Isenberg, 1990), or they may not be aware of them.

Bell (1991) assessed the adequacy of the operational theories of six early childhood teachers in New Zealand; some teachers were unable to explain why they acted as they did or were unaware of contradictions between their statements and their actions. Bell (1991) suggested that practice is most effective when teachers are able to make their beliefs explicit; "teachers must make conscious what is often largely unconscious. It means moving beyond habit to become a reflective practitioner who systematically observes what is happening and attempts to explain this in relation to educational goals" (p. 2).

Other studies also investigated the two competing theses of consistency versus inconsistency in the relationships between teacher



beliefs and practices; the complexities of classroom life or external forces can constrain teachers' practices to align with their beliefs. Spidell-Rusher, McGrevin, and Lambiotte (1992) compared the beliefs that teachers and principals have regarding DAP. The teachers disagree with a strong emphasis on academics, favored physical and art activities, and firmly agree with child-centered practices. Female principals reflect similar beliefs, but a discrepancy in belief systems between teachers and male principals emerged. Teachers felt more strongly than principals that district policy favored academics and is not in alignment with what researchers have argued as essential for young children. As teachers saw themselves having less influence in curricular decisions they may have felt administrative pressure to adopt a more skill-oriented model.

Hitz and Wright (cited in Charlesworth et al., 1993) also found that teachers were more supportive of DAP than their principals; teachers perceived an increasing emphasis on academic skill development which was forcing them to teach in a manner that they believed was developmentally inappropriate. Verma and Peters and Hatch and Freeman (cited in Charlesworth et al., 1991) found a large inconsistency between self-reported beliefs and practices.

#### Relationship Between Developmentally Appropriate Beliefs and Practices

The constructivism/interactionist theory provides the basis for developmentally appropriate practices as described in Bredekamp

(1987). A questionnaire designed by Charlesworth et al. on the beliefs and practices of kindergarten teachers examined the congruence of those beliefs with the guidelines of NAEYC regarding DAP. In 1991, Charlesworth et al. measured 113 kindergarten teachers' beliefs and practices in four states across the country. Results indicated that developmentally appropriate beliefs were moderately correlated with DAP while a stronger relationship was found between developmentally inappropriate beliefs and practices. This indicated that when it comes to inappropriate beliefs and practices teachers are more likely to practice what they state as their beliefs. Also the teachers who had the strongest developmentally appropriate beliefs most frequently felt the most control over planning and implementing their instruction while those with developmentally inappropriate beliefs view outside forces such as principals and parents as having more influence on their planning and instruction; some of the latter told the researchers that they "know better" but that parents and principals demanded the use of inappropriate activities (Charlesworth et al., 1991).

In 1993, a replication of the study followed with a slightly revised questionnaire distributed to 204 kindergarten teachers. The findings were consistent with the results of the previous study (Charlesworth et al., 1993). Irvine (1993) also used the Teachers Questionnaire to assess the beliefs and practices of 32 kindergarten teachers who served as cooperating teachers for student teachers from a large university.

Correlational analysis of teachers' self-reported beliefs and practices was nonsignificant in contrast with the significant correlation between developmentally inappropriate beliefs and inappropriate practices. When asked which factors were barriers in the full implementation of appropriate practices, the most frequently-mentioned response was "time."

In 1994/1995, Hamilton surveyed Montana kindergarten teachers' beliefs and practices using the same questionnaire. The responses of 203 teachers showed that philosophical beliefs are reflected in classroom practices and that teachers' perceptions of influences over classroom practices have an impact on beliefs and practices. Along the same line were the responses of Massachusetts teachers' who participated in Fei's research in 1995/1996; they generally reported using practices that were congruent with their beliefs; those with high DAP scores were different from those with low DAP scores in the amount and type of professional development.

Doliopoulou (1996) used the Teachers Questionnaire to assess Greek kindergarten teachers' beliefs and instructional activities. The results indicated various similarities and differences between the Greek and United States studies. As happened in the Charlesworth et al. study, a discrepancy existed between beliefs and practices; more teachers had appropriate beliefs than actually practiced them, while fewer teachers had inappropriate beliefs than actually practiced them. However, while

Charlesworth et al. results show a stronger relationship between inappropriate beliefs and inappropriate practices the opposite happened in Greece; the results showed a high correlation between appropriate beliefs and practices.

Davis (1993/1994) explored the view of how children construct knowledge according to the document DAP in Early Childhood Programs Serving Children From Birth Through Age 8. The results were compared to the views held by early childhood teachers who purported to implement DAP. Findings indicated that, while teachers may express ideas consistent with DAP and may consider themselves developmentally appropriate, in practice they may actually implement activities that reflect developmentally inappropriate practices to a great extent.

### Conclusion

Developmentally appropriate practice is based on the cognitive/interactionist theory of learning. Statements from the NAEYC have described the philosophy, appropriate classroom practices, and inappropriate classroom practices. Recent research on teacher beliefs suggested that teachers' beliefs and practices are not in complete agreement, but that personal theories of learning seem to exert a great influence on how teachers plan and implement the curriculum. Existing research on developmentally appropriate beliefs and practices is in an early stage. However, understanding the genesis of beliefs and the

relationship between beliefs and practices is an important step in achieving developmentally appropriate classrooms for young children. This study is undertaken to extend the existing research on beliefs and to investigate the relationship of beliefs and practices among Greek kindergarten teachers.

CHAPTER 3  
METHODOLOGY AND LIMITATIONS  
OF THE STUDY

*Methodology of the Study*

In the present study, the beliefs and practices of Greek kindergarten teachers' were examined for their alignment with the National Association for the Education of Young Children (NAEYC) guidelines for developmentally appropriate practices. Self-reported beliefs and self-reported practices were analyzed.

Sample Description

The population of this study consisted of all certified kindergarten teachers currently working in Greek public schools in a prefecture of Northern Greece for the 1996-97 school year. The central Office of Primary and Elementary Public Education is in charge of all the public schools of the capital city of the specific prefecture. The first Office of Primary and Elementary Public Education is in charge of all the public schools of the greater area of the capital. The second Office of Primary and Elementary Public Education is in charge of all the rest schools of the prefecture.

