Early childhood education is defined as group settings which are deliberately intended to effect developmental changes in children in the age range from birth up to the age of entering first grade. The following parameters of early childhood education are proposed and explored: (a) characteristics of clients, (b) characteristics of teachers and assisting adults, (c) curriculum, (d) philosophical orientation and historical factors, (e) parent power, (f) administrative factors and sponsorship, (g) length of program, and (h) physical plant and climate. A matrix is generated from these parameters, in order to demonstrate that early childhood education is a complex field deserving of extensive analysis. The focus today seems to be either on characteristics of clients or on program organization, with the assumption that packaged early childhood education programs may be used in situations which are not analogous, with positive results. Although these two parameters are of major importance, it is emphasized that an increased understanding of all the parameters of early childhood education, and the ways in which they interact and influence each other, may make it more possible to successfully translate theory into practice. (Author/NN)
EARLY CHILDHOOD EDUCATION AS A DISCIPLINE

Lilian G. Katz, Ph.D.
Director, ERIC Clearinghouse on Early Childhood Education
University of Illinois
at Urbana-Champaign
Urbana, Illinois

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Most readers of Young Children are familiar with the ERIC Clearinghouse on Early Childhood Education at the University of Illinois. ERIC/ECB, as we call it, is one of twenty clearinghouses in the national clearinghouse system, each focused on collecting, storing and disseminating information in its own field. Organizing and analyzing the information gathered at ERIC/ECE has raised some interesting questions concerning the scope and definition of what is encompassed by the term early childhood education. In the following discussion, a tentative definition of the discipline of early childhood education is presented, and some suggestions of how it can be used are offered.

Definition of Early Childhood Education

It is common to speak of early education as an interdisciplinary field encompassing the interests of specialists in developmental psychology, pediatrics, social work, anthropology, elementary education, and other fields. Specialists from these many fields have strong scientific interests in the young child. While young children have been the subjects of disciplined inquiry for more than half a century, their education has not. A distinct disciplinary approach to their education has been neglected in favor of problem-oriented investigations designed to discover the most powerful way to offset the ill effects of poverty. For the purposes of this discussion, it is proposed that the referent for the term early childhood education be stated as follows:

Group settings which are deliberately intended to effect developmental changes in children in the age range from birth up to the age of entering the first grade.

With this definition, education rather than child development or child rearing becomes the point of entry into the field, thus giving early

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childhood education disciplinary status in its own right. From this definition, the parameters of the field can be derived, and can then provide a basis for the development of the branch of knowledge called early childhood education.

Before we explore the parameters of the field, some comments on the definition are in order. First, the cutoff point at the age of entrance into the first grade seems to draw an undesirable division between preschool and primary education, a division that the profession has been striving to reduce. However, this delimitation of scope is suggested only in order to facilitate organizing our information. The complex and crucial issues surrounding the problem of continuity of experience, learning and education, into the primary grades cannot be taken up here. Thorough analysis and discussion of those issues is greatly needed. A second point is that there are a number of projects and programs in early childhood education which are not in fact "group settings," but which properly fall into our domain. Included here are programs in which mothers in their homes are given assistance with the stimulation of their infants' learning and development.

Parameters of Early Childhood Education

The term parameter is used broadly here to indicate a superordinate category of variables which applies to all early educational settings, and which typically remains constant during a given study or a given event which we might call an early childhood program. That is to say, a parameter describes a class of phenomena in which every early childhood education program must have an entry, even though the entries of different programs vary. For example, every program must have clients (i.e., children), but the children of different programs may vary in age or in socioeconomic
status; every program must have a physical location, but these locations may vary from quonset huts in a downtown area to elegant university laboratory settings in a comparatively rural setting.

The set of parameters presented here is suggested by two major research projects reported during the 1960's. John Pierce-Jones and his associates at the University of Texas conducted a large study of Project Head Start Centers in Texas in 1965 (Pierce-Jones, 1966, p. 6). The Texas group identified teacher and child antecedent variables which interacted, producing a variety of classroom "inputs," which in turn resulted in differential changes in the Head Start children. In 1967, Prescott and Jones (1967) reported a study of group day care in the Los Angeles area using a similar but more comprehensive framework. Prescott and Jones studied all of the same variables the Pierce-Jones group had examined, such as characteristics of children and teachers and classroom "input," and in addition examined variables of physical space, size of center, types of sponsorship, and other administrative factors.

