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CANADIAN THESES ON MICROFICHE / THÈSES CANADIENNES SUR MICROFICHE

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TITLE OF THESIS/*TITRE DE LA THÈSE* TEACHER COMPETENCE IN EARLY CHILDHOOD EDUCATION

UNIVERSITY/*UNIVERSITÉ* UNIVERSITY OF ALBERTA

DEGREE FOR WHICH THESIS WAS PRESENTED/ *GRADE POUR LEQUEL CETTE THÈSE FUT PRÉSENTÉE* M. Ed.

YEAR THIS DEGREE CONFERRED/*ANNÉE D'OBTENTION DE CE GRADE* 1978

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THE UNIVERSITY OF ALBERTA

TEACHER COMPETENCE IN EARLY CHILDHOOD EDUCATION

by

JANICE F. DUFFIE

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF MASTER OF EDUCATION

DEPARTMENT OF ELEMENTARY EDUCATION

EDMONTON, ALBERTA

SPRING, 1978

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled "Teacher Competence in Early Childhood Education" submitted by Janice F. Duffie in partial fulfilment of the requirements for the degree of Master of Education.

Susan Therrien
Supervisor

Date April 14, 1978

ABSTRACT

Prompted by the expansion of interest towards Competency Based Teacher Education (CBTE) and competency based teacher certification practices, this study was undertaken to question the validity of a central assumption on which CBTE is founded. In particular, it attempted to answer the question of whether effective teaching skills can be identified at this time for the early childhood level of education.

The study was carried out by probing information from several areas. The concept of CBTE and related developments was outlined from the CBTE literature. Prominent criticisms of the CBTE movement were disclosed. Developments within early childhood CBTE and CBTE certification practices were illustrated. General considerations for the area of early childhood education were offered. The question of whether effective early childhood teaching skills can be identified at this time was examined in light of evidence from early childhood teacher effectiveness research.

The findings were accumulated under 23 major headings. Within the following eight categories, findings appear to support one another: time; class groupings; accommodation of different needs and levels of students; systematic structuring pattern in lesson presentation; responses to undesirable behavior; monitoring learning;

student engagement; and decision making on the part of the child.

It was concluded that, at this point in time, it is not possible to fully identify effective early childhood teaching skills, neither conclusively nor as very strong tendencies. Implications were derived to the effect that, on the basis of the present state of knowledge on teaching in the preschool and early grades, CBTE and CBTE certification practices are both unfounded and premature.

ACKNOWLEDGEMENTS

The writer wishes to express sincere thanks to the following people:

Dr. M. Horowitz and Dr. D.A. MacKay (members of the thesis committee), for their comments and criticisms; and Dr. S. Therrien (thesis supervisor and committee chairman), for her support, encouragement, and guidance throughout the entire history of the thesis.

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THE TOPIC

Introduction to the Topic

In recent years, more and more concern over the notion of teacher competence has been expressed. This has become apparent in relation to at least two aspects, namely, the need for quality services offered by teachers as well as inquiry into what actually constitutes teacher competence.

Currently, expression of this concern is evident both in the field of teacher education and within educational research. In the teacher education area, Competency Based Teacher Education (CBTE) has developed under the assumption of being capable of producing competent and effective teachers. Within educational research, considerable efforts have been directed towards finding out what characterizes effective teaching.

Underlying CBTE is the basic assumption that effective teaching skills can be identified. One of the most fundamental criticisms of CBTE, however, questions this basic assumption by asking: Is it possible to identify effective teaching skills at this time? From one perspective, answers to the critics' question can be obtained by looking into the current state of knowledge gained from teacher effectiveness research.

Purpose and Design of the Study

This study was undertaken to gauge the validity of the CBTE assumption that effective teaching skills can be identified for one particular level of teacher education, that of teacher preparation for early childhood education. The writer therefore sought to question whether effective early childhood teaching skills can be identified at this time.

To provide an answer from the research perspective, an examination of current early childhood teacher effectiveness research was subsequently carried out. To frame a suitable background to the question examined, a number of related areas were also discussed. Such areas included: introduction to the concept of CBTE along with CBTE criticisms which have been expressed; CBTE notions in relation to early childhood education and illustrations of early childhood CBTE developments.

This thesis deals with the following sequence of topics: First, the concept of CBTE and related practices as it appears in the CBTE literature is introduced and explored. Following, prominent criticisms of CBTE are outlined. Particular emphasis is focused on the fundamental area of identification of effective teaching skills to be used as competencies within the CBTE system. Considerations for the adoption of CBTE notions within early childhood together with early childhood CBTE developments

are then discussed. The central question of whether effective early childhood teaching skills can be identified at this time is then raised. Results from a subsequent examination of teacher effectiveness research are then reported. Finally, on the basis of the research evidence, conclusions are made and implications for teacher education, teacher certification practices and future research are derived.

Significance of the Study

This study gains significance in its possible usefulness to several areas. First, there are possible implications for policy making in the areas of teacher education and teacher certification practices. Secondly, an indication of the current status of early childhood research into teacher behaviors and/or classroom processes (affected by the teacher) and related child outcomes is feasible. Lastly, possible directions for future research are evident.

CHAPTER II

COMPETENCY BASED TEACHER EDUCATION: AN OVERVIEW

During the past decade, a very sizeable volume of North American educational literature has been devoted to competency based education. At the higher education level, Competency Based Teacher Education (CBTE), otherwise known as Performance Based Teacher Education (PBTE), has been strongly promoted. On the one hand, proponents of CBTE fervidly advocate the "movement" as the panacea of teacher education ills. On the other hand, CBTE is not without its critics. Critics have challenged many weak points within the CBTE system as well as basic assumptions on which the movement is grounded.

The present discussion aims to introduce and to explore the concept CBTE. Topics to be covered include the following: background history and fervor of CBTE; current status of CBTE; CBTE as a movement away from traditional teacher education; definition and dimensions of CBTE; and scope of CBTE.

Historical Development of CBTE

There seems to be no particular factor which can be identified as providing the sole impetus for CBTE. Rather, it would appear that a combination of pressures promoted interest in such a movement. Prominent amongst the

pressures which can be identified are: the social milieu of the sixties; the role of the federal government; the accountability movement; research and development in teacher education; and behavioral psychology. The influence of these together with other varied factors on the development of CBTE, is discussed.

The Social Milieu

The social milieu of the United States of America during the early sixties was one of unrest and dissatisfaction in many sectors. Elam (1971) maintains that the probable roots of CBTE lie in these general societal conditions and the subsequent institutional responses made to them.

> The realization that little or no progress was being made in narrowing wide inequality gaps led to increasing governmental attention to racial, ethnic, and socioeconomic minority needs, particularly educational ones. The claim that traditional teacher education programs were not producing people equipped to teach minority group children and youth effectively has pointed directly to the need for reform in teacher education. Moreover, the claim of minority group youth that there should be alternate routes to professional status has raised serious questions about the suitability of generally recognized teacher education programs. (p. 2)

The Role of the Federal Government

In addition, following the shock of the Russian Sputnik, the role of the federal government (U.S) in education was strengthened. Education was looked upon as a logical avenue through which America's future achievements

could be bolstered and assured. The federal government appropriated large sums of money to improve education.