A total of 93 questionnaires were distributed to almost all kindergarten teachers of the central and the first Offices of Primary Public Education and 60 were returned. Most of the responding teachers had graduated from a 2-year Training College for Kindergarten Teachers. A range of teaching experience from 1 to 25 years ( $M = 15$ ) was reported with 1 to 10 years of experience by 56% of the responding teachers and 1 to 25 years of experience by 44% of the responding teachers. Class size varied from 3 to 30 children ( $M = 18$ ); 57% had 3 to 18 children and 43% had 19 to 30 children for the 1996-97 school year.

#### Data Collection

With the approval of the directors of the central office and the first office, an envelope with a cover letter, the questionnaire, and a self-addressed, stamped envelope was hand delivered or mailed to all 37 kindergarten teachers of the central Office of the Primary and Elementary Public Education and to 56 kindergarten teachers of the first Office of Primary Public Education. A total of 93 questionnaires were distributed. In an effort to maximize response rate, a call by the researcher to each school was made to give further information for the project. Five weeks after the initial mailing, a follow-up call was made to the non-respondents. Sixty questionnaires were returned (64%).

### The Teachers Questionnaire

Charlesworth et al. (1993) developed the Teaches Questionnaire to identify teachers' beliefs regarding developmentally appropriate programs (DAP), and how these beliefs, either developmentally appropriate or developmentally inappropriate programs (DIP), influenced their classroom practices. The questionnaire is based on NAEYC guidelines for DAP for 4- and 5-year-olds. The Teachers Questionnaire consists of three sections and begins with a few demographic questions and the ranking of six factors on the amount of influence teachers perceive they have on classroom practices. The major portion of the questionnaire consisted of two scales: the Teacher Beliefs Scale (TBS) and the Instructional Activities Scale (IAS).

The initial version of the questionnaire was distributed to 113 kindergarten teachers in four states in 1991. Factors of both scales were fairly strong and independent and the psychometric properties of the measure were encouraging (Charlesworth et al., 1991). Items that did not load significantly were dropped and other items were modified in the 1993 revision. The slightly revised questionnaire was administered to 204 teachers. Results obtained were comparable to the first. Although the factors had a different configuration the results indicated a similar correlation between appropriate and inappropriate beliefs and practices (Charlesworth et al., 1993).



The TBS consists of 37 items regarding teachers' beliefs on several areas of kindergarten instruction based on the NAEYC guidelines. Each item is a statement (e.g., "It is \_\_\_\_\_ that each curriculum area be taught as separate subjects at separate times") which is rated by the teacher on a 5-point Likert scale from "not important at all" (1) to "extremely important" (5). The IAS consists of 34 items; each describes a classroom activity (e.g., building with blocks). The respondent rates the frequency of availability of each activity in his/her classroom on a 5-point scale from "almost never" (less than monthly) to "very often" (daily). The items represent components of kindergarten instruction, as cited in the NAEYC guidelines (Bredekamp, 1987).

The instrument used in this study was the Greek translation of the Teachers Questionnaire developed by Charlesworth et al. (1993). The translation into the Greek language has been already done by Doliopoulou (1996) who carried out a previous survey in Greece in 1993.

### Data Analysis

Data analysis was conducted for each of the research questions using descriptive and analytical statistical tools of the Statistical Package for Social Science (SPSS). Factor analysis was used for question 1 and 2 to establish factors for the TBS and IAS. After factors were established, correlation was computed between factors representing appropriate and

inappropriate beliefs and practices for question 3. Finally, relationships between demographic variables, beliefs, and practices were carried out using an analysis of variance for question 4. In all appropriate tests,  $p < .05$  was set as the level of statistical significance. Additional analysis and data display were done with Statview 4.1 (1994).

#### Limitations of Study

Doliopoulou (1996) stated that “in our case even though the procedure, the measuring techniques, and the methods of analysis of our study were the same with the research of Charlesworth and colleagues (1993), we can not talk about a literal replication of this research” (p. 34). The research is being carried out in another culture and country where teachers are not familiar with the DAP term. However, Greek kindergarten teachers are familiar with the conceptual frame of developmental appropriateness through their uniform state curriculum. The National Curriculum for the Kindergarten issued by the Ministry of Education practically endorses the NAEYC’s guidelines. Therefore, instead of stark comparisons, the purpose of the replication is rather to “suggest a possible starting point for professional discourse regarding the development of a set of international guidelines for quality programs for the world’s children” (Hoot, Parmar, Hujala-Huttunen, Cao & Chacon, 1996, p. 168).

CHAPTER 4  
PRESENTATION AND ANALYSIS  
OF DATA

Results

This study investigated Greek kindergarten teachers' beliefs and practices related to the National Association for the Education of Young Children (NAEYC) guidelines for appropriate and inappropriate practices. Relationships between self-reported beliefs and self-reported practices of Greek kindergarten teachers currently teaching in Greek public schools were determined. Data were collected through the Teachers Questionnaire developed by Charlesworth et al. (1993).

Describing Teachers' Beliefs and Practices

Teacher Belief Scale

Psychometric properties of the Teacher Beliefs Scale. The Teacher Beliefs Scale has item means that range from 1.793 to 4.683 and standard deviations from .676 to 1.448. The principal components analysis produced 10 factors with eigen values greater than 1.0 that accounted for 85.8% of the variance. However, 10 factors demonstrated considerable overlap and dual loadings. Varimax rotation was used to find the most consistent and interpretable factors. Comparing 3-factor,

4-factor, and 5-factor Varimax analysis, the 4-factor structure was chosen. The four factors have eigen values above 2.11 and account for 61.5% of the variance. The factors, the item means and standard deviations, and the factor loadings are shown in Table 1. Two of the factors were classified as appropriate beliefs and two were inappropriate beliefs. Subscale reliability was assessed by Cronbach's alpha. High internal consistencies were obtained for items comprising the first three of four factors (.92, .85, .84, .11, respectively). The first three factors appear to have a strong consistency, while the fourth factor is weak. However, a 3-factor analysis yielded more overlap and less interpretable groupings.

Labeling the factors. Surveying the conceptual consistency between the items that load on the four factors, groups of related items were found within each of the three factors; the fourth factor does not form a consistent group of items. Factor labels were chosen which indicate the underlying educational approach each factor articulates. The factors' meanings are also examined further in Chapter 5.

