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ABSTRACT

Discussed are three issues in early childhood education that have been addressed extensively by the research literature, namely: (1) the risks of early academic pressures on young children; (2) the importance of play in early childhood education; and (3) interaction as the context for early learning. Several reasons that child development and early learning theory and research are not being applied in early education programs are examined. These reasons seem to be economic, political, and social; philosophical; practical; and emotional. Some suggestions for bridging the gap between theory and research on the one hand and practice on the other are offered. It is concluded that educational programs for young children, whether in nursery schools, day care centers, or public schools, could be much better than they are if attention were paid to what research has to say. However, efforts to bring research and practice together in early childhood education have been going on for 15 years to little avail. It is time to change this situation. Eighty references are listed. (RH)

THE JOHNSON FOUNDATION
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BRIDGING THE GAP:

BRINGING RESEARCH AND PRACTICE TOGETHER

IN EARLY CHILDHOOD EDUCATION

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PREFACE

In September 1985 The Johnson Foundation joined with the National Institute of Education and the National Association of Elementary School Principals to sponsor a consultation on child development. Authorities from research and practice met at Wingspread, the conference center of The Johnson Foundation in Racine, Wisconsin, to examine what the findings of research on child development can contribute to the school reform movement. Participants in that consultation expressed special concern about how families are changing, about needs for serving increasing numbers of 3-, 4- and 5-year old children, and about the gap between research and practice, between what is being done and what needs to be done to make sure that programs for young children follow research findings in early childhood education.

Stimulated by that consultation, Colleen Van Hoven has examined the research literature to find answers to three questions:

What does the research say?

Why aren't practitioners listening?

What should be done to bridge the gap between research and practice?

Her paper gives an overview that can help all concerned with early childhood education -- parents, teachers, school administrators, school board members, teacher educators, state department of education officers and legislators -- see that programs being offered in the schools are appropriate for young children.

The Johnson Foundation is pleased to make copies of Colleen Van Hoven's paper available on request. For additional copies write to The Johnson Foundation, Post Office Box 547, Racine, Wisconsin 53401.

Abstract

The increasing need for and trend toward early childhood education programs for three- and four-year old children are presented, with statistical documentation. Three issues in early childhood education addressed extensively by the research literature are discussed: the risks of early academic pressures on young children, the importance of play in early childhood education, and interaction as the context for early learning. Several reasons why child development and early learning theory and research are not being applied in early education programs are examined. These reasons seem to be economic, political and social; philosophical; practical; and emotional. Some suggestions for bridging the gap between theory and research on one hand, and practice on the other are offered.

INTRODUCTION

Just a few years ago, articles and reports with titles such as "Should Four-Year-Olds Be in School?" (Zigler, 1986), "Public School for Four-Year-Olds: Yes or No?" (Ambach, 1985) and "Four-Year-Olds -- Who is Responsible?" (Kagan, 1985) typified the debate going on regarding preschool education for four-year-old children. Today, the debate is over and the verdict is in: early childhood education for four-year-olds -- and three-year-olds -- is a reality and the trend toward such early childhood education continues to grow.

Whether the end of the debate came about through decision or default may well be a moot point. The fact is, according to the Bureau of the Census, the percentage of three- and four-year-olds enrolled in formal preschool programs, be they licensed public or private day-care centers or nursery schools, nearly doubled between 1970 and 1983, from 1.5 million, or 21 percent, to 2.6 million, or 38 percent. In 1984 there were a million three-year-olds and 1.7 million four-year-olds enrolled in nursery schools alone, almost two-thirds of them in private facilities (Fiske, 1986a).

Many of the children enrolled in early education programs have been the children of employed mothers: in fact, during the winter of 1984-1985, 32.2 percent of the

three- and four-year-old children of working mothers were cared for in organized child-care facilities, including day- and group-care centers and nursery and preschools (U.S. Bureau of the Census, cited in Education Week, 1987, May 13). At this time, more than 50 percent of the women in the United States are employed outside the home, and by the year 2000, that percentage is expected to increase to 80-90 percent (Elkind, 1986a). If the projected trends in enrollment provided by the National Center for Education Statistics (1985) are on target and the trends continue to the year 2000, it could mean another 40 percent increase in the number of three- and four-year-old children enrolled in preschool programs.

According to Elkind (1986a), early childhood education since the 1960's has been affected more by economic, political and social considerations than by sound educational practice. First, the launching of Sputnik I in 1957 brought the educational system of the United States under heavy criticism, and early childhood education was viewed as a means of better preparing children for increased academic rigor once they entered school. Second, the civil rights movement focussed on early childhood education as a way of equalizing educational opportunities for minority children. Third, the growing numbers of single-parent homes and women in the workforce have forced the issue of child-care arrangements -- and early education programs have

frequently been seen as a viable option. While the validity of the first two reasons for early childhood programs might still be open for debate, the social dynamics behind the pressure to place young children in early childhood programs forces the issue. The debate, then, is over -- and the question no longer is "Should young children be in early childhood education programs?", but "How can such programs best meet the needs of young children?"

Indeed, then, the attention of educators of young children should be focussed on establishing early childhood education programs based on what is known about child development and the nature of young children and their learning. Logically, such essential information might be gleaned from an analysis of developmental theory and basic and applied research. In fact, such research has much to say about children's development and learning and the implications for educational programming. The first section of this paper will examine some important issues in early childhood education addressed by the research. This section is not intended to serve as a comprehensive review of the literature pertaining to the education of young children, but rather is meant to serve as an example of how the research literature can help establish policy and develop effective programs in the field of early childhood education.

The paper next addresses the fact that to date early childhood educators appear to have taken a reactive rather than a proactive stance in setting up their programs, and have not relied on or incorporated the knowledge from research on child development and learning into programs.

Finally, in the last section, some suggestions for bridging the current gap between research and practice are suggested, albeit cautiously, as both the enormity and complexity of the task are appreciated.

WHAT THE RESEARCH SAYS

Three issues important to the field of early childhood education extensively addressed by the research literature are 1) the risks of early academic pressures on young children, 2) the importance and relevance of play in early childhood education programs, and 3) interaction as a context for early learning.

The Risks of Early Academic Pressures on Young Children

An issue frequently encountered in the literature on early childhood programs is what the nature of the content of such programs should be. As Fiske (1986a) asked, "Should early programs be like regular school?... Should they be an upward extension of the family or a downward extension of schooling?" (p.27). This issue was specifically addressed in a two-day conference on "Schooling for Four-Year Olds," held in New York in May, 1986, sponsored by the Bush Center in Child Development and Social Policy at Yale University. If preschool programs were to be viewed as an upward extension of the family and day-care, child development specialists should control them. If such programs were to be viewed as a downward extension of formal schooling, public schools should be in control. In fact, it was pointed out by

Anne Mitchell of the Bank Street College in Manhattan that approximately 25 percent of the nation's 15,000 school districts are already offering some sort of formal instruction to four-year-olds, and the number is rapidly increasing. Thus, the conference concluded, public schools should be in the preschool business (Fiske, 1986b).