The present state-of-the-art does not permit us to look at the parameters of early childhood education, and ascertain the extent to which they are either independent of, or compounded with each other. The following descriptive outlines of the parameters are not intended to be exhaustive, but merely to suggest some of the variables within each parameter which have been or could be used to form guidelines for review and future research.

Parameter Descriptions

A. Characteristics of clients

Within this parameter are included variable characteristics of both the children and parents served by any given early childhood
program. Examples of these variables are age, socioeconomic background and status, ethnicity, sex, physical and mental health, mother tongue, second language, urban/rural background, the goal orientation of parents, father absence, age and number of siblings, and other child rearing variables.

B. Characteristics of teachers and other assisting adults
This parameter includes variations in teacher characteristics such as teacher behavior, teacher role prescriptions, teacher performance, teaching styles, teacher attributes such as age, experience, sex, attitudes, and beliefs, teacher self-concept, teachers' goals, ethnicity, training, satisfaction; teacher recruitment, occupational status, relationship with assistants, and credentialing patterns.

C. Program organization
Included in this parameter are such variables as the variety and quantity of stimulation in a program, the temporal organization of classroom activities, the lessons "taught" and not "taught," the materials available, the control of activity selection, the inclusion of rest time, storyreading, formal group introduction, instruction organized by ability groups, autotellic materials, etc. This group of variables is commonly referred to as the curriculum.

D. Philosophical orientation and historical factors
This parameter refers to the school of thought adhered to in any given early childhood program representing a range of values, goals and objectives; it includes also the learning theory "used". The philosophical orientation may be explicit or implicit, or it may vary on these two levels. Examples of programs with diverse
philosophical orientation are Montessori Schools, and models such as Bank Street, the Behavior Analysis program, or the British Infant School. Historical factors may include remote or immediate antecedents of contemporary program operation.

E. Parent power

This parameter refers to variations in the extent to which parents participate in central or peripheral decision-making concerning the operation of early childhood education programs for their children. There are, for instance, parent cooperatives, where parents participate fully in program operations, and there are also university laboratory schools where parent participation and decision-making is minimal or peripheral. There are Head Start programs where parents select curriculum and staff, Head Start programs where parents are only consulted, and others where they are passive recipients of services. The extent to which parents pay for services rendered for a preschool program also represents a variation in their power.

F. Administrative factors and sponsorship

This parameter refers to variables associated with program administration such as size of program, distribution of authority, division of labor (maintenance, personnel, curriculum, etc.), staff morale, staff leadership, staff coordination, and staff cooperation versus staff friction. Also included in this parameter are the variety of public and private sponsoring agencies such as public school systems, community centers, churches, Office of Child Development, university laboratory schools, mental health departments, franchise entrepreneurs, parent cooperatives, and one-shot
demonstration projects.

G. Length of program

Variables within this parameter include the length of the school day, and the number of school days. Examples are all-day daily care; 2 1/2 hours per day, morning or afternoon sessions; 2, 3, or 4 days per week and 8-week Head Start programs.

H. Physical plant and climate

This parameter includes variables in the amount of space, the type of space, outdoor/indoor facilities and their accessibility, neighborhood location, the number of classrooms per site, and regional climate (Head Start in Alaska as compared to Head Start in Hawaii).