Factor 1--Child-centered beliefs related to social and language development and integrated curriculum. The items in this factor center on the child as an explorer; the classroom's social context respects individual and fosters autonomy, self-regulation, and social intercourse. The literacy activities are oriented to encourage active engagement,

Table 1

Factors From the Teacher Belief Scale

	Factor				Loadings	
	1	2	3	4	Mean	SD
Factor 1--Child-centered beliefs related to social and language development and integrated curriculum.						
34. Health and safety	.67020				4.517	.813
35. Multicultural and nonsexist	.59764				4.448	.882
33. Integrated mathematics	.48026				4.000	1.089
3. Teacher observation as evaluation technique	.74369				4.322	.955
29. Talk informally with adults	.74215				4.483	.854
31. Provide opportunities to develop social skills	.70954				4.683	.674
21. Children be involved in establishing of social skills (rules for classroom)	.50823				4.350	.936
26. Dictates stories to the teacher	.66425				4.250	1.052
27. See and use of functional print and environment	.63588				3.724	1.167
10. Children allowed to cut their own shapes, perform their own steps in an experiment, and plan their own creative drama, art, and writing activities	.60425				4.300	.966
30. Experiment with writing by use of invented spelling	.50690				3.189	1.360
28. Participate in dramatic play	.68669				4.683	.748
Factor 2--Teacher-directed beliefs related to literacy instruction methods, teaching strategies, and reinforcement (social modification).						
24. Print letters		.77061			2.105	1.160
32. Reading		.75419			1.857	.980

(table continues)

	Factor				Loadings	
	1	2	3	4	Mean	SD
22. Recognizing alphabet		.65999			1.898	1.078
15. Flashcards		.62660			3.050	1.213
16. Basal reading		.49449			2.018	1.269
23. Color within lines		.44600			2.483	1.214
7. Each curriculum area be taught as separate subject		.49251			2.982	1.329
11. Students work silently and alone on seat work		.71577			2.305	1.249
36. Outdoor time have planned activities		.67878			2.200	1.054
20. Teacher uses his authority through punishments and reprimands to encourage a behavior		.58333			1.793	.987
19. Teacher uses his authority through traits and stickers to encourage a behavior		.48414			2.793	1.448
Factor 3--The interactionist view of effective learning.						
13. Learning through interaction with other children			.73265		4.390	.788
12. Learn through active exploration			.68376		4.500	.813
6. Activities responsive to individual differences in development			.67576		4.400	.978
9. Be allowed to select own activities from various learning centers			.65489		4.434	.840
Factor 1--child-centered beliefs related to social and language development and integrated curriculum.						
5. Activities responsive to individual differences in interest			.64697		4.333	.914
8. Teacher-pupil interactions that help develop child's self-esteem and positive feelings toward learning			.56591		4.678	.706

	Factor				Loadings	
	1	2	3	4	Mean	SD
18. In terms of effectiveness, the teacher moves among group and individuals offering suggestions, asking questions, and facilitating children's involvement with material and activities			.45867		4.533	.833
Factor 4--Unlabeled.						
4. Evaluation through workbooks-work sheets				.74026	3.350	.917
14. Workbooks and ditto sheets				.68040	3.217	1.010
37. Input of parents				-.53751	2.621	1.167

Note. SD = standard deviation.

self-expression, and experimentation. The teacher professed beliefs or favored an integrated curriculum and observation as an evaluation tool. This factor was classified as a developmentally appropriate practice (DAP).

Factor 2--Teacher-directed beliefs related to literacy instruction methods, teaching strategies, and reinforcement (social modification). The items on this factor center on the teacher as the ultimate power in the classroom. Students are seen as passive and required to perform on formal literacy tasks. Activities and time are highly teacher-structured, product-oriented, and do not acknowledge any space for individual expression. The behavior modification techniques are directly related to the behaviorist concept of stimulus-response association. This factor was classified as a developmentally inappropriate practice (DIP).

Factor 3--The interactionist view of effective learning. This factor includes items which appeared to describe the teacher interactionist philosophy on learning. All the items in this factor are related to the cognitive/interactionist theory. They indicate agreement with the educational principles of Piaget and Vygotsky. This factor was classified as DAP.

Factor 4--Unlabeled. Three items loaded on this factor with no conceptual consistency, except a flavor of rigidity. This factor was classified as DIP.



### Instructional Activities Scale

#### Psychometric properties of the Instructional Activities Scale.

Similar factor analyses were conducted for the Instructional Activities Scale. Results are summarized in Table 2. Means ranged from 1.132 to 4.767 and the standard deviations ranged from .529 to 1.475. The principal analysis produced 11 factors with eigen values greater than 1.147, accounting for 79.1% of the variance. However, 11 factors demonstrated considerable overlaps and dual loadings. Varimax rotation was used; the 5-factor structure was chosen as the one with the most consistent and interpretable factors. The five factors have eigen values above 1.15 and account for 79.1% of the variance. The factors, the items mean and standard deviations, and the factor loading are shown in Table 2. Two of the factors were classified as appropriate beliefs and three were classified as inappropriate. Subscale reliability was assessed by Cronbach's alpha. High and moderate consistency were obtained for four of the five items (.85, .75, .66, .35, .53).

Labeling the factors. Each of the five factors consisted of a variety of classroom activities. The labels placed on each factor indicated whether those activities were appropriate or inappropriate. Only factor 2, formal literacy activities, had a narrowly focused theme among the items. The other factors had a range of activities which have been labeled by a more general rubric.

Table 2

Factors From the Instructional Activities Scale

	Factor					Loadings	
	1	2	3	4	5	Mean	SD
	Factor 1--Exploratory activities and integrated curriculum.						
1. Blocks	.82611					4.390	.965
11. Playing with manipulatives	.75453					4.517	.833
5. Doing creative writing	.73233					3.467	1.200
29. Specifically planned outdoor activities	.72217					2.607	1.056
8. Singing and listening to music	.69207					4.119	.966
6. Playing with games and puzzles	.62871					4.356	.826
32. Health and safety activities	.60447					3.667	.970
34. Mathematics incorporated with other subject areas	.53221					3.912	.950
7. Exploring animals, plants, and/or wheels and gears	.52044					2.593	.946
	Factor 2--Formal literacy.						
20. Sitting longer than 15 minutes		.77879				2.462	1.475
22. Teacher-directed activities		.73489				2.786	1.202
15. Flashcards		.72720				2.642	1.226
17. Practicing handwriting on lines		.59896				1.882	1.013
14. Work sheets		.52725				2.929	1.263
4. Listening to records or tapes		.45644				3.474	.889