The implication of the above discussion is that the control of early childhood education programs no longer falls to child development specialists who are knowledgeable in developmental theory and research in early learning, but to public school educators who are more often trained in educational administration or curriculum and instruction. Furthermore, as public schools are forced into providing programs for three- and four-year-olds, there is an inclination to assign teachers certified in elementary education to these classrooms, teachers with a limited understanding of kindergarten programs, much less programs for younger children. These teachers, then, tend to use a " 'watered-down' primary curriculum, replete with workbooks and textbooks and full of one-dimensional tasks that can be readily evaluated" (Moyer, Egertson, & Isenberg, 1987, p.240).

Placing early childhood education programs under the control of public school systems and reassigning elementary teachers to cover these classes increase the

risk of pushing curricula designed for older children down to programs for three- and four-year olds. Research, however, indicates that subjecting young children to the rigors of a formal academic program may have harmful effects, with both short-term and long-term implications.

Elkind (1986b) supported the view that young children are not ready for formal education because it involves the inculcation of symbolic rules. Young children learn best through active exploration and manipulation of concrete materials. This type of experience helps them learn to conceptualize the concrete world -- learning which must occur before a child can enter the symbolic world.

Elkind contended that none of the arguments for formalizing the early education process withstand close scrutiny. Early exposure to modern technology does not accelerate mental development, and research on child development does not indicate that children are brighter than in the past (note the drop in recent SAT scores, despite the Sesame Street Era!). Intervention studies do not show lasting intellectual benefits (McKey, Condelli, Ganson, Barrett, McConkey, & Plantz, 1985).

Elkind (1986a) suggested that exposing young children to formal instruction involving the inculcation of symbolic rules constitutes "miseducation," which occurs whenever children are put at risk for no purpose.

Such miseducation involves both short-term and long-term r sks. Formal education puts excessive demands on young children because they aren't ready for it, and the demands result in stress. Psychosomatic stress symptoms, such as headaches and stomach aches, begin to appear, even in very young children.

Long-term effects, Elkind suggested, are of three kinds: motivational, intellectual, and social. The spontaneous learning of young children is self-directed, and inspired by an inner desire to understand and master their world. Such learning is, in a word, "intrinsically motivated," (See Deci & Ryan, 1982). Formal education undermines intrinsic motivation by substituting formal instruct'on for a world children can explore, manipulate and learn about. Since children aren't ready for such instruction, extrinsic motivation in the form of rewards must be initiated, further undermining their intrinsic motivation.

Elkind (1986a, 1986b) suggested that the work of Erik Erikson (1950) supports the hypothesis that formal education for young children can have long-term negative effects on motivation. Erikson maintains that early childhood is a period when children need to establish a healthy sense of initiative, through exploring, experimenting and constructing their environment. If this sense of initiative is undermined by the initiation of formal instruction at a too-early age, a sense of

guilt will result and children will become afraid to initiate activities on their own. In Erikson's theory of developmental stages, this loss of the sense of initiative has consequences for a lifetime.

To describe the long-term intellectual effects, Elkind turned to the work of Piaget (1950), suggesting that when adults intrude on children's self-directed learning by imposing formal instruction on them too soon, they interfere with the process of "reflective abstraction." This process, essential for the mental development of children, enables them to abstract reflectively from concrete experiences with their world, thus encouraging the growth of new mental abilities. Formal instruction presents children with content to be learned, but provides little opportunity for reflective abstraction, thus precluding the ability of children to achieve an optimum level of cognitive development.

Finally, Elkind contended that introducing formal instruction too early puts children at long-term social risk. When formal instruction is introduced to children, it entails responses that are "right" and "wrong." Wrong answers impact negatively on children's self-concepts. They turn away from self-directed and self-reinforcing sources of self-esteem and start to look to adults for approval and to social comparison for self-appraisal. They grow too dependent on others for a sense of self-

worth, and never develop an appropriate sense of self-esteem.

Katz (in press) likewise contended that there is no compelling evidence that early introduction to academic work guarantees school success in the long term. She instead suggested several reasons such work could be counterproductive. First, she put forth the "damaged disposition" hypothesis. According to Katz, there are four categories of learning: knowledge, skills, dispositions, and feelings. "Dispositions" are habits of mind, or characteristic ways of responding to experience across types of situations, and are not likely to be learned from lessons or instruction, but from observation and emulation of models. Dispositions are further shaped and strengthened by being appreciated and acknowledged. Katz suggested that early formal instruction, in reading, for example, given the amount of drill and practice required for success at an early age, may undermine children's dispositions to be <u>readers</u>. The early introduction of such academic or basic skills, then, may undermine the development of children's dispositions to use the skills acquired. Katz interpreted the results of several recent longitudinal studies (for example, Karnes, Schewedel, & Williams, 1983; Schweinhart, Weikart, & Larner, 1986; Wolberg, 1984) to state that curricula and teaching methods should be approached in a way that optimizes the acquisition of knowledge and skills, along

with the development of desirable dispositions and feelings. Both types of learning are equally important, for the acquisition of skills is essentially meaningless if the child is not disposed to use the skills acquired.

Katz also suggested that another risk for preschool programs that emphasize academic or basic skills is they tend to rely on a single teaching method and a set curriculum. This leads to homogeneity in the treatment of young children -- an outcome that runs counter to research results that indicate the younger the children are, the greater the variety of teaching methods there should be (Durkin, 1980).

Katz further cited "learned stupidity" as another risk that may accompany the introduction of young children to academic work prematurely. Learned stupidity occurs when children cannot relate to the content or tasks required of them and they come to feel incompetent.

Toepfer (1986) cited recent research on brain development to argue against the formal instruction of very young children. Until the brain develops a certain capacity in terms of neural networks and axon development, some types of learning cannot occur (see, for example, Golden & Wilkening, 1984, and Epstein, 1978). He suggested, then, that one cannot remediate something for which the child has not developed readiness; that is, "You can't 'steal first base' in child development." Thus, Toepfer differentiated between

school readiness and developmental readiness, and cautioned against initiating formal instruction too soon:

> Children four to four-and-one-half can't sit still. They need to jump and hop and run. They need to be entertained - they aren't ready to sit still and follow directions. They do not catch up when they're too young to start.

The Importance and Relevance of Play in Early Childhood Education Programs

> The key to preschool children's learning is self-directed play. It is through this play that learning is internalized. And it is through this play that children's enjoyment of learning is stimulated. Therefore, child-directed play must be the curriculum... Children who are supported in self-directed play acquire an excitement for learning and build foundations of competencies which are critical for success in the primary grades. (Krause-Eheart, 1985, p.1.)