A Matrix for Early Childhood Education

Figure 1 is a schematic representation showing how a matrix can be generated from the parameters of early childhood education proposed above. First, let us look in turn at each cell falling into the diagonal of the matrix and marked A, B, C, etc. In reviewing research on early childhood education each of these diagonal cells requires comprehensive analysis of all of the knowledge within itself. The within-parameter knowledge indicated by the diagonal cells focuses on those studies in which the cell's variables constitute both the dependent and independent variables. For example, in cell A, comprehensive analysis is needed of all of the literature related to child development and child rearing. Such a complete analysis would represent an encyclopedia of the developmental literature with special emphasis, of course, on the young child. In the cell marked B, where Parameter B intersects with itself, we need a comprehensive analysis of all of the knowledge related to these within-parameter variables, namely to teachers. The use of the matrix for analyzing problems of early childhood education and for reviewing research can be illustrated by looking at
<table>
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<tr>
<th>Parameters</th>
<th>A. Clients</th>
<th>B. Teachers</th>
<th>C. Program Organization (curriculum)</th>
<th>D. Philosophical Orientation and Historical Factors</th>
<th>E. Parent Power</th>
<th>F. Administrative Factors and Sponsorship</th>
<th>G. Length of Program</th>
<th>H. Physical Plant and Climate</th>
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<tr>
<td>A. Characteristics of clients (children and parents)</td>
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<td>B. Characteristics of teachers and other assisting adults</td>
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Figure 1. Schematic Representation of Parameters of Early Education
Parameter B (Characteristics of teachers) and moving down the column, (we will speak of horizontal rows and vertical columns). Beginning with the first cell in Column B, (marked A→B) it can be seen that one set of questions concerns the effect of A variables on B variables. Examples of the type of question which might be asked in this cell are, What characteristics of children influence the teacher behavior in what ways? What effect does the age range of the children in a given class have on the teacher's behavior? If a teacher has fifteen or twenty 3-year-olds in her class, then she is likely to be working with a smaller range of social and intellectual maturity than if the age range were from 3 to 5 years old. How does this age range composition affect the teacher's definition of her role? Or we could ask, What are the effects of the sex distribution of the class membership upon the teacher? Compare for example, a class consisting of 2/3 boys with one consisting of 2/3 girls, or with classes of one sex only.

It is important to note, at this point, that questions concerning "effects" reflect an idealized conception of research on teaching. In general, research findings suggest relationships between co-occurring events. For example, returning to the effects of child variables on teachers (A→B), Dorothy Haupt reported (1966) differences between boys and girls in the content of the questions they asked their nursery school teachers. Haupt also found differences in the way teachers responded to the questions of boys and girls. These findings represent co-occurring events. It is difficult at our present stage of knowledge to separate cause from effect.

As already indicated, the cell marked B in Column B reflects the need for within-parameter knowledge and reviews. Moving down to the cell where Row C intersects with Column B (C→B), we can ask questions concerning the effects of program organization variables upon teachers, although again
these are more likely to be co-occurring events than causes and effects. For example, let us suppose that a program is organized in such a way that children are obliged to attend to a group storyreading activity and that no alternative behavior is permitted during this activity. One might ask, How does such a programmatic constraint affect teachers? Or, which teachers are affected or troubled by such a program variable? Let us suppose, for example, that a particular curriculum model specifies that children should have water play regularly. Undoubtedly some teachers welcome this activity, and others do not. In a Behavior Modification approach to preschool programs, teachers are expected to ignore children when they cry. How does this program specification affect teachers? We may be wise to ask which programs are congenial to which kind of teachers, and how we can facilitate matching program design with variation among teachers.

In Row D (D→B) information is sought pertaining to the relationships between and effects of philosophies (values, goals, and objectives, etc.) upon teacher performance and attitudes. Let us take for example the observation reported by Sears and Dowley (1963, p. 85?) that there are teachers who have "child-centered theory and authoritarian practice." One could ask, at least theoretically, Can the reverse be true? That is, it may be that some teachers who describe themselves and their classrooms as open and flexible may in fact have classrooms which are restrictive and closed. Perhaps one of the most important questions to be answered in early childhood education is, What are the elements which account for the gap between rhetoric and performance? It is commonly assumed for example, that when teachers can embrace the "philosophy" of the British Infant School, their classrooms will become open. However, it may be that embracing the philosophy is a necessary step but an insufficient one. Because of the way
the British Infant School curriculum is organized, a teacher probably must also have the capacity for fluency and for flexibility to generate ideas about extending and elaborating children's spontaneously expressed interests.

Historical factors, namely a program's past experiences, may be causally related to teacher variables. Let us suppose, for example, that a Head Start program has had a history of threats of nonrefunding. In what ways might such a history affect teachers' commitment or their optimism about the future and their work?

In Row E (E → B) questions can be asked about the relationships between variables of parent power and teacher variables. For example, when parents pay high fees for an early childhood program, are teachers likely to experience pressure to interact with children in ways that they would otherwise not choose? How do teachers feel about being hired (or fired) by parents? One of the fundamental tenets of Head Start is that parents be involved in every part of Head Start operation. Parent involvement in Head Start includes making policy decisions that affect their children's growth and learning and participating in the development of the program (Office of Economic Opportunity, 1969). Among the questions raised here is, To what extent is there consensus between parents and teachers in Head Start on how their programs should be organized and implemented? And how are teachers affected by this high level of parent power?