	Factor					Loadings	
	1	2	3	4	5	Mean	SD
Factor 3--Teacher-directed approach.							
14. Work sheets			.46301			2.969	1.263
16. Rote counting			.70564			3.074	1.286
12. Coloring/cutting pre-drawn forms			.61924			3.593	1.353
28. Games/activities directed by parents			.58784			1.132	.440
25. Losing special privileges for misbehavior			.54876			1.389	.528
31. Competitive mathematics activities			.46989			2.947	1.231
23. Children coordinating their own activities in centers			-.40693			4.278	.856
Factor 4--Inappropriate activities and reinforcement.							
30. Multicultural and nonsexist activities				.69084		3.404	1.067
19. Copying from the chalkboard				.65958		1.314	1.449
10. Cutting their own shapes from paper				.62050		3.650	.954
21. Waiting for longer than 5 minutes between activities				.57204		2.423	1.194
24. Tangible rewards for a behavior and/or performance			.51459		3.585	1.184	
Factor 5--Creative exploratory learning and reinforcement.							
9. Creative movement					.58488	3.707	.899
3. Participating in dramatic play					.58250	3.914	.978
27. Use of isolation					-.54432	1.302	.822
33. Drawing, painting, working with playdough, and other art media					.53316	3.667	.970
26. Social reinforcement for appropriate behavior					.52868	4.193	1.060
18. Reciting alphabet					-.42797	1.176	.654

Note. SD = standard deviation.

Factor 1--Exploratory activities and integrated curriculum. This, the most reliable factor, included a broad range of activities related to play and exploration and integrated curriculum. The items were rather general statements of activities which are typical of most classrooms. The factor was classified as DAP.

Factor 2--Formal literacy. All the items concern a formal approach to literacy within a classroom that is teacher-directed. The factor was classified as DIP.

Factor 3--Teacher-directed approach. Items include activities and materials which might be implemented in a highly structured environment where the right product is valued as work and not the procedure. The factor was classified as DIP.

Factor 4--Inappropriate activities and reinforcement. Most items deal with inappropriate teaching strategies and behavioral modification. This is the weakest factor in internal reliability. This factor was classified as DIP.

Factor 5--Creative exploratory learning and reinforcement. The items are centered around creative and exploratory activities, while the two items with negative loadings show an inappropriate approach. The factor was classified as DAP.

### Relationships of Beliefs and Reported Practices

Factor scores were created by summing items within each factor separately for the beliefs and instructional practices. An appropriate belief score for each teacher was made by totaling factor 1 and factor 3; likewise an inappropriate belief score was totaled using factor 2 and factor 4. Factor scores from practice factors 1 and 5 were added together for the appropriate practice score; likewise an inappropriate practice factor score (by adding factors 2, 3, and 4) was made. Each factor mean and standard deviation is shown in Table 3. The correlation between four belief factors and 5 practice factors is shown in Table 4. The correlation between DAP and DIP belief factors and of DAP and DIP practice factors is shown in Table 5.

There was a significant low correlation between developmentally appropriate belief 1 and developmentally appropriate practice 1. There is a moderate correlation between developmentally inappropriate belief 2 and both developmentally inappropriate practices 2 and 4; surprisingly, there also is a low to moderate correlation between developmentally inappropriate belief 2 with developmentally appropriate practice 1 which is the strongest of all. Finally, there is a significant moderate negative correlation between developmentally inappropriate belief 4 and developmentally appropriate practice 5. The strength of the correlation might have been greater with a large sample of respondents.

Table 3

Factors' Mean and Standard Deviation

Factor	Mean	Standard Deviation
Belief Factors		
1	4.262	.663
2	2.499	.701
3	4.465	.600
4	3.083	.628
Practice Factor		
1	3.720	.622
2	2.727	.831
3	2.851	.688
4	2.796	.770
5	3.235	.480

Table 4

Correlation Coefficients Between Belief Factors and Practice Factors

Practice Factors	Belief Factors							
	1 DAP		2 DIP		3 DAP		4 DIP	
	r	p	r	p	r	p	r	p
1 DAP	.2823*	.029	.3460*	.007	.2494*	.055	--	--
2 DIP	--	--	.4974*	.000	--	--	--	--
3 DIP	--	--	--	--	--	--	--	--
4 DIP	--	--	.3116*	.015	--	--	--	--
5 DAP	--	--	--	--	--	--	-.5130*	.000

Note. DAP = developmentally appropriate practice, DIP = developmentally inappropriate practice.

The correlation between the composite belief and practice scale is included in Table 5. Appropriate and inappropriate beliefs were correlated with appropriate and inappropriate practices. The correlation coefficients for developmentally appropriate beliefs and practices was .47 which is a significant result and it was rather expected. The correlation for developmentally inappropriate beliefs and practices is significant as well ( $r = .47, p < .05$ ). The interesting and rather unexpected result is that the strongest correlation was between developmentally inappropriate beliefs and developmentally appropriate practices ( $r = .5372, p = .000$ ).

Table 5

Correlation Coefficients Between Total Belief Factors and Total Practice Factors

Beliefs	Practices DA		Practices DI	
	r	p	r	p
DA	.4703*	.000	.2122	.104
DI	.5372*	.000	.4748*	.000

Note. DA = developmentally appropriate, DI = developmentally inappropriate. \*significant correlation.

### Demographic Factors Influencing Beliefs and Practices

Eighty percent of the responding teachers perceived themselves as the most influential factor in their classroom decisions. As the percentage was so high it was not meaningful to investigate differences for the teachers who scored high in developmentally appropriateness and the teachers who scored high in developmentally inappropriateness.

An analysis of variance was operated to investigate relationships between years of experience or the number of children in the classroom with developmentally appropriate and developmentally inappropriate beliefs and practices. There were no significant results.



## CHAPTER 5

### CONCLUSIONS AND IMPLICATIONS

This study investigated Greek kindergarten teachers' beliefs and practices related to the National Association for the Education of Young Children (NAEYC) guidelines for appropriate and inappropriate practices. Relationship between self-reported beliefs and self-reported practices of Greek kindergarten teachers currently teaching in Greek public schools were determined. Data were collected through the Teachers Questionnaire developed by Charlesworth et al. (1993).

#### Research Questions

In the beginning, a factor analysis was conducted for the Teacher Behavior Scale and Instructional Activity Scale. The factor analysis showed four factors for the Teacher Behavior Scale and five for the Instructional Activity Scale. Most factors have conceptual meaning between items. As the items in each group were scrutinized, an underlying bond revealed. The factors were also associated to several appropriate or inappropriate labels.