Once one accepts the essential difference between formal education and early childhood education, that is, the difference between the inculcation of symbolic rules and children's direct encounters with their own world (Elkind, 1986a), one must look elsewhere for establishing a curriculum. As the above quotation suggests, one place child development specialists turn is play. Research on the subject is directed at a number of issues: theories of play, features of play, the development of play, and the implications for education of the studies on play.

Theories of play.

Play has long been seen as an essential component of the early childhood curriculum. Early conceptions of its importance, however, often viewed it as a counterpoint to the more "academic" side of the program. Particular views of play were dependent on more general theories: the idea that play gives the active child an acceptable outlet emerged from the "surplus energy theory," for example, or the idea that children learn through play represents the "practice theory" (Almy, Monighan, Scales, & Van Hoorn, 1984). It was not until the latter part of the 20th Century, however, that the current justification of play as an educational tool emerges in the literature.

Sutton-Smith (1970) defined four basic modes of play, from each of which a specific kind of play emerges. Mode 1 involves imitation, copying the world; Mode 2 involves exploration, analysis and examination of the world; Mode 3 is testing play and involves an effort to compete; Mode 4 is model construction, wherein children synthesize and put together the elements of their world.

Piaget (1962) also made significant contributions to the theory of play, viewing play as an essential component in a child's cognitive development. According to Piaget, an individual is constantly striving to find an equilibrium between himself and his environment through the processes of assimilation and accommodation. In

meeting a new experience, children first accommodate to the stimuli, then assimilate the events into their cognitive structures. Play is assimilative in that it is a way children have of practicing what they have met and come to know. Thus, play is essential to the evolution of intelligence.

Piaget's theory of developmental stages has correlates in his classifications of play and games: 1) Practice games (or functional play) are the sensory-motor explorations of the infant. 2) Symbolic play occurs during the concrete operational stage when children substitute a symbolic object for a real object. Such play progresses as they dramatize the actions surrounding that object. Late symbolic play involves true imitative behavior and reaches the highest stage of symbolic play, sociodramatic play. (See Fein, 1979, for discussion of the changing structures of this level of play.) 3) Games-with-rules is the highest level of play and occurs only when children are able to relate to others, verbalize, and follow rules.

Vygotsky (1967) suggested that play is an aspect of young children's living in which they move beyond the ordinary accomplishments of the age period and anticipate development in thinking that will become characteristic at some later point. In play, the young child is "always above his average age, above his daily behavior." Thus,

"play creates the zone of proximal development of the child" (p.16).

Features of play.

Almy et al. (1984) suggested teachers should be aware of certain features of play so they can be cognizant of what is going on when they observe a child involved in some type of play activity. Each feature the authors describe is supported by specific research studies:

INTRINSIC MOTIVATION. Play is intrinsically motivating when it is a self-initiated activity, engaged in for the pure enjoyment involvement in the activity brings (Deci & Ryan, 1982). Such motivation may also emerge from the desire to continue an activity initiated by the teacher.

Novel experiences, such as the birth of a sibling, may motivate play, both play with objects (Forman & Hill, 1980) and pretense play (Vygotsky, 1967).

ATTENTION TO MEANS AND NOT ENDS. This feature of play is related to Piaget's view that play is an assimilative activity and as such it is the process of play that has significance, not the content of the play activity. In play, the child is less concerned with a particular goal than with the means of achieving it.

Several studies indicate that trying out patterns of action and thought previously acquired and combining them in new ways in a play situation seem to contribute to the development of a child's thinking and problem solving skills (Dansky & Silverman, 1973, 1975; Smith & Dutton, 1979; Vandenberg, 1980).

NONLITERAL BEHAVIOR. This feature is limited to pretense play. Several studies suggest this type of "make-believe" contributes to a child's later skill with hypothetical reasoning (Fagen, 1976) and to the understanding of logical transformations (Saltz, Dixon, & Johnson, 1977).

FREEDOM FROM EXTERNAL RULES. This paradoxical feature suggests that the play of preschool children is characterized by two types of implicit rules. First, an imaginary situation contains rules of behavior, for example, when a child assumes the role of the mother in a play situation. There are also rules pertaining to specific relationships, i.e., the doctor-patient relationship, that emerge in play situations (Vygotsky, 1967).

Second, there appear to be rules children develop as they try to enter a play situation and pursue a plot and their roles in it. For example, children are often heard to say "You be the father, and I'll be the mother" (Garvey, 1977).

SELF RATHER THAN OBJECT. This feature attempts to differentiate between a child's play and exploration. Exploration of objects in the child's world in Piaget's terms would be accommodative, while play is assimilative. Almy et al. suggested that traditional elementary education has relied too heavily on accommodation, and should provide children with more opportunities to play with the concepts they are acquiring.

ACTIVE ENGAGEMENT. Children should be actively involved with their play, not superficially engaged in activities with which they seem bored.

The development of play.

Drawing particularly on the work of Piaget, a number of researchers have studied a variety of aspects of children's play, including the conditions surrounding the emergence of a particular type of play in a child's repertoire (Fein, 1981), the cognitive and social aspects of play, and children's communication during their play.

Sensorimotor play, associated with Piaget's sensorimotor stage of development, is sometimes called "practice play" or "functional play." It begins early in infancy and eventually disappears with the advent of symbolic play. The frequency of occurrence of sensorimotor play decreases as the child grows older, comprising 33 percent or less of all free activity for

children ages four to five years, and less than 14 percent of the play activity of six-to seven-year-olds (Rubin, Fein, & Vandenberg, 1982).

Symbolic play has received more attention from researchers in recent years. The characteristics of such play have often been the target of these studies: symbolic play is described as "decontextualized," the pretense behaviors being detached from the circumstances usually surrounding them (Fein, 1981; Rubin et al., 1983). Symbolic play moves from self-referenced behavior to other-referenced behavior, and children show an increased tendency during this period to have objects in their play, such as dolls or stuffed animals, act as separate individuals. This role-taking is an important precursor of the ability of the child to take the perspective of another, an ability inherent in successful social relations.

Object substitution, that is, the child's ability to substitute one object for another, has also been the subject of a number of studies (Piaget, 1962; Vygotsky, 1962; Fein, 1981; Rubin et al., 1983). Young children, ages two and three, prefer highly prototypical objects in their pretend play situations, but this preference shifts as they grow older and by age five nonrealistic objects evoke varied fantasy themes.

Dramatic play emerges in the child's repertoire sometime around age three. Such play may be solitary and parallel, or associative and cooperative, the latter developing during early childhood as the child is able to sustain increasingly complex social interaction. Constructive play also increases in frequency during early childhood, but researchers have experienced difficulty determining at what point dramatic play becomes constructive play. Finally, dramatic play evolves toward games with rules, emerging during the years from four to seven, when children begin to participate in games with rules (Kamii & De Vries, 1980).

Implications for education.