Accountability Movement

Taxpayers began to demand educational accountability. The outcry affected every level of education, including teacher education. The CBTE movement, although predating the accountability drive, advocates concepts congruent with accountability principles and gained strength from such (Elam, 1971, p. 2).

Research and Development in Teacher Education

In 1967, the United States Office of Education sought proposals for the development of ten elementary teacher education model programs which were to be federally funded. Gage and Winne (1975) describe commonalities of the proposals chosen:

> A common element in all ten models was an attempt to develop programs that would more effectively foster the skills needed in teaching. This focus on new methods for training teachers in essential teaching skills signaled a turning point in teacher education. The models called for modification of traditional curricula to incorporate in some form an analysis of complex teaching strategies into specific teaching skills, explicit skill practice, and corrective feedback. (p. 150)

In addition to independent explorations fostered by the United States Office of Education, federal money was available for faculty involvement in experimentation within state departments of edu[illegible]. A closer look at competency based certificati[illegible]bled.

Behavioral Psychology

Another probable source of CBTE was behavioral psychology. In its connection with training in industry, elements of behavioral psychology had gradually been introduced to education in the way of programmed instruction and, later, microteaching. More comprehensive use of microteaching has been introduced through minicourses, made up of packaging materials needed for segments of teacher education. Modifications of these types of instruction still abide with CBTE programs.

Other Factors

In addition, Schmieder (1973) identifies several more general factors as possible roots of the CBTE movement. These include continual and conscientious introspection by portions of the education community; the management organization movement forcing education to be examined more and more by business and industry measures; the press for personalization and individualization of education; the desire of state education departments to develop more effective certification processes and standards; readiness of educational research and development; as well as an increase in alternative educational systems with a resulting need for dependable comparative measures (pp. 3-4).

Conferences such as those sponsored by the American Association of Colleges for Teacher Education and the American Educational Research Association, together with

publications and the work of delegated committees and commissions (e.g., the National Commission on Performance Based Education), have been just some of the attempts to explore and develop the concept of CBTE.

Fervor of Movement

Since CBTE's conception, a considerable fervor has been attached to the movement. Quirk (1974)

> rarely, if ever, has any movement swept through teacher education so rapidly or captured the attention of so many in so short a time as has the Competency-base movement. Already well under way, the approach holds promise of renovating and regenerating teacher education. Equally significantly, it appears probable that it will do so in record setting time ..., by early some states either had announced certification changes to be based on competencies or had declared their interests or intentions. (p. 316)

Current Status of CBTE

It is difficult to give an accurate picture of the current status of CBTE. Problems such as differences in conception and diversity in interpretation and implementation are evident within the approach. While some states have taken steps to mandate full implementation of CBTE in both preservice and inservice sectors, others have only partially committed themselves.

Rosner and Kay (1974) emphasize that there is a probable overestimate of the spread of CBTE, further maintaining that it is likely that many teacher education programs have merely grown more "field centered" than

previously.

> The lack of agreement on the criticial dimensions of CBTE leads us to the belief that reports on the extent of implementation are actually a function of whichever aspects of the definition seem to be in the mind of the reporters and that therefore, the problem of definition is confounding realistic assessments of the spread of the movement (p. 291).

Some states have accepted the concept as an alternate approach to existing traditional teacher education programs. Many have expressed interest in the idea of specifying competencies; some have adopted competency based certification only. Some have mandated research related to the identification of effective teaching competencies and still others refuse to adopt any of the competency based principles, viewing such with a considerable degree of scepticism.

Movement away from Traditional Teacher Education Programs

Proponents of CBTE retain belief in both the current and future prospects of their systems analysis approach to teacher education as an avenue towards greater teacher effectiveness. Traditional teacher education programs, they maintain, have been inferior in their knowledge and experience orientation. With traditional type programs, emphasis generally lies with entrance screening and cognitive competency, denoted by grades achieved in course work, with student teaching comprising the experience base.

Houston and Howsam (1972) maintain the traditional orientation is inadequate to meet the current demands of

society. By comparison,

> competency based education promises the thrust necessary for adaptation to meet the challenge of a changed and changing society. Such change must be planned in systematic terms, dealing simultaneously with all of the elements that comprise the total system--teacher education institutions, prospective and inservice teachers, the schools, certification agencies, professional education organizations, community groups, and the public. The emphasis in CBTE on objectives, accountability and personalization implies specific criteria, careful evaluation, change based on feedback, and relevant programs for a modern era (p. 1).

CBTE aims to move away from traditional type programs encouraging a more performance based orientation which is both field centered and student oriented. An open systems approach with corrective feedback and personalized attention is emphasized at all stages of the program. Both knowledge and performance are valued but the prime focus lies on output.

The shift also involves a different focus from teacher education conceived as college responsibility to mutual responsibility of all contributing institutions; from program decisions made solely by faculty to shared program decisions made by all affected; from preservice programs viewed as a set of common experiences for all students to programs viewed as a set of common objectives with program means differing for different students; from teacher preparation and development related particularly to the early stages of the career to one of continuous development (Schmieder, 1973, pp. 7-8).

Definition of CBTE

The definition of CBTE involves at least two levels: identification of dimensions characteristic of the whole approach and identification of specific characteristics within these elements (e.g., the particular types of competencies to be mastered within CBTE). The following sections outline a number of definitions and dimensions of CBTE, followed by a more detailed account of characteristics of each of these dimensions.

What is CBTE?

Considering the "lack of consensus about what constitutes competency based teacher education" (Rosner & Kay, 1974, p. 291), it is difficult to disclose in a concise definition, all properties considered critical by all parties. Descriptions attempted by Gage and Winne (1975) and Elam (1971), however, aid in promoting an overall picture of CBTE. Gage and Winne (p. 146) define CBTE as

> teacher training in which the preservice or inservice teacher acquires, to a prespecified degree, performance tendencies and capabilities that promote student achievement of educational objectives.

A more explicit outline is offered by Elam (pp. 1-2).

> In performance-based programs, performance goals are specified, and agreed to, in rigorous detail in advance of instruction. The student must either be able to demonstrate his ability to promote desirable learning or exhibit behaviors known to promote it. He is held accountable, not for passing grades, but for attaining a given level of competency in performing the essential tasks

of teaching; the training institution is itself held accountable for producing able teachers. Emphasis is on demonstrated product or output.

Dimensions of CBTE

Stanley Elam's report on the state of the art of PBTE (1971) provides a comprehensive framework within which elements of CBTE can be outlined and discussed. Elam's conceptual model (see Figure 1), subdivides the dimensions into three areas: essential elements; implied characteristics; and related, desirable characteristics. Each of these areas is discussed.