Question 1. What are the Beliefs of Greek Kindergarten Teachers Regarding Developmentally Appropriate Practices (DAP)?

Belief factor 1 (BF1). The first factor constitutes appropriate social and language development in an integrated curriculum. In this classroom active exploration, experimentation, and self-expression are valued and encouraged, while literacy engagement is undisturbed, continuous, and integrated. Children are provided with opportunities to interact with others and establish social skills and self-regulation. The underlying philosophy of this classroom is age, and individual appropriate behaviors and activities that take into account children's interest and needs. Teachers facilitate and document progress by observation. It could be the ideal classroom for developmentally appropriate enhancement of social and language development, as it combines appropriate materials with appropriate activities. The appropriateness is not based solely on specific materials but rather on the curriculum arrangements.

Belief factor 2 (BF2). The second factor depicts a classroom where the teacher is in charge of learning. Formal literacy activities and materials are in use. These are the teaching strategies of a developmentally inappropriate classroom and depict the behaviorist approach to learning.

Belief factor 3 (BF3). This factor with the higher means of all factors clustered items related to learning development. Learning occurs through self-discovery, peer collaboration, and in an environment carefully planned to meet the individual and developmental needs of each child. The teacher is a facilitator that provides scaffolding. It articulates basic aspects of interactionist philosophy as it directly leads to ideas of Piaget and Vygotsky. Learning is generated by the inner self and the social context and is promoted by activities within the zone of potential development of the child.

Belief factor 4 (BF4). Only three items cluster in factor 4 and they tend to be developmentally inappropriate practices (DIP). Despite the few items, the theme seems to portray a more rigid approach with more activities and little input from parents.

### Discussion of Beliefs

The three factors would do a rather successful job of clarifying the essence of what constitutes a developmentally appropriate classroom, a developmentally inappropriate classroom and the underlying philosophy of the developmentally appropriate classrooms. Spidell-Rusher, McGrevin, and Lambiotte (1992) stated that implicit belief constructs are based primarily on the view of the nature of man--behaviorist or phenomenologist. "Four belief orientations that have been identified in a number of implicit theory studies are: curriculum priorities, the role of

children's needs and feelings, children's interests and freedom of choice and the importance of social interaction among children" (Spidell et al., 1992, p. 279).

Factor 1 favors an integrated curriculum, encourage social interactions among children and among adults, and takes into account children's interests by providing a variety of open-ended activities and free choices. Factor 2 favors a subject-oriented specific curriculum, limits social interactions among children, and provides an environment of more didactic materials. As everything is planned there is little room for free choices and the materials are not appropriate. Factors 1 and 2 present the implicit beliefs of teachers on the nature of man and subsequently the consistent teaching strategies and activities. The third factor actually articulates the main elements of constructivism/interactionist philosophy regarding learning. The three factors compose a summary of the main aspects of DAP philosophy. The first factor shows a typical developmentally appropriate kindergarten consistent with an underlying constructivism philosophy on how learning occurs from the third factor. The second factor delineates a typical developmentally inappropriate kindergarten. The three factors parallel guidelines from NAEYC: examples of what is appropriate, the philosophy of why it is appropriate, and examples of what is inappropriate. Average scores from the Greek kindergarten teachers show high scores on DAP factor 1 ( $\underline{M} = 4.262$ ) and factor 3 ( $\underline{M} = 4.465$ ) and a lower mean on DIP factor 2 ( $\underline{M} = 2.499$ ) and factor 4 ( $\underline{M} = 3.083$ ).

Question 2. What are the Practices of Greek Kindergarten Teachers Regarding DAP?

The five practice factors have consistency and include opposite activities and materials of DAP and DIP.

Practice factor 1 (PrF1). The practices are general in nature and would be found in a developmentally appropriate classroom. However, most of these activities can be also seen in a developmentally inappropriate classroom. What would differentiate them would be the way they are implemented, what is set as the desired outcome, and whether they are free choices.

Practice factor 2 (PrF2). The practices show formal literacy in a didactic classroom environment. Although worksheets or flashcards may exist in developmentally appropriate classrooms as choices, it is the rest of the items in the factor that set the academic- and teacher-structured frame.

Practice factor 3 (PrF3). The activities of the factor describe an ordinary day in an developmentally inappropriate classroom. The underlying approach guiding these activities is shown in practice factor 3.

Practice factor 4 (PrF4). The items describe inappropriate teaching strategies and reinforcement. Practice factor 4 very clearly articulates the teacher-directed approach.

Practice factor 5 (PrF5). The items emphasize creativity and exploration. Learning through active interaction with the environment is advocated.

### Discussion of Practices

The statements of the activities are rather general and can be translated as either developmentally inappropriate or appropriate when items depicting teaching strategies do not appear. Activities most of the time are neutral; they are distinguished by the way the teacher decides to implement them. As already has been mentioned, beliefs about the role of the teacher, the nature of the child, the social interactions and the process of learning are the ones that determine an activity as developmentally appropriate or inappropriate.

The means for practice factors 1 and 5--classified DAP-- are higher than the three developmentally inappropriate factors with means of 2.7, 2.8, and 2.8. The frequency of developmentally appropriate activities appear higher for the Greek kindergarten teachers overall.

### Question 3. What is the Relationship Between the Beliefs and Practices of Greek Kindergarten Teachers? Does a Relationship Exist Between Developmentally Appropriate Beliefs and Developmentally Appropriate Practices?

Correlation of four belief factors and five practice factors. Six low to moderate significant correlations were found between the four belief factors and the five practice factors. Most were expected relations between developmentally appropriate beliefs and practices or

developmentally inappropriate beliefs and practices. Two correlations were found between developmentally inappropriate beliefs and appropriate practices: BF2 with PrF1 and BF4 with PrF5. The BF2 (DIP) correlated with PrF2 (DIP), the strongest correlation of all. BF1 (DAP) correlated with PrF1 (DAP) and the BF3 (DAP) correlated significantly with PrF1 (DAP).

Interestingly, the correlation between BF1 (DAP) and PrF1 (DAP) was a little stronger than BF3 (DAP) and PrF1. In the explanation of factors, BF1 was seen as depicting the implicit beliefs while BF3 was the philosophical roots of DAP. The implicit beliefs guide practices equally with a more articulated philosophy. On the other hand, neither of the belief factors were correlated with DIP.