Results of some research studies (Nalbandian, 1971; Weikart, 1971; Karnes, 1972) indicate the curriculum model chosen in a preschool program matters less than the planning and effectiveness of the teachers (see Stokes, 1975, for discussion). If, however, child-directed play is the focus of the curriculum, then teachers should understand the theories of play and the nature of play's development, be able to distinguish its various features, and be able to facilitate children's play in their classrooms (Almy et al., 1984). Without such understanding, teachers cannot add to the complexity and

imaginativeness of simple play nor can they promote its fullest development.

Teachers can influence the play of children by arranging a physical and social environment that promotes the different kinds of play and by responding to and participating in play. Phyfe-Perkins (1980) reviewed more than 100 studies concerning the effects of the physical environment on children's behavior in preschool settings. A number of those studies (for example, Prescott, Jones & Kritchevsky, 1967; Kritchevsky & Prescott, 1969) indicate that different play materials have different potentials for play. The variables of complexity, variety and amount to do per child are related to children's behaviors such as attention span, group participation, dramatic play, nondisruptive free choice of activities, and goal-directed behavior. Phyfe-Perkins also concluded that systematic observation of children at play is essential if a setting is to provide and support developmentally appropriate activity for the children involved.

Stokes (1975) suggested that adult intervention in dramatic play can have a range of important effects. She cited studies (Hartshorn & Brantley, 1973; Smilansky, 1968) that indicate that the combination of teacher instruction and suggestion with enriching experiences can improve verbal ability and play level. Dramatic play can also be employed as a curricular tool that increases learning and improves problem solving ability. Stokes

concluded teachers should examine the impact dramatic play can have on children's learning and work at making preschool play time qualitatively different from play time at home.

The Context for Early Learning Should be Interactive

An important corollary of the first two issues in early childhood education discussed above is that interaction, between children and their environments and between children and the adults and peers in their worlds, should be the context for early learning. If an appropriate program for young children focuses on the active exploration and manipulation of concrete materials rather than on formal inst uction, children will be interacting extensively with their environments. The discussion of child-directed play supports the notion of an interactive context for early learning, both in terms of how children interact with objects in their environment and in terms of how children interact with peers and teachers in a play situation.

Support for the idea of an interactive context for learning for young children derives from a number of theoretical perspectives, each suppor ed by research studies. Katz (in press) contended that one of the most reliable principles implied by developmental research is that the learning of young children is enhanced when

children are engaged in interactive processes (Brown & Campione, 1984; Glaser, 1984; Karmiloff-Smith, 1984; Nelson, 1985; Rogoff, 1982). Young children learn a great deal, both cognitively and socially, in the course of interacting with each other, with adults, and with aspects of their environment. This active approach to learning, Katz suggested, is contrary to the passive approach that is taken when conventional academic tasks included in the "pushed down" elementary curriculum are foisted prematurely on young children.

Forman and Kuschner (1983) cited Piaget's view of knowledge, particularly his concept of transformation, as an example of constructivist theory, whereby children actively transform the world of objects to understand the relation between themselves and objects and the relation between objects and objects. Children in a word, "construct" their own knowledge base through their interaction with objects in their worlds. Forman and Kuschner go so far as to say that "the deliberate emphasis on transformational thinking in preschool education is no less than a concern for the further development of our species" (p.64), because such transformational thinking (which assumes an interactional relationship between the child and his environment) is essential for the development of each individual child's knowledge.

Biber (1984) took a developmental-interaction point of view as being essential for promoting cognitive growth. The "developmental" aspects of this viewpoint refer to the "identifiable patterns of growth and modes of perceiving and responding that are characterized by the increasing differentiation and progressive integration as a function of chronological age" (p.5). The "interactional" aspects emphasize both the child's interaction with the environment and the interaction between the cognitive and affective spheres of development. Biber described a number of teaching techniques designed to promote the potential for ordering experience through cognitive strategies. Many of these involve the structuring of the child's physical and social environment in ways that enhance the potential for cognitive stimulation.

Barbour (1976) cited a number of early childhood programs based on interactionist theories, namely those designed by Weikart, Lavatelli, Montessori, Klaus and Gray. She contended that all of these programs assume that as children mature biologically, they need to manipulate and act on their environment for new learning to occur. In these programs, language learning is viewed as following the cognitive learning process -- a principle derived from Piaget's theory of cognitive development. Language is the tool by which the child is led from motoric operations to verbal operations. First children

must be able to act on the teacher's instructions or to act on their environment before they can give a verbal response or explanation. Thus language development as cognitive development first goes through a stage in which children interact with their environment and the teacher acts as either a verbal instigator or interpreter for this interaction. This stage is followed by another, the verbal period, in which children use language to interpret and evaluate their own experiences and to communicate their developing knowledge to peers and adults.

Goffin & Tull (1985) cited the importance of active learning to the development of problem solving skills in young children. Problem solving abilities are important for several reasons. First, problem solving possibilities encourage children to elaborate and refine their knowledge, which will provide them with a foundation to use in responding to later experiences (Duckworth, 1981; Goldhaber, 1979; Kamii and DeVries, 1978). Second, a child's sense of competence is enhanced by challenging tasks and a responsive environment (Gottfried, 1983). Finally, problem-solving possibilities, according to Goffin and Tull, avoid the dilemma of readiness because they permit children to respond to materials at their own level. It is the teacher's responsibility in a preschool program to provide an environment rich in opportunities for exploration and interaction. Such opportunities should include movement problems, discussion problems,

skill problems, and strategy problems. In addition, the teacher must encourage children to reflect on their actions in order to further develop their problem solving skills.

WHY AREN'T PRACTITIONERS LISTENING?

The above discussion of issues that are important in early childhood education makes clear the fact that there is much that current theory and research on child development and early learning have to say about what should be happening in early childhood education programs and why. The fact is, however, that despite the knowledge available, early childhood programs do not reflect what is known about child development and early learning. Theory and research are not being put into practice. Why aren't they?

The reasons many early childhood educators, particularly those associated with public school programs, aren't incorporating what is known about child development and early learning into their programs seem to fall into the following categories: political, economic and social; philosophical; practical; and emotional.

Political, Economic and Social Considerations

As Elkind (1986a) has stated, educational practice in America is frequently determined more by economic, political and social considerations than it is by sound pedagogy for children. He cited three events that have brought about significant changes in early childhood

education since the 1960's: the launching of Sputnik I in 1957 which influenced the push for more academically rigorous programs for young children so the nation could compete successfully in the arenas of science and math; the civil rights movement which saw the advent of early intervention programs such as Head Start; and the growing number of single-parent families and working mothers which created a need for child-care programs.

The recent educational reform movements echo the push for academic excellence heard at the time of Sputnik I. The pendulum swing toward "back to basics," the demand for accountability of teachers and educational systems, and the current trend toward measuring the excellence of academic programs by standardized test scores contribute to the emphasis placed on formal educational instruction instead of programs based on child development theory.