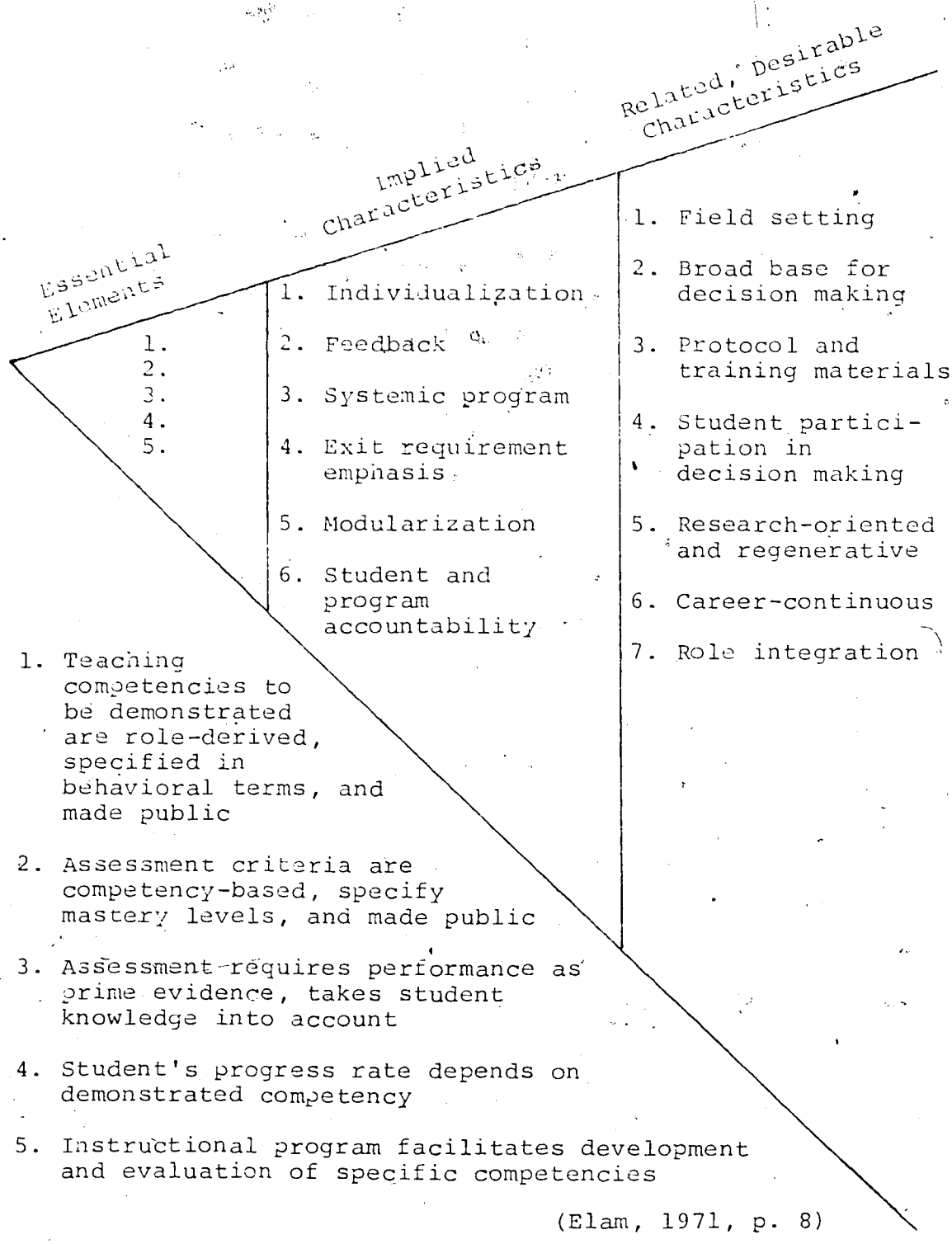
Essential Elements

Teaching Competencies to be Demonstrated are Role-derived, Specified in Behavioral Terms, and Made Public

The starting point of a CBTE program is perception of a teacher stated in role-derived terms. Such perception might be drawn from a variety of sources: observational data gathered in classrooms; surveys; conventional wisdom; and existing models of teaching. Further, this perception should take into account the many roles of teaching, that is, in different situations, in varying tasks, as well as in accordance with varying expectations.

Perceptions of the roles of the teacher are then defined in the form of behavioral objectives. Houston and Howsam (1972, p. 17) maintain that

> the objectives are explicit statements of the



(Elam, 1971, p. 8)

Figure 1

CONCEPTUAL MODEL OF PERFORMANCE-BASED TEACHER EDUCATION

abilities required by an effective teacher. The objectives are consequently translated into definite component competencies needed to fulfil an effective teacher model.

The model of competencies considered vital is identified for the teacher in training and all other interested parties. The idea behind making the required competencies public is that the student teacher will be able to closely identify with the conception of an effective teacher. It is the hope of CBTE that, in making him aware of such, the student will become directed in his efforts, making learning more effective and efficient. CBTE proponents also think it advantageous that the teacher can eventually follow through on the implications of the objectives outlined.

Diversity in the nature of criteria employed in identifying the teacher's competence is apparent. Cooper and Weber believe that three types of criteria can be used in determining competency: knowledge, teaching performance, and teaching consequences (1973, p. 2). Two intermediary criterion levels are noted by Schmieder (1973, p. 63). These are skills (the result of interacting with "training" mat[illegible]s as opposed to "protocol" materials for knowledge [illegible]s), and output (the result of interacting with "integrative" materials). Still further levels of criteria are offered for consideration by Houston and Howsam, criteria which are affective and exploratory (1972, p. 6).

Rosner and Kay (1974, p. 106) hold that, although a characteristic of CBTE is a shift from a primary focus upon knowledge and skills mastery to one of output, programs may differ in their foci. Programs may, in fact, be considered competency based when focusing on any one or combination of the mentioned criterion levels.

Whatever criteria is deemed important by individual program developers, the ultimate objective of CBTE is the maximal employment of consequence objectives (Houston & Howsam, 1972, p. 7).

Assessment Criteria are Competency Based, Specify Mastery Levels, and Made Public

Criteria used for assessment of students must be in accordance with the initial competencies which were proposed to the pupil and made public to all concerned. In addition, the student must be well informed in advance of minimal standards or required mastery levels for each of the competencies deemed essential for the program.

Assessment Requires Performance as Prime Evidence, Takes Student Knowledge into Account

Assessment is one crucial area in which diversity amongst programs is noticeable. Generally, assessment can involve three main areas: knowledge, performance, and consequences. Chiefly, performance is taken as prime evidence although evidence of knowledge gained in training is also strongly regarded. However, some advocates

maintain that even these two together are not sufficient indicators of efficient teaching. Considerations such as the effects of teaching or the consequences to students (e.g., how student performance is affected or, alternatively, how student learning is enhanced), gain importance.

The problem is far more complex than merely choosing which areas of assessment will decide whether a teacher is competent. Within these areas are various levels of assessment criteria. Richard Turner (cited in Rosner, 1972, pp. 3-8) sets out what he considers as levels of assessment criteria applicable to all types of CBTE programs, whether performance and data based or consequence based. These six levels range in terms of desirability from highest at Level 1 to lowest at Level 6.

Levels of assessment criteria.

Level 1: Long term appraisal of teaching on a time-sampling basis by:
a) observations of classroom teacher behavior with instruments to classify cognitive and affective aspects and
b) systematic analysis of cognitive and affective pupil outcomes affected by the teacher;

Level 2: Similar to Level 1 on a short term basis;

Level 3: Teaching behavior appraisal in classroom;

Level 4: Appraisal of teaching behaviors in a restricted environment (e.g., microteaching);

Level 5: Teaching behaviors assessed in a simulated setting, not necessarily with live students present;

Level 6: Appraisal of teacher's knowledge and understanding of principles or concepts germane to teaching.