A surprise came with BF2 (DIP) and its significant correlation with PrF1 (DAP) suggesting that people who believe DIP may actually engage in DAP. In the PrF1 the strongest correlation was with BF2 (DIP). What could explain this? Is the DAP unconscious? Is it because the Greek curriculum advocates DAP? Maybe teachers with teacher-centered beliefs are unaware of their beliefs? Do they explicitly advocate a teacher-directed approach?

A closer look into the items of PrF1 shows that they do not include teaching strategies but list required activities. Can developmentally appropriate activities be implemented with developmentally inappropriate strategies? These teachers with developmentally

inappropriate beliefs also correlated with PrF2--formal literacy, PrF4--inappropriate teaching strategies, and inappropriate reinforcement. In general, the “invisible” curriculum aligns with their implicit beliefs. One possible explanation of the discrepancy may lay on the general nature of the items in factor 1; the way teachers will introduce and implement them in class, group size, goals, desired outcome, definition of success, and so forth, may distinguish them as DAP or DIP. For example, which teaching strategy is implemented in singing and listening to the music? What kind of games? How competitive are the games? Do they get verbal appraisal? In which areas are mathematics integrated? What is the teacher’s understanding of health and safety activities? Probably very few teachers would tell you they have excluded these activities; they may exist also in teacher-directed kindergarten classrooms but be so structured, rare, or rewarded that should be labeled inappropriate.

The PrF2 (DIP) had the strongest correlation with BF2 (DIP) something expected from previous research. A very interesting moderate negative correlation was found between BF4 and PrF5 (DAP). BF4, interpreted as a more rigid orientation, was inversely related to creativity.

Correlation of total belief factors and total practice factors. The strongest correlation was between developmentally inappropriate beliefs and developmentally appropriate practices ( $r = .5372$ ,  $p = .000$ ); the



correlation of developmentally inappropriate beliefs was also strong with developmentally inappropriate practices ( $r = .4748$ ,  $p = .000$ ).

Developmentally appropriate beliefs correlated only with developmentally appropriate practices ( $r = .4703$ ,  $p = .000$ ).

#### Question 4. Are Demographic Factors Related to the Beliefs and Practices of Greek Kindergarten Teachers?

No significant correlation was found between years of experience and DAP. Years of experience did not increase or decrease DAP. Snider and Fu (1990) found a relationship between knowledge of DAP and academic training in child development and early childhood education and supervised practical experiences. The results also indicated that experience without formal training does not provide a teacher the knowledge of what constituted DAP. Eighty percent of the teachers perceived themselves as the major influence on their classroom activities.

#### Discussion

The most interesting findings were the correlations between developmentally inappropriate beliefs and developmentally appropriate practices; teachers with DIP beliefs were engaged in both appropriate and inappropriate activities, while teachers with developmentally appropriate beliefs were engaged only in DAP. Prior research had found a stronger correlation between developmentally inappropriate beliefs and practices compared to the correlation of developmentally appropriate beliefs and

practices; thus, teachers with developmentally inappropriate beliefs teach more in line with their beliefs (Charlesworth et al., 1993; Doliopoulou, 1996). In this study, although the correlation of developmentally inappropriate beliefs and practices ( $r = .4731$ ,  $p = .000$ ) was slightly stronger than of those of developmentally appropriate beliefs and practices ( $r = .4703$ ,  $p = .000$ ), the strongest correlation in this study was between developmentally inappropriate beliefs and appropriate practices ( $r = .5372$ ,  $p = .000$ ). This finding is supported also by the correlation of BF2 (DAP) and PrF1 (DAP) although the results may be attributed to the general nature of the items in PrF1 as well.

The major question raised was whether the findings could be attributed to a teacher-directed philosophy as a justified--and respected--choice of the respondents or to a lack of any kind of philosophy. Possibly the reason teachers with developmentally inappropriate beliefs employ both developmentally appropriate and inappropriate practices lie with the nature of the Greek curriculum which endorses developmentally appropriate practices. Teachers, in an effort to combine state requirements and personal educational philosophy, are forced into a combination of teaching methods and activities. These people may score developmentally appropriate for “visible” materials and centers but may score developmentally inappropriate beliefs for the “invisible” things that should also constitute a developmentally appropriate program (i.e., intrinsic rewards, interactive teaching

strategies, and less authoritarian status of the teacher). This amalgamation has been depicted in their answers. The conflict has been documented in previous research where teachers were forced to teach contrary to their developmentally appropriate beliefs (Spidell-Rusher et al., 1992). However, 80% of the teachers responding perceived themselves as the major influence in their classroom decisions. If they had reported pressure by indicating the state or the educational policy as the major influence on their decisions, the combination of developmentally inappropriate beliefs and appropriate practices might be due to this pressure. Therefore, the hypothesis of personal philosophy being in conflict with a mandated curriculum does not appear well grounded.

The second hypothesis was that developmentally inappropriate teachers do not hold a strong teacher-centered approach but rather are driven by unconscious perceptions about the educational procedure and curriculum requirements. This assumption is congruent with research on teacher implicit beliefs “which reside in the minds of the individuals. Implicit theories need to be discovered rather than invented because they already exist, in some form in people’s heads. Thus, implicit theories are the tacit and often unseated beliefs people hold” (Serneberg et al., cited in Lynott & Woolfolk, 1994, p. 253). The developmentally inappropriate teachers may adopt developmentally appropriate and

inappropriate practices equally, because they have no explicit philosophy guiding their decisions about practice.

Although child development tends to overcome the behaviorist perception of uniform and neutral learners, teachers are still viewed as blank and “sterilized” when they enter their classrooms. Based on this assumption, sets of guidelines would be perceived in the same way from everybody; directions would be “poured” in the same amount and effectiveness in each teacher and specific lists of activities and materials will guaranty the successful transition of knowledge. But knowledge is not neutral nor objective; it is interpreted, filtered, and implemented according to each person’s experiences, interests, culture, and philosophical orientation. As Ivey (1996) indicated, “a teacher’s world exerts a strong and implicit influence on what is taught and how it taught, as does the world hypothesis hidden in the curriculum” (p. 144). Teachers come to their profession loaded with social and individual beliefs--mostly implicit--about human nature, life, death, purpose of life, value of learning, definition of success, God, and fate. These beliefs cannot stay out of the classroom doors nor can their perceptions of a successful teacher. The well embedded beliefs--either cultivated from society or formed by an individual’s experiences--constitute a filter through which any kind of curricula has to pass before it’s actual implementation; thus, there is no guarantee that each teacher’s translation of curricula requirements will resemble each other.