The passage by Congress of the Head Start legislation in 1964 marked the first time early childhood programs were funded by the federal government. Sparked by the civil rights movement and demands for educational equality, these early childhood intervention programs were geared toward preparing minority children for academic success in school. It was hoped that by overcoming early cultural and experiential deprivation, these children would achieve academic success. Haskett (1973) cited additional reasons for preschool age intervention of this type: first, language and other skills are acquired

largely during the preschool years, and verbal skills distinguish children of poverty from middle class children; second, some influential psychologists felt poverty preschool-age children were not exposed to sufficiently varied and stimulating sensory environments.

Research on the effectiveness of these early childhood programs is mixed. Some studies indicated early education programs had significant effects in a number of areas, including developed abilities in early to middle childhood, school competence in middle childhood and adolescence, and attitudes toward achievement (see Royce, Darlington, & Murray, 1983, for discussion). Others (for example, McKey et al., 1985) indicated there was no lasting intellectual benefit from these programs. Whatever the end result, the original intent is clear: give minority children an equal educational opportunity by providing them with an academically oriented preschool program. Hence, the emphasis on formal educational instruction -- an emphasis that can't seem to be changed, despite what is known about child development and early learning.

The need for single parents and working mothers to make child-care arrangements has impacted heavily on early childhood programs, be they day-care centers, nursery school programs, or public pre-kindergarten programs. Day-care, regardless of the quality of the program, is hard to find and difficult to afford. This crisis impacts negatively on early childhood programs in several ways.

According to Butler (1974), working parents must often place their children in the first program they find that has room for them and that they can afford, regardless of the quality of the program or the educational philosophy upon which it is founded. This perpetuates the system: as long as the programs are filled and in demand, why change them to bring them more in line with child development theory? Secondly, as has happened frequently in the past, for example, with sex education, affective education, and drivers' education, public school systems have been called upon to fill a void perceived to exist in children's experience. The social pressure is increased when parents see a system in place, complete with facilities and available staff, that could provide programs for their young children. And since these are public school systems, these programs could be funded by tax revenues, at considerable savings to the individual parents involved. As described above, these public school programs tend to involve formal instruction and "pushed down" curricula, contrary to what we know about child development and early learning. So these social forces have kept us from developing early childhood programs based on sound developmental theory.

Caldwell (1974) suggested that a number of myths about young children and how they learn, reacted to as though they are hard-core facts, impact negatively on what parents expect to gain for their children in early

childhood programs. This type of social pressure for formal education for young children can be classified under "Pop Psychology" or "Popular Beliefs and Misbeliefs." Caldwell cited the SAGE myth as particularly relevant. This myth involves using misconceptions of statements by psychologists such as Hunt, Bruner, and Bloom regarding the proper foundations for cognitive, social and emotional development, to advocate formal education programs for young children. Child development specialists and educators occasionally make blanket statements about what is good for all children. Such statements can result in popular misconceptions that can translate through social and political pressures into policies and programs inappropriate for young children. The recent "Super Baby" phenomenon, according to Caldwell, is another such myth: parents firmly believe children's cognitive skills can be trained at a very early age, so children shouldn't be "playing" in school, they should be "learning"!

Philosophical Considerations

Two major issues that can be classified as philosophical further impede the ability of administrators and educators to hear the voices of child development specialists and researchers. First, there is the issue of professionalism in the field of early childhood education,

and second, there is the different orientation to knowledge of the researcher who produces child development knowledge and the educator who is expected to adopt and apply it.

A number of writers in the field of early childhood education have raised the question, "Is early childhood education a job or a profession?" Honig (1984) raised this question as one of the ten most important issues in early childhood education today. She suggested this issue has to do with professional qualifications and professional attitudes versus a "job" attitude. If child care is thought of as a profession, then thought should be given to who can become an early childhood educator. If early childhood education is a profession, then specialized training is needed for those who work with children in different stages of development, training which, she suggested, should require a course on research findings to provide students with insight into the behavior of young children. If early childhood education is just a job, then we can expect people in the field who go home at 5:00, and who don't put in the extra work required to prepare a program for young children.

But, if early childhood educators are to be considered professionals, they will have to be paid more, trained more, retained in their chosen field, and given status as early childhood specialists. Kraus-Bheart (1986) contended that child care has one of the highest

rates of turnover of all occupations, citing low pay, lack of benefits and stressful working conditions as the major reasons child care providers leave their jobs in high numbers. Krause-Eheart stated that 70 percent of those who work with young children earn below the poverty level: the median annual earnings of full-time child care workers for a 12-month year was $9,204 in 1984. "Child care workers are paid less than individuals who take care of animals, less than bartenders, less than parking lot attendants." Finally, Krause-Eheart cited important statistics regarding the training of "professionals" in the field of child-care: less than 1/3 of center-based care givers have a four-year college degree; in day care homes only between 5 and 12 percent of providers have a college degree. One study, she reported, found that 65 percent of day care home providers had no training in child care -- and over half said they did not want such training! Only eight states include specialized training in licensing requirements for teachers in day care programs. In the State of Wisconsin, a child care teacher needs only a high school diploma, and 120 hours of direct work with children, or 80 hours of "technical work" at a training institution. Some profession!

Katz (1985a) cited both the scientific concept of the term "professional" and the "folk" concept to show where early childhood educators stand as professionals. The popular view of the term "professional," she suggested, is

used as an honorific designation, denoting a quality of spirit or an exceptional level of dedication to praiseworthy work. The term used in this way is usually associated with high social status and a presumably high income. Early childhood educators don't come off very well in this analysis. Katz contended her experience has shown the younger the child with whom the practitioner works, the less training is required, the less ability is expected, the lower the pay, the fewer the working benefits, and the poorer the working conditions!

The scientific definition of the term "profession," Katz suggested, includes the following criteria: social necessity, altruism, autonomy, an adherence to a code of ethics, distance from the client, standards of practice, prolonged training, and specialized knowledge. Katz suggested early childhood educators appear better off when their role is viewed from this perspective, but they still have a long way to go to meet unequivocally the above criteria.

Meanwhile, back at the university, most of the researchers and specialists in the field of child development hold doctorates and meet both the "folk" and scientific concepts of the term "professional"! Is it any wonder these two worlds have such difficulty communicating with each other! Katz (1975) referred to this aspect of the problem as the "sophistication gap" between the practitioner's awareness of what is known about child

growth, development and learning, and the "knowledge producer's" knowledge of what it's like to work day after day with young children.