In Row F (F → B) we pose questions concerning administrative factors and their impact or relationship to variables in Parameter B. For instance, Alexanian (1967, p. 1) reported that "in some instances, the administrative problems of Head Start centers were so overwhelming that the very survival of the program was the all-important focus." Almost anyone with Head Start experience can verify the observation that administrative factors can have
a consuming effect on the energy of teachers and other staff members. Questions about the uncertainties associated with year-to-year funding belong in this cell. Similarly, questions concerning the way equipment and supplies are secured belong here. It has also been observed in some Head Start programs that giving equal pay to teachers with widely different training and experience contributes to staff friction and unrest. It would be interesting to know to what extent administrative factors contribute to the total impact of a preschool program on children's development.

In Row G (G→B) questions concerning the relationship between the length of the program and teacher variables can be posed. One can ask, at least theoretically, whether teaching a whole day is characterized by twice as much of whatever characterizes a half-day? Obviously factors like fatigue should be considered. The management of naptimes in all-day programs frequently induces stresses and strains in teachers as well as children. In an interesting study comparing long- versus short-day preschool programs, Handler (1970) proposed several important differences between the long- and short-day relating to teachers. For example, she stated that children are more dependent upon teachers in long- than in short-day schools (p. 38) and that teachers are more emotionally involved with children in the long-than in the short-day schools (p. 38). In what other ways do these length-of-day variables affect teachers?

In Row H, physical plant and climate (H→B) we pose questions concerning the relationship between the physical plant variables and the teacher variables. For example, in some physical facilities children can move freely from indoors to outdoors without encountering potential physical danger. In other places all children must be visible and accounted for because the plant borders on a major highway, or because there are stairways or long corridors to consider. Similarly, in some geographical climates weather
is congenial for outdoor activity only half of the school year—the proverbial rainy days affect the teachers as well as children.

The intersections between Column B variables, characteristics of teachers, and each of the parameters in the rows have been examined, and some questions have been raised concerning what effect the row variables have on column variables, namely on teachers and teaching. The use of the matrix can also be illustrated by taking Parameter B in the row (characteristics of teachers and other teaching adults), and examining the intersection of the row with each of the columns. Beginning with Row B, and going to the first column (B → A), questions concerning the effect of given teacher characteristics on child variables can be raised. Questions like the effect of the teacher's ethnic group on children's self-concepts, or the impact of teacher praise on children's motivation for learning, are examples of types of questions which belong in the cell marked B → A.

At the intersection of Row B with Column C (B → C), questions can be raised concerning the "effects" of teacher variables on program organization. For example, the organization of the Montessori classroom requires teachers to be fairly unobtrusive. One might ask, What personal attributes of teachers make the Montessori requirement for unobtrusiveness a more or less congenial one?

Continuing across the rows, questions concerning the relationships between characteristics of teachers and philosophy, parent power, administrative factors, length of program, physical plant, and climate variables can be raised and the relevant research summarized. In addition to the information available or needed for each of these cells, a wide range of combinations of cells can be studied. For example, an important question for early childhood education is, What is the role of charismatic leaders

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<th>Column B</th>
<th>Characteristics of Teachers</th>
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(historically and contemporaneously) in program development? Or to what extent are effective programs, even though of widely different types, associated with leader evangelism? These questions fall into the intersection of cells B and C and D and F. Similarly, other groups of cells can be taken for inspection.

Summary

In summary, the parameters of early childhood education have been proposed and outlined above. Some ways in which the matrix generated from these parameters can be used have been illustrated. The major purpose of setting out the matrix is to emphasize that early childhood education is a complex domain which deserves extensive analysis which takes the complexities into full account. A major portion of the activity in early childhood education today is focused on either characteristics of clients (parameter A) or program organization (parameter C). (See also Scott and others, 1969.) There appears to be an assumption that is possible to transport a carefully derived and "packaged" early childhood education program from one context to another, and to expect positive outcomes. The point here is not to deny the centrality of questions in these two parameters, but rather to emphasize that knowledge of the complex events in any given context, the gap between our rhetoric and our practice or knowledge of the relative influence of all of the other parameters may enhance our power to predict and replicate the findings of current research and development, and deepen our understanding of the complex issues in the discipline of early childhood education.
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