Developmentally inappropriate implicit beliefs about learning seem to refer directly to the way most people were schooled;

before teacher education students ever take their first education course, they have spent over 12 years watching teachers go about their work. From this “apprenticeship of observation,” they have developed many ideas about what classrooms are like and what teachers should do. These ideas often shape their own behavior in the classroom. (National Center for Research on Teacher Education, 1988, p. 29)

It seems that traditional authoritarian and didactic patterns of implicit beliefs about teaching override more children-centered beliefs “apparently because they (teachers) themselves have never been given the opportunity to conceive of education as a project of possibility in which students engage in the critical and social construction of meaning” (O’Loughlin, 1989, n.p.).

Based on experience alone, one might expect that most of the teachers would score high in developmentally inappropriate beliefs, as developmentally appropriate practices are not a part of most people’s school experience. However, it was found in this study that teachers with a teacher-directed orientation may employ both developmentally inappropriate and appropriate practices, but the reverse was not documented. Teachers with developmentally appropriate beliefs correlated exclusively with developmentally appropriate practices. The findings suggest classifying DAP as an explicit belief--shaped by conscious will, action, and effort--that teachers are able to justify its importance; congruence between beliefs and practices is depicted in their

classroom decisions. Perhaps an articulated developmentally appropriate philosophy replace unconscious experiential influences.

The implicit beliefs of teachers may be one explanation for the correlation between developmentally inappropriate beliefs and appropriate practices. As the professional requirements deal with visible aspects of the curriculum implementation, responsible teachers align their activities with the demands. How is it possible for beliefs not to become apparent in decisions? How aware are the teachers of this internal discord? What actions should be undertaken so congruence will prevail?

### Implications and Suggestions

The problem could be centered on a search for plausible ways by which teachers become aware of their educational beliefs. One direction would be for each individual to search for the clues leading to the primitive constructions of its own belief system. One complication may hinder this procedure; everyone has a tendency to believe that their own way of teaching is the “natural” or “only” way. On the other hand, teachers become aware of the relativity of terms like “right,” “wrong,” and “this is the way things always happen” through exposure to a diversity of teaching approaches and beliefs; while some of them may instinctively object. In the attempt to defend the fundamental ideas that determine their actions and classroom decisions, teachers are “forced” to

articulate their philosophy explicitly and seek supportive arguments. Providing teachers with opportunities to become acquainted with a diversity of beliefs and to comment on these will reveal their perceptions and gradually foster a “selection” procedure.

The pursuit should go beyond imposing one right philosophy of learning; rather it should be helping teachers to construct and explain knowledge and experience through interaction with other people, research, and theory. The constructivist/interactionist orientation of effective learning should not be limited only to children’s learning. By engaging groups of teachers in meaningful tasks, they can reveal, revise, and construct educational beliefs.

Research in every country may focus on ways to promote the premise of teachers’ communities. In every culture the implementation may be differentiated according to the temper, experience, professional status, and existing educational formulas. The underlying point is for each teacher to become a “reflective practitioner who systematically observes what is happening” in their inner self and environment and analyzes it with colleagues and people involved in the educational reality (Bell, 1991, p. 2). There is no appropriate way to implement a teachers’ community, as long as all pledge to explore, experiment and actively engaged in the search of individual progress and professional enhancement.

### Teachers Questionnaire

Charlesworth et al.'s (1993) instrument is a very promising tool. Establishing consistent factors will require a larger scale study with a wider representation of subjects. The nature of the factors are generally the same in this study as in previous studies, however specific items within the factors vary from study to study. Before a large scale study is conducted, some additional attention might be given to items to clarify their meanings. Suggestions include rephrasing some general and multi-part statements like B10: "It is \_\_\_\_\_ for children to be allowed to cut their own shapes, perform their own steps in an experiment, and plan their own creative drama, art, and writing activities." Which part of the whole statement had the respondent answered? Each question should have only one key point. However, the orientation of the key point may be more "disguised" and prevent the current professionally and socially acceptable answers. More specifically, the statements depicting the teacher-oriented approach are quite obvious and direct; a more suitable rephrase may let unconscious beliefs emerge.

The following are just examples of how some items might be rephrased.

Workbooks are \_\_\_\_\_ in monthly parents conferences; they give objective evidence on child's progress.

It is \_\_\_\_\_ for the children to have the teacher correcting spelling errors.



Writing on lines is \_\_\_\_\_ in order to establish good writing habits.

It \_\_\_\_\_ for the children to silently concentrate on their own work.

In the matter of fairness, it is \_\_\_\_\_ to use only the results of standardized tests to fill the evaluation forms of all children.

To establish appropriate behavior, it is \_\_\_\_\_ to accompany praise with treats, stickers, etc.

It is \_\_\_\_\_ to learn from the very start to form the letters correctly.

In order to learn to distinguish right and wrong answers, flashcards are \_\_\_\_\_ in the daily routine.

It is \_\_\_\_\_ for boys to participate in competitive games because they need to act out their energy.

Practicing phonics in kindergarten would be \_\_\_\_\_ for children's progress in first grade.

It is \_\_\_\_\_ for boys to play with dolls.

Some statements might be articulated in a neutral way so that popular answers are reduced. Beyond rephrasing some of the items, a few more statements might be added that delineate the underlying educational philosophy of the teacher. These items are suggested to detect basic philosophy and the "invisible" curriculum, rather than the specific materials and activities.

It is \_\_\_\_\_ for parents to keep their kids home until they are ready for kindergarten.

It is \_\_\_\_\_ for children to learn that "practice makes perfect."

It is \_\_\_\_\_ to challenge children through individual competitive activities with their peers.

In the matter of socialization it is \_\_\_\_\_ for all kindergartens to participate in everyday whole group activities.

It is \_\_\_\_\_ for a child's self-esteem to be grouped by ability level in the kindergarten.

It is \_\_\_\_\_ for each child to be assigned with activities in all centers throughout the day.

In the Instructional Activities Scale, the frequency of activities is a useful picture of weekly practice. As it has already been argued, not the material nor the specific activities per se determine the appropriateness of a program. On the other hand, some of the teachers may have scored "very often" or "almost never" for reasons which are alien to their personal beliefs. It would add another dimension to have a second scale where teachers could mark "how often WOULD YOU like your children to participate in the following activities."