The issue of professionalism aside, Katz (1985b) suggested that there is a different orientation to knowledge inherent in the researcher who produces child development knowledge and the educator who is expected to adopt and apply it. She suggested that if the knowledge gleaned from research is likely to be used, these different orientations must be taken into account. She delineated the two orientations -- scientific versus clinical -- along five dimensions. The first dimension is the reflective versus active, which suggests that developmental psychologists (i.e., scientists) tend to be reflective while the practitioner needs to be disposed to action, often in situations in which there is not time for reflection. The second dimension is the conceptual versus pragmatic, which implies that psycholcgists or researchers tend to seek concepts to explain how something works, whereas the early childhood teacher settles for what works without such explanations. The third dimension is the theoretical versus the subjective orientation, which suggests the psychologist is organizing observations and attempting to build a theory, while the practitioner is more reassured by direct first-hand experiences than by a theory. The fourth dimension, skepticism versus faith, refers to the scientist's tendency to prize doubt or

skepticism and the practitioner's tendency to rely on "faith," that is, a belief in the appropriateness of a given action without the support of corroborative evidence. Lastly, the fifth dimension, determinacy versus indeterminacy, refers to the scientist's search for lawfulness versus the practitioner's stand that the world is too complex to make operating laws possible. Katz suggested that between the two orientations is a third -- that of the professor or trainer of practitioners, whose orientation on each dimension is questionable, but whose responsibility, it would seem, it is to bring the two opposing views into harmony -- or at least communication.

These two issues, professionalism and the different orientation toward knowledge between researchers and practitioners in the field of early childhood education, exemplify the types of philosophical issues that stand in the way of applying what is known in the research to what is happening in the field.

Practical Considerations

Much has been said recently about teacher training programs in the United States. The National Commission on Excellence in Education (1983), for example, faulted the quality of such programs and their heavy weighting in courses in educational methods, as well as the kind of student being attracted to the field of education.

Although these are important concerns, what is at issue here as impediments to the application of the research and knowledge of child development to early education programs, is the certification or licensing requirements for early childhood teachers, the content and requirements of the programs of study leading to such certification, and the general question of the dissemination of knowledge. These are the practical considerations necessary for bringing knowledge of child development to the practitioner.

The Oregon Department of Education (Hitz, 1986) recently completed a survey regarding the certification of the teachers of young children. The survey was done in response to the recognition of the increasing number of prekindergarten programs in public schools and an awareness that teaching kindergarten and prekindergarten might be different from teaching upper elementary school. Certification officers in all fifty states and the District of Columbia were asked to provide information regarding the certification of elementary, kindergarten and prekindergarten teachers in their respective states. The difficulty of the task was compounded by the diverse terminology and requirements in each state, making it difficult to categorize some certification requirements.

The Oregon survey found that thirty-nine states and the District of Columbia provide some form of special certification or endorsement for teachers in kindergarten

and/or prekindergarten. Twenty-three of these states require kindergarten teachers to have special training in early childhood education in addition to, or instead of, a regular elementary certificate, and twenty-eight states require prekindergarten teachers to have special training in early childhood education. Eight states allow teachers with either early childhood preparation or elementary preparation to teach in kindergarten. Only ten states have prekindergarten or nursery/kindergarten credentials and six more have certificates just for prekindergarten. Fortunately, only ten states offer no special early childhood education credentials.

The Oregon survey concluded that policymakers in most states are encouraging or requiring teachers to obtain training in early childhood education before they teach in prekindergarten or kindergarten, but the requirements for obtaining certification in early childhood education vary enormously from state to state. Finally, although there is no consensus regarding how, or if, teachers of young children need training separate from that of teachers of older children, there is a trend toward recognizing that teaching upper elementary grades is different from teaching young children.

The above described survey only determined which and how many states require some kind of early childhood training in order to obtain certification. Specific content of the early childhood training programs or

certification requirements was not included in the survey. This raises another equally important issue: what should the content of such programs be? Given the fact that the typical early childhood program should consist of three components (Honig, 1984) -- theory learning and understanding; research knowledge; and practical applications -- what should the proportion of each be?

Given the breadth and depth of material to be covered in such a program, how much time can realistically be devoted to child development, learning theory and research application, in a program that typically requires a maximum of ten courses or thirty credits? These are the kinds of practical considerations that contribute to the problem of putting research into practice.

Katz (1985b) focussed on the experiences she has had at the ERIC Clearinghouse on Elementary and Early Education with efforts to disseminate information to practitioners working in preschools, day care centers, and kindergartens. She cited five issues that have made the dissemination of such information difficult at best. First, she cited the "Optimum Information Hypothesis" (Frost, 1981), which states that the more information confronting people, the more likely they are to attend to information that is compatible with what they already believe, and the less likely they are to attend to information that is new or different. This is an important issue when an ERIC search on a given topic in

early childhood education can turn up literally hundreds of articles on the subject! Second, Katz suggested that one attribute that may influence the applicability and adoptability of information is the "size" of the ideas with which the literature deals: concepts of the micro-level size are unlikely to stimulate new practices directly, while very large ideas may serve as doctrine or ideological reminders, but be too broad to provide specific, practical recommendations. The problem is to learn the particular conceptual size in which to present knowledge so that it is attended to. The third issue is what Katz called "The Vividness Problem." This issue relates to some of the problems of getting information, ideas, and concepts attended to through one medium in order to get them followed up in another.

Propitiousness is the fourth issue relating to the dissemination of information. This refers to the fact information is more likely to be utilized when a teacher needs it or wants it. This issue has important implications for teacher training: should theory courses precede practicum courses? Or would the information be more relevant, and therefore better attended to, if the student is "in the field"? The last obstacle to the dissemination of information cited by Katz is the orientation to knowledge issue, discussed at length in the previous section.

Emotional Considerations

There is no research literature and very little commentary in the other works on this aspect of the problem of translating research into practice. The emotional impediments range from knee-jerk stereotypical reactions, on the part of both child development specialists and early childhood practitioners, to some reality-based concerns and fears. The emotional issues are the most subtle and subjective impediments to putting research into practice, but they are, nevertheless, real, and their impact on the total problem should not be discounted.

Comments by people in the field indicate the pervasiveness and intensity of this aspect of the problem:

> The trouble with teachers (in general, not just early childhood teachers) is they don't feel they have anything to learn from academicians.
>
> University Professor in Educational Psychology

> People in universities don't know what it's like being in the trenches, working with kids day after day.
>
> Second Grade Teacher

> I'll give you an example of the problem. When I was working on my doctorate in educational administration at C University, there was a committee set up to review the program. Only professors were on it. None of us students who were the educators in the field and the ones whose needs were to be met by the program were on the committee! And the professors had no idea what was going on in the schools!
>
> School Administrator

Caldwell (1986) has summed it up nicely:

> I would agree with that: there is not only more separation (between people who are doing research in child development and practitioners in education), sometimes there is out-and-out hostility. Researchers have a way of seeming sometimes arrogant about the role of the teachers, implying that they don't understand enough about how children develop; practitioners in the classroom who have daily experience sometimes look upon the researchers as naive. (p. 14)

Caldwell (1986), in discussing fears about having young children in school, suggested that, in addition to some parents who have concerns about early childhood education, the leadership in early childhood education itself, including the National Association for the Education of Young Children (NAEYC), is afraid. Despite the fact the leadership in early childhood education should be its strongest supporter, Caldwell cited several reasons why this isn't so. First, people in the field of early childhood education have low self-esteem: "They (an undefined group!) won't listen to us (early childhood specialists)." This fear is not entirely unfounded: the field of early childhood education is filled with stereotypes about nursery school teachers. "Who's going to listen to a little old lady in a navy blue dress who wears tennis shoes -- she doesn't know anything."