The choice of level of assessment criteria to indicate the teacher's competence probably amounts to individual program developers' philosophy of teacher education together with practical priorities. Levels 1 and 2 are directly related to assessing the effects of teacher education on both the teacher and those he teaches. Levels 3 through 6 relate only to the impact of the teacher's training on himself. The underlying debate thus becomes one of deciding whether teacher education should address itself merely to effects on the teacher in training or also to effects on the pupils being taught. Turner also points out that

> the emphasis on pupil change in Criterion Levels 1 and 2, therefore, equates accountability in teacher education with school accountability. Teacher education, however, does not address itself directly to the modification of pupil behavior. It is uncertain, therefore, whether measures of school accountability are appropriate measures of the effectiveness of teacher-education programs. (cited in Rosner, 1972, p. 7)

Turner holds that Level 3 (assessing teacher behaviors in classroom settings), is the most desirable level for accountability in teacher education (p. 7). Not only is this level valuable for graduating trainee teachers, it is

also suitable for purposes of certification of teachers already in the field.

Student's Progress Rate Depends on Demonstrated Competency

Achieving a required level of competence, be it knowledge, performance, or consequences, is central to the focus of all CBTE programs. Programs are individualized in the sense that students are not time bound by course completion. Each may progress at his own rate until he achieves the objectives thought necessary for him.

Instructional Program Facilitates Development and Evaluation of Specific Competencies

Specific competencies, once identified, shape the implementation of the whole program. One real question for CBTE is to determine just how discrete and how specific the stated competencies will be. The development of instructional materials as well as the development of assessment systems are a function of the types of competencies promoted.

The instructional program aims to facilitate student progress in the direction of the stated competencies. Most generally employed is the unit of learning, a module. Other means to guide and provide practice in the competencies, such as mini-courses, micro-teaching, simulation activities, and various field centered learning experiences, are sometimes employed. A selection of such strategies is made in relation to each of the initial competencies outlined.

The evaluation component is deemed an essential

factor in relation to the achievement of each competency. This may be either built into the learning module etc. or act as an additional component. Essentially it involves at least two parts: pre-assessment (noting the individual's initial merits in relation to the desired competency), and post-assessment (noting the level of achievement after instruction). In the case of the student failing to achieve the required level of competence, he may be required to complete the same or alternate instruction before another assessment is given. Ideally, as little delay as possible elapses before feedback is offered to the student.

Implied Characteristics

Individualization

CBTE requires each student to achieve the stated level of competence on each criterion. However, the means of displaying this level of competence may vary in any one program. Differentiation is permitted since promoters believe that the behavioral objectives developed are most desirable in allowing for the uniqueness of the individual. Advocates maintain that these objectives can be specified without demanding uniform behavior from all learners (Houston & Howsam, 1972, p. 20). Strategies allowing for the uniqueness of the individual include: a wide selection of learning experiences; self-pacing; and the chance to disregard instruction in areas in which a satisfactory initial competence is already evident.

However, CBTE claims a more encompassing characteristic than individualization, namely, personalization. Paying careful attention to aspects of curriculum planning and implementation, CBTE seeks to be relevant and humanistic.

Personalization of the program involves consideration of four aspects at each of the three criteria levels: knowledge, skills, and products. These considerations involve ways of instituting personal contact amongst instructors, learners and peers during the learning process; meeting individual learner's needs; encouraging pupil participation in curriculum decisions; and involving the student in the design and development of the overall CBTE program into which his personal plan fits (Schalock & Garrison, in Anderson, Cooper, DeVault, Dickson, Johnson & Weber, 1973, p. 33).

Feedback

Built into the program is a feedback component. This component is a corrective mechanism, the purpose of which is to assess the match between actual and intended behaviors and/or outcomes. The feedback mechanism is beneficial on two levels: the total program level and the individual student level.

At the total program level, feedback allows input into the system as to the effectiveness of graduates employing the program's specified competencies. In addition,

it provides an inlet for current research findings from teacher effectiveness research. An opportunity to modify the program priorities in line with findings is apparent.

At the individual student level, there is opportunity for instructors and students to discuss the student's achievements. In the case of the student not attaining the expected level of competence, discussion on alternate learning experiences can be held. The opportunity for mutual decisions between student and instructor on future curriculum means paralleling the student's needs, can be made.

Systemic Program

DeVault (after Banathy, in Cooper, Weber & Johnson, 1973, p. 20) gives a working definition of the systems approach employed by CBTE.

> The purpose of the system is realized through processes in which interacting components of the system engage in order to produce a predetermined output. Purpose determines the process required, and the process will imply the kinds of components that will make up the system.

The purpose of CBTE is to produce effective teachers. Processes considered essential are planning, development, implementation, assessment and feedback. Within such processes many components (e.g., students, instructors, facilities, instructional materials), interact. The processes are interconnected in a manner which supports and promotes movement towards the stated purpose.

Exit Requirement Emphasis

In CBTE programs, time is not considered as a factor which is held constant. Individualization and personalization considerations enable each student to work at his own rate towards achievement of the exit requirements, that is, mastery of the stated competencies.

Entrance requirements assume less importance than in other teacher education programs. However, each student is assessed on entrance according to his existing competencies. From this point, his individual program is planned in collaboration with his instructors. The emphasis from this point onwards lies with what he will become in order to enter the teaching profession.

Modularization

Modularization of learning experiences is an implication of forming discrete teaching competencies. Schmieder, (1973, p. 59) defines a module as

> a package of integrated materials or an identifiable and related set or sequence of learning activities which provides systematic guidance through a particular learning experience or specific program.

Elements included in each module are: rationale, objectives, pre-assessment, learning activities, post-assessment, together with feedback after each assessment stage. In cases where the student is not successful, the module operates as a closed loop system.

Student and Program Accountability

The student is held responsible to complete his program and to demonstrate that he can be considered accountable in terms of the objectives outlined for the course. He must demonstrate that he is emerging into the profession with a set of behaviors or capabilities deemed essential for effective teaching by the program developers.

The institution or institutions involved in the program training are further held accountable for producing capable teachers.

Related, Desirable Characteristics

The following characteristics are not entirely necessary but are classified as related and desirable by Elam (1971).

Field Setting

Increased emphasis is placed on the desirability of experiences in field settings. This follows on from the importance CBTE programs attach to assessment involving the performance of certain teaching behaviors in addition to demonstrating knowledge related to teaching. Preparation in similar setting to those used for assessment purposes is often thought relevant.

Broad Base for Decision Making

Decision making for CBTE is often mult-institutional in nature. A selection of university, student, school,

community, and other special interest groups could be representative of the personnel who come together to affect program decisions.

Protocol and Training Materials

To enable students to master concepts, skills, and knowledge aspects related to teaching, a variety of materials and experiences within the form of unit modules can be utilized. Desirable materials for use can be subdivided into two categories: protocol materials and training materials. Elam (1971, p. 10) tries to draw a fine distinction between these. Protocol materials are those used "to help the student recognize and understand a teaching concept". Training materials, on the other hand, are "teaching materials enabling the student to reproduce or put into action a sequence of activities or procedures required by a teaching concept".