	Current Participation	Desired Participation
1. Building blocks	1 2 3 4 5	1 2 3 4 5

At the end of the scale, a short note would request an explanation (in case the numbers in both columns are not the same) to explain the

reason for the differences--time, curriculum, principal, lack of money, material, space, and so forth.

Identifying teachers beliefs and practices appears to be an important line of research. Development of the Teacher Belief Scale and Instructional Activities Scale is therefore important. Researchers, teacher educators, and individual teachers can use these tools to uncover the visible and the invisible factors which related to quality programs for young children.

## APPENDIX

## 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	_____
parish 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.

	1	2	3	4	5
	Not important at all	Not very important	Fairly important	Very important	Extremely important
2. As an evaluation technique in the kindergarten program, standardized group tests are _____.				1	2 3 4 5
3. As an evaluation technique in the kindergarten program, teacher observation is _____.				1	2 3 4 5
4. As an evaluation technique in the kindergarten program, performance on worksheets and workbooks is _____.				1	2 3 4 5
5. It is _____ for kindergarten activities to be responsive to individual differences in interest.				1	2 3 4 5
6. It is _____ for kindergarten activities to be responsive to individual differences in development.				1	2 3 4 5
7. It is _____ that each curriculum area be taught as separate subjects at separate times.				1	2 3 4 5
8. It is _____ for teacher-pupil interactions in kindergarten to help develop children's self-esteem and positive feelings toward learning.				1	2 3 4 5
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.).				1	2 3 4 5

	1	2	3	4	5
	Not important at all	Not very important	Fairly important	Very important	Extremely important
10. It is _____ for children to be allowed to cut their own shapes, perform their own steps in an experiment, and plan their own creative drama, art, and writing activities.				1	2 3 4 5
11. It is _____ for students to work silently and alone on seatwork.				1	2 3 4 5
12. It is _____ for kindergartners to learn through active exploration.				1	2 3 4 5
13. It is _____ for kindergartners to learn through interaction with other children.				1	2 3 4 5
14. Workbooks and/or ditto sheets are _____ to the kindergarten program.				1	2 3 4 5
15. Flashcards (numbers, letters, and/or words) are _____ to the kindergarten program for instructional purposes.				1	2 3 4 5
16. The basal reader is _____ to the kindergarten reading program.				1	2 3 4 5
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.				1	2 3 4 5
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.				1	2 3 4 5
19. It is _____ for teachers to use their authority through treats, stickers, and/or stars to encourage appropriate behavior.				1	2 3 4 5
20. It is _____ for teachers to use their authority through punishments and/or reprimands to encourage appropriate behavior.				1	2 3 4 5
21. It is _____ for children to be involved in establishing rules for the classroom.				1	2 3 4 5

	1	2	3	4	5
	Not important at all	Not very important	Fairly important	Very important	Extremely important
22. It is _____ for children to be instructed in recognizing the single letters of the alphabet, isolated from words.				1	2 3 4 5
23. It is _____ for children to color within predefined lines.				1	2 3 4 5
24. It is _____ for children in kindergarten to form letters correctly on a printed line.				1	2 3 4 5
25. It is _____ for children to have stories read to them individually and/or on a group basis.				1	2 3 4 5
26. It is _____ for children to dictate stories to the teacher.				1	2 3 4 5
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.				1	2 3 4 5
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

	1	2	3	4	5
	Not important at all	Not very important	Fairly important	Very important	Extremely important
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.

	1	2	3	4	5
	Almost Never less than monthly)	Rarely (monthly)	Sometimes (weekly)	Regularly (2-4/week)	Very Often (daily)
1. building with blocks			1	2	3 4 5
2. children selecting centers (home, book, math, science, writing, etc.)			1	2	3 4 5
3. participating in dramatic play			1	2	3 4 5
4. listening to records and/or tapes			1	2	3 4 5
5. doing creative writing (combining symbols/invented spelling and drawing)			1	2	3 4 5
6. playing with games and puzzles			1	2	3 4 5



	1 Almost Never (less than monthly)	2 Rarely (monthly)	3 Sometimes (weekly)	4 Regularly (2-4/week)	5 Very Often (daily)		
7.	exploring animals, plants, and/or wheels and gears		1	2	3	4	5
8.	singing and/or listening to music		1	2	3	4	5
9.	creative movement		1	2	3	4	5
10.	cutting their own shapes from paper		1	2	3	4	5
11.	playing with manipulatives such as pegboards, puzzles, and/or legos		1	2	3	4	5
12.	coloring and/or cutting predrawn forms		1	2	3	4	5
13.	children reading in ability level groups		1	2	3	4	5
14.	circling, underlining, and/or marking on items on worksheets		1	2	3	4	5
15.	using flashcards with sight words and/or math facts		1	2	3	4	5
16.	rote counting		1	2	3	4	5
17.	practicing handwriting on lines		1	2	3	4	5
18.	reciting the alphabet		1	2	3	4	5
19.	copying from the chalkboard		1	2	3	4	5
20.	sitting for longer than 15 minutes		1	2	3	4	5
21.	waiting for longer than 5 minutes between activities		1	2	3	4	5
22.	large group teacher directed instruction		1	2	3	4	5
23.	children coordinating their own activities in centers		1	2	3	4	5

	1 Almost Never (less than monthly)	2 Rarely (monthly)	3 Sometimes (weekly)	4 Regularly (2-4/week)	5 Very Often (daily)		
24. tangible rewards for appropriate behavior and/or performance			1	2	3	4	5
25. losing special privileges (trips, recess, free time, parties, etc.) for misbehavior			1	2	3	4	5
26. social reinforcement (verbal praise, approval, attention, etc.) for appropriate behavior and/or performance			1	2	3	4	5
27. using isolation (standing in the corner or outside of the room) to obtain child compliance			1	2	3	4	5
28. games/activities directed by or made by parents			1	2	3	4	5
29. specifically planned outdoor activities			1	2	3	4	5
30. multicultural and nonsexist activities			1	2	3	4	5
31. competitive math activities to learn math facts			1	2	3	4	5
32. health and safety activities			1	2	3	4	5
33. drawing, painting, working with playdough, and other art media			1	2	3	4	5
34. math incorporated with other subject areas			1	2	3	4	5

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