Second, Caldwell suggested educators have a tendency toward separation foisted on them, "apartheid in the education field," she called it. We compartmentalize education, into early childhood, elementary, middle

school, and so on. These divisions aren't well coordinated, but early childhood is particularly separated: "Early childhood has lived and has grown up, grown to a certain maturity, outside the mainstream."

Third, Caldwell suggested that prior to 1965, early childhood programs were held in churches, YMCA's or someone's house. Day care centers were the poor relations of such early childhood programs, an option for parents who couldn't afford the private early childhood programs. Caldwell contended early childhood inherited its legitimacy from the day-care movement, but it has been so negative toward day-care in general, it almost doesn't want the inheritance. Caldwell pointed out, however, the need for early childhood programs is determined by the need for child care of working parents, who turned to day-care because there weren't appropriate or relevant early childhood programs available to them. Now these two fields must come together -- and bring what is known about good early childhood programs to the field of day-care, or "Educare," as Caldwell prefers.

Fourth, Caldwell cited the early childhood educator's mistrust of elementary teachers and abhorrence of administrators as another reason early childhood people are afraid to have young children in schools. Most early childhood teachers don't think elementary teachers love children: "They teach subjects; we teach children." Such stereotypes need to be abolished.

It should be noted that Caldwell seems to classify nursery school teachers as the early childhood specialists, but not day-care center practitioners or elementary school teachers. While it is not clear how she would categorize early childhood specialists vis-a-vis the researchers and child development specialists referred to throughout this paper, these emotional issues remain essentially the same.

What exactly are these early childhood people afraid of? Caldwell cited the very issues discussed in the earlier sections of this paper: the "pushed down" curriculum, too much formal teaching, too much "symbolic" instruction, too much pressure to achieve, and too little choice and selection. These early childhood people are responding with feelings and fears: they're so afraid educators are going to set up programs inimical to the growth and development potential of young children, so afraid they won't be listened to, that they'd rather fight against the very establishment of programs than fight for the right kind of programs for young children! Indeed the issue of early education for young children stirs up some very intense feelings!

WHAT SHOULD BE DONE?

Grandiose implausible suggestions such as "Elevate early childhood teachers to a higher level of professionalism so they can be on an equal footing with child development specialists" or "Improve the teacher training programs that lead to certification and include more courses in child development and research application" must be avoided if efforts to bridge the gap between research and practice are to be successful. These suggestions have been heard before: the same questions have been raised, the same issues about applying research to practice have been discussed, for the last fifteen years in the field of early childhood education -- and little has changed. Although the above suggestions may well be on target, they're too grandiose conceptually. What is needed is little ideas, to knock small chinks out of the wall forming the barrier between research and practice. Then maybe the wall will come down - and child development and early childhood education will finally talk to each other.

Efforts to bridge the gap can come from three sources: 1) the field of education, which would include teachers, administrators, and parents; 2) the field of child development, which includes child development

theorists as well as researchers; and 3) third parties, including state departments of education.

Efforts from the Field of Education

Teachers and administrators have to take a proactive stance regarding educational programs for young children.

1. Teachers and administrators have to reassert the difference between early childhood education and formal education and insist on its importance (Elkind, 1986a).

2. Teachers with background knowledge in early childhood education need to assert themselves and insist on setting up programs that are developmentally appropriate for young children.

Education needs to be put back into the hands of educators, and wrestled away from policy makers who don't understand the needs of young children. Teachers and principals need to be given more autonomy and voice in the decision making process (Caldwell, 1985, Fall).

3. Without specific training in early childhood education, primary and elementary teachers should resist reassignment to classes for young children, unless they are retrained for the new positions. Funds for coursework leading to relicensing or recertification should be provided through professional development budget allocations.

4. Teachers must take responsibility themselves for acquiring information about child development theory and research literature. Honig (1984) suggested teachers should use their knowledge of theory to understand and help their students grow. They should use research data to "provide ammunition... to counteract some of the folk beliefs and some of the expressed values that are contrary to what would be best for young children" (p. 45).

Early childhood educators have to reeducate parents, administrators, and legislators regarding what is sound education for young children.

In terms of educating parents, the message must be that the Super Baby Phenomenon is a myth and formal instruction inappropriate for young children. Parents need to be educated so they don't demand what is inappropriate for young children; school administrators need to be reeducated so they don't provide unsuitable programs; and legislators need to be reeducated so they don't legally mandate such programs. Toepfer (1986) warned that states tend to take what a few precocious children can do and mandate it for all children. But early bloomers are the exception, and not the rule, so we must guard against curricula pushed down by state mandates.

In this reeducation process, early childhood educators have to provide evidence as well as argument. Elkind (1973) suggested this is an opportunity for education to become intimately associated with "the research and development establishment." He had hoped at that time a new era was being ushered in, one in which "the child centered philosophy of early childhood education (would be) firmly grounded in the bedrock of developmental research and theory" (p.123). (Alas, Dr. Elkind, the new era did not come then, but perhaps now its time has come!)

Once parents have experienced satisfaction with developmentally appropriate early childhood programs, they can disseminate information about those programs (Toepfer, 1986) and serve as ambassadors to tell people about good programs (Caldwell, 1986, Fall).

Public schools should consider providing universally available (not compulsory) care for young children.

Zigler (1986) suggested that parents need affordable, good-quality child care for young children and that the most cost-effective way to provide such care would be through the school. He advocated a return to the "concept of the community school as a local center for all the social services of the local neighborhood" (p.13). High quality child care could be provided within existent school facilities, such child care to include

educational components, as well as opportunities for recreation and socialization.

There should be "developmental continuity" between early childhood programs and elementary education (Caldwell, 1986; Honig, 1984).

Developmental continuity between early childhood and elementary education would, according to Caldwell, avoid "apartheid in early education," and would extend the developmental approach upward instead of formal education downward. Honig (1984) suggested that unless interface occurs between early childhood education settings and public school settings, the two settings won't mesh: the early education setting emphasizes child-centered experiences, active learning, attention to individual needs, while public schools have more teacher dominated classrooms and academically oriented curricula.

Early Childhood Educators with sound, developmentally appropriate programs for young children should tell others what they are doing.

Caldwell (1986) suggested that early childhood educators should publish articles about their programs, and write reports to be filed with appropriate agencies, including state departments of education.

Associations for teachers of young children need to take strong stands and publish position statements advocating developmentally appropriate programs for young children.

Fine examples of such position statements are two recent publications put out by NAEYC: the NAEYC position statement on developmentally appropriate practice in early childhood programs and the position statement on developmentally appropriate practice in programs for four- and five-year olds. Each document sets forth clear guidelines, supported by references to research literature. In addition, the latter document includes an extensive bibliography with references to both laboratory and clinical classroom research to document the broad-based literature forming the foundation for sound practice in early childhood education.