> Training materials include new technology and techniques, such as microteaching, computer-assisted instruction, simulation, gaming, and role playing; but the full arsenal of instructional techniques is available, including lecture, discussion, laboratory exercises, problem solving, independent study etc. (Elam, 1971, p. 10)

Student Participation in Decision Making

Some programs uphold the student as an important contributor to the planning of the instructional means to meet his own ends. After discussion of progress matters with instructors, the student may sometimes choose from a

range of alternative instructional means. He is given the opportunity to exercise discretion in deciding, in consultation with the instructors, certain personal goals (distinct from program goals), and deciding what best suits his own needs in working towards these goals.

Ideally, CBTE with its characteristic of broad decision making base, could involve students at all levels of decision making, including program goals. However, this appears to be one area of dissension. Many feel that the students do not possess sufficient understanding of the total picture of the teaching profession to be included at the program goals decision making level. For this reason, some programs prefer to limit decision making of this vein to university and school personnel.

Research-oriented and Regenerative

As was previously pointed out in the discussion on Feedback (see Implied Characteristics), the systems approach nature of CBTE provides a framework within which research can take place and be applied. This enables research on the success of graduates to be carried out, reflecting the outcome of the program goals. The opportunity to modify and regenerate the system in line with findings from this and other related research, is available.

Career-continuous

CBTE does not envisage preparation for a teaching career terminating at the end of preservice training.

Rather, it promotes the idea of preparation continuing throughout the career. This could be realized through inservice workshops, assessment for certification at points during a career and general acquaintance with current CBTE ideals throughout the career.

Role Integration

Elam points out the trend that

> after the student has an adequate conception of the goals of teaching, instruction moves from mastery of specific techniques toward diagnosis and selective utilization of such techniques in combination. That is, role integration takes place as the prospective teacher gains an increasingly comprehensive perception of teaching problems. (1971, p. 11)

Scope of CBTE

This discussion has attempted to present an overview of CBTE by noting its development and outlining its characteristics. It cannot be emphasized too heavily, however, that great diversity amongst programs exists. Moreover, the discussion dwells heavily on the preservice aspect of CBTE. The CBTE concept is considered equally applicable to inservice and certification measures for teachers already in the field. CBTE is intended to be sufficiently wide in scope to serve the whole gamut of continuous education of those entering or remaining updated in the teaching arena.

CHAPTER III

CRITICAL APPRAISAL OF COMPETENCY BASED TEACHER EDUCATION

In Chapter Two, an attempt was made to give an overview of CBTE from a proponent's perspective. CBTE, it can be appreciated, has many facets and much diversity within such facets. However, criticisms of CBTE tend to emerge in rather distinct strands.

Chapter Three outlines prominent criticisms of CBTE. It concludes with a particular focus on a major area of question with CBTE, namely, the assumption underlying the identification of specific competencies. A related question to be further investigated is framed.

Criticisms of CBTE

It seems that criticisms of CBTE are many and varied in nature. Particularly notable is a deep concern not only for the sweeping adoption of the CBTE notion but also for present inadequacies within the system. Flaws at various stages of the system at this time have been noted. Most notable are those involving the "essential elements" (Elam, 1971), namely, working towards behavioral objectives in the form of prespecified competencies as well as measurement and assessment considerations.

Some critics put forward the viewpoint that CBTE runs counter to their philosophic stance on teaching.

Some react to political pressure to become involved in this approach. Others take a fundamental position. While accepting that the system itself may be feasible, they question the assumptions on which it is grounded. Looming large also is the economic consideration of becoming totally committed without any real proof that this one system is superior to existing teacher education programs.

The criticisms noted are probably not exhaustive. Neither are some of them mutually exclusive, particularly because of the intertwined nature of CBTE. Proponents of CBTE have made strong retorts to some of the following criticisms in defence of CBTE. However, the criticisms serve a worthwhile purpose in questioning and cautioning fundamental aspects of the approach. It is probably safe to say that they have provided an impetus for more thorough thought in CBTE program development and research needs.

An attempt to highlight a spectrum of concerns is made under two broad areas: reconsiderations of the adoption of the CBTE concept and more specific reconsiderations of facets of CBTE. General reconsiderations cover such areas as: humanistic criticisms; teachers' rights to pedagogical freedom; lack of definition and diversity concerns; fractioning teaching concerns; criticisms of CBTE theory; the hidden curriculum of CBTE; and pressure towards accountability. Specific reconsiderations involve concerns related to the areas of measurement/assessment and competencies.

General Reconsiderations of the Adoption of the CBTE concept

Humanistic Criticisms

Gage and Winne (1975, p. 152) disclose the humanistic educator's protest against CBTE on the grounds that "its philosophical and practical underpinnings may be deleterious to both teachers and students". Humanistic educators would probably differ with the notions that a system of beliefs can be imposed upon a teacher; that a person can be taught how to teach; that a student can "become" an effective teacher without initial security and acceptance; that teaching behaviors should be stressed above meaning in teaching situations; and that objective information about teaching processes and effects should gain precedence over more subjective data. Moreover, McDonald (1974, p. 296) points out that many observers have concluded that

> C/PBTE is indifferent to the knowledge that a teacher presumably needs to teach, to the teacher's attitudes, and other personal characteristics, and the larger set of humane perceptions and relations that many assume are required for effective teaching.

Teachers' Rights to Pedagogical Freedom

Several argue against the imposition of any one pedagogical approach (e.g., Sandoz, 1974; Nash & Agne, 1974). This was particularly evident from criticisms raised in Texas after the news that every teacher education program in Texas had to be competency based by Sept 1, 1977 or they

would be terminated. Stewart, Denson and Stone (1976, p. 190) report that

> significant opposition arose which led to a legal challenge to the mandate. The decision rendered by the attorney general in 1974 stated that the State Board of Education does not have the right to impose any one model for teacher training. It can only suggest CBTE as an important alternative method of training.

However, the move in the direction of CBTE programs is not isolated to Texas. Many American states have implemented or shown interest in implementing the approach and critics have strongly raised their viewpoints. They deplore attempts by a narrowly prescriptive approach to take away academic freedom in what and how they teach. CBTE must be only one methodological approach to the preparation of teachers (Nash & Agne, 1974, p. 329).

In a similar vein, Maxwell argues that we should not accept the imposition of any particular pedagogical approach without thorough scrutiny. He challenges:

> Conscious of the limitations of our knowledge and the need to preserve for the teacher the right to choose the approach he judges best suited to subject matter, to his students, and to himself, we should demand of the proponents of the movement a rationale and evidence sufficient to support what appear to be presumptious claims and to justify the abrogation of teacher's rights. (1974, p. 306)

Maxwell further issues the warning that with the scope of CBTE unclear, serious thought as to its adoption should be given or its effects may be far reaching.

> A distinct possibility exists that we may awake one day to find that professors of all subjects

> taken by prospective teachers must utilize the performance/competency based approach as a condition for state certification. (1974, p. 307)

Lack of Definition and Diversity among Programs

Perhaps one of the major problems for CBTE in its infancy is its lack of precise definition. Rosner and Kay (1974) claim this to be one of the crucial issues impeding progress. In fact, the "lack of consensus" about what constitutes competency based programs makes it difficult to gauge how widespread the movement has become (Rosner & Kay, 1974, p. 291). Some programs are operating under the pretense of CBTE, often just bearing minor semblance to the concept. In addition, the CBTE label runs the risk of being harshly judged on the basis of such non-representative programs.

It is probably a result of this lack of definition that so much diversity amongst programs exists. Although CBTE proponents consider such diversity a healthy state contributing towards better understanding of alternatives, this diversity is so noticeable that it is considered that the design process of CBTE only is generalizable to other situations.

Dodl and Schalock (in Anderson et al., 1973, p. 48) are critical of the apparent confused state. They comment that for CBTE to become a reality, far more precision is required, particularly in the statements of competencies. Similarly, Rosner and Kay maintain that it is up to all

parties concerned with the movement to assist in this task for,

> without a concerted effort by all participating institutions and agencies to come to some agreement on what those critical dimensions are, the real promise of CBTE is unlikely to be realized. It will be washed away, ironically, by current of ambiguity. (1974, p. 291)

Concerns about Fragmenting Teaching

At the heart of many criticisms lies the concern over fragmenting teaching. Broudy (1972) is one showing both concern and disbelief of the CBTE assumption that the teaching act is the sum of the performances into which it is analyzed. While it is an aim of CBTE to encompass the totality of teacher education, an essential element of the approach is to dissect teaching into a number of prespecified behaviors. These behaviors can take on varied forms, from simple to complex, in knowledge and skills areas.

CBTE advocates are quick to add that some critics have only limited understanding of the approach when dwelling on inadequacies of very simple behaviors when in fact these competencies can take the form of complex and high level operations. However, Broudy (1972, p. 4) makes the point that there is strong liklihood that competencies will be simplified if we consider that eventually assessment has to occur to complete the systematic CBTE routine. Palmer (in Horton, 1974, p. 355) reinforces this idea by saying that the possibility exists that nonsignificant behaviors will gain emphasis, if only for the reason of relative ease in

measurement.

Further, the modularized instruction of the segmented behaviors is attacked on the grounds that learning can be limited to a single format (Ishler, 1974, p. 56). Flanders adds a reminder to the CBTE people, too, that there is a possibility that the way in which their teachers are trained may, in fact, have more impact than learning about the specific competencies they are to accommodate (1974, p. 314).

In addition, because only particular competencies are to be acquired and assessed, learning not to be assessed may by underplayed (Nash & Agne, 1974, p. 355). Then, in emphasizing only those competencies which are deemed all that the teacher really needs to know, CBTE may be labelled a very narrow form of education.

Criticisms of CBTE Theory

The CBTE theory itself is carefully examined by McDonald (1974, p. 307). He is particularly cynical of the "tendency to reason as though the actual and the hypothetical were one".

We may consider the basic CBTE model consisting of three sequential steps (namely, identification of competencies of successful teachers; establishing measurement techniques to gauge the level of competency acquired and program design to facilitate mastery of competencies). McDonald argues that the first two steps, in

fact, do not even exist.

He analyses Elam's official definition of CBTE (see Chapter Two), issued by the AACTE Committee on Performance Based Teacher Education:

> The student must either be able to demonstrate his ability to promote desirable learning or exhibit behaviors known to promote it. He is held accountable, ..., for attaining a given level of competency in performing the essential tasks of teaching.

McDonald maintains that

> Almost from the outset, a variant of the basic model appears in which the "competencies" specified are not explicitly claimed to be demonstrably linked to success in teaching.

Further, he argues that

> from statements clearly tied to effectiveness as a teacher ("the objectives are explicit statements of the abilities required to be an effective teacher"), one passes quickly to statements that may refer only to the prospective teacher's performance in the course in which he is enrolled.

Following the CBTE notion, he argues that anything not contributing towards actual teacher effectiveness really has no right for inclusion in a CBTE program. If, in fact, there is no established list of behaviors linked to actual teacher effectiveness, there can be no second step in the model, being dependent upon the existence of step one.

The Hidden Curriculum of CBTE

Horton maintains that there may be a strong hidden curriculum at play with CBTE, equal to the CBTE curriculum itself. Some of his concerns include the idea of the teacher being relegated to the role of a skilled technician;

that the teaching act is gaining more importance than the principles behind teaching: preparing for "manpower" rather than manhood; trivializing teacher education to teacher training and that the ends of education are being separated from the means. Horton also questions the possibility of providing easier tasks with guaranteed outcomes in preference to more difficult processes. (1974, pp. 359-363)

Another concern noted by many observers and again highlighted by Horton (1974, p. 364) is that through CBTE we may move to a "level of mediocrity" in teaching. Potentially outstanding teachers may, in fact, become so restrained by outlined demands that their potential may never be realized.

Pressure towards Accountability

It is thought that in many instances the competency based tradition is being adopted as a "prescriptive and effective solution" to the accountability problem (Andrews, 1974, p. 310). Campbell (1974, p. 326) is cynical of this idea, stating that an unspoken assumption of CBTE is that

> the fault, the blame, for what is wrong with our schools lies with the teachers

and that improvement in education will result by making the teachers accountable. In promoting "the doctrine of accountability", Foster claims CBTE efforts as "subterfuge" (1974, p. 306).

Other Concerns

A few more concerns not treated in detail should be

acknowledged. Should the CBTE system be taken at face value, there are many interrelated components to be managed. One wonders about managerial aspects of keeping the entire system operational. As well, costs to do so must be quite considerable, particularly if consideration is given to the amount and diversity of additional instructional material advised. In relation to the instructional material also, one could question whether sufficient good standard materials, capable of achieving what is intended, are available.

Reconsiderations of Particular Facets of CBTE

Measurement/Assessment area

Flaws at the measurement/assessment stage of the CBTE system have been pointed out. It is primarily related to the number of unanswered questions in this area that Kirst (in Rosner, 1972) is critical of wide federal economic support.

Generally, there is lack of agreement as to what is to be measured (Sandoz, 1974). Further, questions such as who will determine assessment; in what and how many settings will assessment be carried out; and what variation in measurement is acceptable have had no clear answers given (Drummond, 1974; Anderson et al., 1973).

Further, assessment for CBTE sometimes takes place in simulated classroom conditions, for example, microteaching situations. Quirk (1974, p. 317) summarizes the concerns associated with such.

> There is a host of critically important research questions about microteaching tests or other simulated tests which need to be answered before such devices become a standardized part of a reporting system for teacher competence. How consistent is the teacher's behavior over time? What is the effect of familiar versus unfamiliar pupils on the behavior of the teacher? What is the effect of pupil practice on teacher behavior? How is teacher behavior related to pupil learning? What are the correlations between simulated teaching tests and paper-and-pencil test? So far the important questions far outnumber the adequate answers.

Even given that some of the above problems were given satisfactory answers, there remains a great need for the development of measurement techniques and instruments to gauge a teacher's performance. Quirk (1974), Cox (1974), and Rosner (1972) are just a few who have testified to this real need.