Efforts From the Field of Child Development and Research

The Johnson Foundation, together with the National Institute of Education and the National Association of Elementary School Principals, sponsored a consultation on child development and education in September, 1985. The conference revealed that people in the field of child development were concerned about the gaps that exist between research and practice in early childhood education. Included here as suggestions for what efforts

child development can make to bridge the gap are a number of projects suggested at that conference:

There should be collaboration between researchers and practitioners in developing guidelines for pre-schools and specifications of the qualifications for teachers in such schools.

Developmental information for different levels of schooling should be published.

Research on changing family structures, and the stresses that accompany these changes, should be disseminated for use by schools and educational policy makers.

The following suggestions might be added:

Research on child development and learning must be published in journals accessible to and read by early childhood educators.

Katz (1985a) wrote that, to her mind, research on development and learning currently reported in the journals is much more applicable to pedagogical practice than it used to be. She cited a number of works by British scholars and research articles published in journals such as Advances in Developmental Psychology and monographs for organizations such as the Society for Research on Child Development. It matters little how good the quality of such research is or the degree of its

applicability to pedagogical practice, if classroom teachers don't have ready access to it. Child development people must start publishing more extensively in publications such as Teacher or Young Children.

Researchers have to conduct more of their research in actual classrooms, in order to gain credibility with practitioners.

This is not as easy as it sounds. As Katz (1985a) pointed out, it is difficult to do controlled research in school settings, and reliable data is difficult to obtain. There are also limits imposed on investigations by ethical considerations, particularly when one is working with young children.

At the very least, research workers and instructors at the college level must have experience in the classroom setting. Only then, when research teachers are also practitioners, will they be able to provide useful guidance to the early childhood teacher (Elkind, 1974).

Researchers should turn their attentions toward determining the relative effectiveness of alternative approaches to the training and education of preprimary teachers (Katz, 1984).

There is virtually no research on preprimary teacher preparation and education, according to Katz. Research should address such issues as the

relative impact of various types of content, the value of training in "child observation" skills, and the application of "developmental stage" concepts to the design of preservice training. Since the majority of people teaching children under five years of age have had no preservice training, the relative values of preservice to in-service training should also be explored.

Efforts from Schools and Universities Working Together.

In addition to the collaborative research suggested above, there are other ways schools and universities can work together on behalf of young children and early childhood education. The most obvious and most written about is teacher training programs. Specific criticisms of and recommendations for such programs are beyond the scope of this paper, but there probably should be more required of prospective teachers in the way of courses in child development and research applications, particularly the former. It is interesting to note, that in the State of New Jersey, in its search of alternatives to traditional teacher training programs for certification, the study of child development remains the on ' universal requirement lef' in the certification process. The State recognized knowledge of child development theory to be an important prerequisite to effective teaching.

Goodlad (see Olson, 1987, March 18) is seeking stronger school-university alliances, recognizing that the two worlds have grown increasingly separate and distinct. It is his opinion that people in schools don't have time to be reflective in their decision making, while universities do, but lack a sense of the problems in the schools. Consortia, each comprised of a university and several school districts, have been formed to work together on projects. It is hoped these collaborations will be powerful forces for change, operating as "organizational 'third worlds'," permitting things to happen that cannot happen in either the isolated university or school setting.

School-university consortia should collaborate in applying child development and learning theory and research in early childhood education.

Efforts from Third Parties

Government agencies, including local school boards and state departments of education, professional symposia, and information clearinghouses can all contribute to the effort.

State committees on child development and early childhood education should be formed to conduct studies and make recommendations.

The New Jersey Education Commissioner's Advisory Committee on Child Development and Early Childhood Education, chaired by Dr. Irving Sigel, is a good example of this type of committee. The committee's report (1982) indicated that one reason the committee was convened was that, although there were strong theories and persuasive research about the way young children learned, the scientific base for practice was being underutilized. The committee was to respond to specific questions, including "What do we know about the nature of young children and their learning that ought to determine what we design for their education?"

As the committee's work progressed, the members found they shared certain philosophical views that formed the foundation of their inquiry. These included the principles that it is "urgent to match educational efforts with the developmental readiness of children" and "learning is an active and interactive process" (p.9).

Recommendations emanating from the New Jersey committee's work include the following:

Fundamental recommendations:

-School districts should be encouraged to make available to four-year-old children throughout the state an opportunity for entry into the public school system.

-Existing and expanded programs for four- and five-year-old children should be consonant with contemporary knowledge of human development and learning, derived from experience and research.

Specific recommendations:

-Teachers of prekindergarten and kindergarten units should have appropriate qualifications based on training and experience.

-There should be continuity of educational experience from the prekindergarten through the primary grades.

-Many current early childhood programs should be reconceptualized and restructured to reflect our contemporary knowledge base and technology.

The work of committees such as this can do much to increase the general level of awareness about these issues and can act as the foundation for future policies.

Symposia should be convened that support and encourage communication and collaboration between the schools and the universities.

One such symposium was the consultation on child development and education held at Wingspread, The Johnson Foundation, in September, 1985. Some of the proposed projects emanating from that consultation were discussed elsewhere (See above, p. 50). Unfortunately, while the

consultation called for more autonomy for principals and educators, the proposed projects appear to be uniformly directed from the university toward the school. Schools must play a more active part in the collaborative process.

Information clearinghouses must serve as liaisons in the communication process. It is part of their role to help practitioners and researchers to understand each other.

Katz (1975), as director of the ERIC Clearinghouse on Early Childhood Education, addresses this issue in her discussion of the "sophistication gap" existing between knowledge producers and educational practitioners. But there is such a wealth of available research literature and theory the clearinghouse can ultimately determine policy and program through its selection of the material to be passed along. This potential avenue for communication should not be closed down, but an awareness of the potential pitfalls should be developed.

New and creative means of bridging the gap between research and practice must be explored and tried.

In the April 29, 1987, edition of Education Week, there is an article describing a university-based research center designed to provide information on which to base educational policy. The center, created in 1983 in the State of California, is called Policy Analysis for

California Education (PACE), and its mission is to provide policy-makers with a "nonpartisan, objective, independent body" of information about K-12 schooling in the state. The center does more than accumulate information and data: it provides analyses and puts out papers and other publications on a variety of topics. It is funded primarily through a private foundation, but revenues also come from government and corporations.

Would not a similar research center have something to offer to the field of early childhood education?

A FINAL COMMENT

It is at once both exhilarating and disheartening to know there is so much in the fields of child development and early learning theory that could be brought to bear in early childhood education programs. Educational programs for young children, be they in nursery schools, day-care centers, or public schools, could be much better than they are, if only attention were paid to what research has to say. Unfortunately, however, efforts to bring research and practice together in early childhood education have been going on for fifteen years to little avail. Hasn't the time finally come?

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