To satisfy CBTE needs, a variety of measures are needed to evaluate all crucial areas (e.g., cognitive, affective, mechanical). We need to know also that the instruments developed are both internally and externally valid and reliable.

Criticisms in the assessment and measurement realm do not come exclusively from outsiders of the CBTE movement. Proponents have recognized the complexity of the task and readily admit the present weakness of this area. Accordingly, attempts by CBTE people are being made to improve this area. The formation of the National Commission on Performance Based Teacher Education resulted from the recognition of the need to make co-ordinated research efforts, the measurement

dilemma being one of its chief concerns.

Some recent responses to measurement needs are also now available. In association with research with the Competency Based Teacher Certification Project in Carrol County, Georgia, existing observational instruments have been used in an attempt to draw together a list of specific teacher behaviors thought to be related to the effectiveness of the teacher. Examples of the observation systems used on this basis include: The Coping Analysis Schedule for Educational Settings (CASES); The Spaulding Teacher Activity Rating Schedule (STARS); The Observation Schedule and Record (OScAR); The Florida Classroom Climate and Control System (FLACCS); and The Teacher Practice Observation Record (TPOR).

One current competency rating list derived from elements of these observational schedules and introduced by Lorentz (1977), is the Key to CBTC Competencies (see Appendix A). Another list resulting from teachers' perceptions of effective teaching, which has a measurement component of noting the presence or absence of certain teacher behaviors, is presented by Medley (1977): Competency Areas Identified by Teacher Task Force with Behavioral Indicators (see Appendix B). Medley states that this test will

> not measure effectiveness directly; rather, it will measure the degree to which a candidate possesses a set of competencies known to characterize effective teachers. (1977, p. 1)

Competency Concerns

The main thrust of the CBTE criticisms, however, is directed towards the area of competencies. The fact that such an outbust is directed towards this most vital area, onto which the whole system is hinged, presents a serious threat. It presents a threat not only to the competency segment within the system but also the the CBTE movement as a whole.

Criticisms are pointed directly to systematic considerations over competencies and to concerns over the basic foundation from which the first step in the system is derived and onto which the rest of the system is somewhat dependent. For this reason, criticisms will be highlighted under the areas of competency concerns within the system and, secondly, basic competency issues.

Concerns within the system. The hazards of dividing teaching into fractions in the way of specific competencies have been noted by Broudy (1972). However, the key to the CBTE system lies within this idea. If concerns such as these are temporarily overlooked, another set of cautions directed towards the systematic operation remains.

The most forceful guidelines connected with the competency area are pointed out by Houston and Howsam (1972, p. 17).

> In a CBTE program, the objectives are explicit statements of the abilities required by an effective

Explicitiness is imperative to the validity of the system. Yet, taken from the CBTE literature, explicitness is sadly lacking in program descriptions. Lawrence (1974) notes this need in order that assessment procedures can attempt to measure precise competencies. If vagueness prevails in the first step of the system then instruments designed to evaluate particular behaviors will not adequately reflect the congruence.

Ishler cautions additional considerations dealing with the significance of the competencies, however. He notes that the nature of the competencies chosen should reflect scope, depth and source considerations (1974, p. 47). (Source considerations are looked at later in this chapter). The scope of the competencies, he maintains, should reflect subject matter, pedagogy and personal characteristic considerations. Further, Cooper and Weber (1973, p. 8) have pointed out that competencies deemed necessary to teacher effectiveness include understandings, attitudes, skills and behaviors facilitating intellectual, social, emotional and physical growth in their students. The prespecified list of competencies thus grows into numerous possibilities. It is to this end that objections have been raised. On the one hand, it can be considered acceptable that the list should be wide and comprehensive but on the other, it is wondered whether a list could be compiled to cover all these considerations; for all children, in all settings, at all times. Such a prescriptive list, if it were possible,

could reach the level of absurdity. Furthermore, it could prove an impossibility to operationalize.

Ishler (1974) also points out the need for depth in the competencies noted. Rosner and Kay acknowledge the importance of this aspect, too, in stating that

> the real question for CBTE is to determine at what level of specificity the parts (of teaching) must be defined. (1974, p. 294)

Even if only due to practical constraints in the infancy of CBTE, programs surely could only be able to deal with a portion of all the skills needed by teachers under all circumstances. Thus Thomas and Ka (in Houston & Howsam, 1972, p. 156) see the importance of "the establishment of methods of ordering competencies to reflect specified educational priorities". Whether this is an emphasis for CBTE developers or how it might be operationalized is unclear from the CBTE literature.

Flanders (1974) introduces a perhaps more vital question related to priority establishment on the part of the CBTE teacher in training. Within the task of building a repertoire of teaching skills, he questions whether attention is paid to allowing the beginning teacher to rearrange these skills on the basis of priorities.

Concerns over competency base. Underlying CBTE is the basic assumption that teaching skills which promote student learning, can be identified. The CBTE system, taken in isolation may be a viable one but a decision on

the overall merit of CBTE rests, to a strong degree, on the strengths of this assumption as its base.

Bearing in mind the thoughts of Broudy (fractioning teaching) together with those of McDonald (the model may only be a variant of teacher effectiveness), it becomes vital to test out the soundness of the totality of the concept by re-examining the soundness of the assumption contributing towards the initial input to the system. Andrews (1974, p. 310) cautions this necessary step, maintaining that the basic assumptions are being accepted, rather than challenged.

> If we continue to limit our efforts to changing the process to, for instance, competency-based programs, without examining the input question first, then we will content ourselves with changing the process for the wrong product.

Perhaps the most pressing concerns related to the base for identifying competencies revolve around these types of questions: What is the substantive basis for singling out competencies? Is it in fact possible to isolate such a list? How valid are the prespecified competencies? Which critical list of competencies has been identified with the knowledge that they will ensure effective teaching?

Lawrence is critical of the lack of defensible basis for the chosen competencies by relying on a consensus or opinion base:

> PBTE programs generally have been launched with competency-objectives not clearly rooted in theory and research. The consensus process has not drawn the profession closer to a set

> of universal teaching competencies because agreement usually has been reached on generalizations disconnected from any theoretical context. (1974, p. 299)

Unless developers of CBTE are content to base their whole movement on the validity of a consensus or a theoretical approach, then a research basis to add faith to to their reforming concept has to be examined. Advocates of CBTE, however, fully realize the need for the research function but are impatient to wait for definitive answers. Their preference is to use what they can gather together that is thought to be related to teaching effectiveness. They maintain that operationalizing the CBTE system on this basis will, in fact, assist the research function. Research may be carried out in ongoing programs to test the validity of the prespecified competencies. In addition, research into the effectiveness of the total CBTE program can be carried out. In this respect, CBTE can be classed a "transitional model" as noted by Rosner and Kay (1974, p. 295).

> CBTE is not an end in itself. It is a process of moving from the present ambiguous state of teacher education to a more clearly articulated program of professional education. CBTE is a transitional model for establishing teacher education on a firm theoretical and empirical base ultimately directed to the improved delivery of educational services.

However, CBTE programs are not really being promoted under the auspices of a "transitional model". It would be more reasonable to suggest that they are being implemented under the auspices of producing effective teachers in the

immediate future. How valid then is their assumption that teaching skills which promote learning or effective teaching, can be identified at this time? Unless some sort of definitive answer from an objective research base is available, belief in the overall merit of CBTE at this time is somewhat speculative.

CHAPTER IV

EARLY CHILDHOOD CBTE

Interest in CBTE with its notion of specified competencies is becoming more apparent in the early childhood sector. Particularly notable is the attention being devoted to competencies to be used as assessment and certification measures, both for those entering the field and those already practising. This attention closely parallels the outcry for quality services in early childhood programs.

No matter what approach is adopted in the education of early childhood personnel or vigilance over the quality of programs in operation, it becomes important to understand the real nature of the field. Only with acknowledgement of particularities within the early childhood field can teacher education hope to truly represent the needs of this area.

This chapter highlights the nature of early childhood education through exploring diversities among programs and characteristics of the field. It is thought that these factors should be considerations in determining applicable teacher education programs. For CBTE with its idea of role-derived competencies for all situations, it should prove a suitable background for identifying competencies required by early childhood personnel.

The chapter continues by focusing on competency based early childhood teacher education as it is envisaged in the literature of CBTE advocates. An attempt to give some illustratory examples of the types of CBTE programs now operating is made. Following, the move to form certification procedures along CBTE guidelines is discussed and illustrated. Finally, a summary of elements considered essential to competency based early childhood teacher education is offered.

Considerations for Early Childhood CBTE

Depending upon where a student receives teacher education, the term "early childhood education" may refer to different age groups and bear different connotations. If it is thought that early childhood education addresses itself to children aged from birth to eight years (as is the case in Alberta), then it becomes obvious that teachers trained in this area can be destined to work in a variety of programs with varying characteristics.

Diversities among Programs

Different types of programs. For children in the age range from birth to eight years, a wide variety of organized programs is now available. Some have arisen with explicit intentions of benefitting the child and reflect an awareness of the importance of the early years. Others have been developed as a service in answer to family needs.

Prominent amongst organized early childhood programs are nurseries, day care, playschools, preschools, kindergartens through to early grades in the elementary schools. Somewhat less prominent are infant programs, television for young children and home based early childhood programs. Within these broad categories, programs may be further differentiated according to the particular philosophical models with which they associate.

Different age groups served. Programs may differ in the age groups which they serve. Some cater exclusively for one age group (e.g., kindergarten and grade school). Others are open to mixed age groups (e.g., day care).

Varying lengths of programs. In addition, the length of time certain programs are offered can differ widely. Thus programs are often classified on the dimensions of half day and full day. Some half day groupings are available for as little as two hours. Others offer a longer period. Those classified as full day programs can range from the length of a school day to a much longer time, as is the case in some day care situations. There, children are often left for the entire time the parents are away at work.

Varying degrees of parent/community involvement. A current trend is one towards more active involvement on the part of parents and the community. Programs differ in the extent to which this participation is initiated. Thus, the

range in this regard can vary from casual acquaintance with the program through active involvement in the classroom to decision making powers on priorities or total control over the curriculum.

Other differences. Some other prominent diversities concern the following: funding (public/private/mixture); housing (appropriately designed or makeshift centers e.g., church halls, basements); availability of resources, facilities, and materials; size of program; ratio of staff to children; distribution of authority; division of labor etc.

Characteristics of Early Childhood Education Programs

Peculiarities to the field. Spodek identifies "a movement towards a differentiated staffing pattern, using people with different roles and relationships to work together" (1972, p. 341). Noticeable now are team teaching and the use of additional adult personnel within programs. The latter can take the form of teacher aids (either in a casual or full time capacity), volunteers, and part time extra teachers. Volunteers and aids may be involved in custodial and clerical work or actual teaching. In some programs there may be little which differentiates the teacher from additional staff. Promoting Metzner and Newman's ideas, Spodek says that "differences in roles of teachers and aides seem to be shrinking rapidly. The major

differences seem to lie in the actual performance of tasks in the classroom and more in the area of responsibility and decision-making" (1972, p. 351).

Several developments have arisen from the trend of having additional help in programs. There is the chance to share roles and use staff with special capabilities for particular program needs. A sense of teamwork is required a and this seems to require a whole new range of possible skills, such as skills required in communication, co-ordination and relationship areas.

Early childhood education accommodates a whole range of professionals and paraprofessionals. Staffs vary in qualifications and backgrounds. The field can be considered as multidisciplinary in nature, drawing its staff from such areas as education, social work, family studies and psychology.

Roles and styles of early childhood personnel. Katz (1970, p.43) makes a distinction between the roles and styles of teachers. She uses the term "role" to refer to "that aspect of the teacher's behavior that concerns the duties, responsibilities, and actions expected of the teacher by her client and herself". "Style", however, is used to refer to that behavior involving the "individual rendering with which the teacher's role is performed".

The goals of early childhood programs may differ widely. Accordingly, the roles of early childhood personnel

can be linked to the goals of the programs and thus differences in the roles adopted are noticeable. Katz (1972) identifies four different role models of personnel working with young children: maternal, therapeutic, instructional, and facilitative. The various role models can be described in order to aid clarity.

The maternal model emphasizes the safety, comfort and happiness of the child. It represents the teacher "as a kind of mother substitute who is expected to fulfill the mother's responsibilities, duties, and functions while the child is away from home (Katz, 1970b, p. 43).

Moustakas describes the therapeutic role as one

> to help children grow both as unique individuals and as important members of the group, to help them feel comfortable in expressing themselves, and to help them develop a positive attitude towards school ... to help children resolve their tensions and conflicts. (cited in Katz, 1970b, p. 44)

The instructional model though, emphasizes "deliberate transmission of information and knowledge and the conscious training of children to develop skills--that is, on direct instruction or structured programs" (Katz, 1970b, p. 44). The facilitative role model is one whereby the teacher creates the scene for learning experiences and development to happen.

Katz maintains that the pure form of each model does not exist (1972, p. 44). It is more probable to expect a blending of roles. This idea gains importance when noting the results of research studies comparing the effectiveness

of full day, day care programs (where the primary purpose is seemingly custodial), and half day programs with planned educational outcomes. Handler (1972b) found that children in full day, day care programs consistently performed better than Head Start children on a number of school achievement tests. In a second study, she found that

> day care centers, which provide all day service offer more training in social, motivational and interactional skills than nursery schools, which provide part-day service. Training in cognitive skills is about the same at both types of institutions. (Handler, 1972a, p. 560)

It thus seems that there can be an instructional or facilitative component in all types of programs, regardless of the proclaimed goals. Moreover, it would seem too, that personnel may be performing a mixture of roles.

Day care workers may be operating under all four role models. Teachers in programs with planned educational outcomes may be functioning under the maternal and therapeutic roles as well as the instructional and/or facilitative models just by reason of the nature of young children requiring such services. As Almy (1975) has added:

> Different programs place major emphasis on different functions, but the nature of the young child is such that within every program a measure of caretaking, of guidance, and of instruction and facilitating will be apparent. (p. 130)

Inevitably, child care has educational consequences (Almy, 1975, p. 40). Learning seems to be interwoven with exchanges with the young child's caretaker. The idea that

personnel involved in programs not overtly educational are somewhat lesser professionals is often upheld. Yet all workers in direct contact with ung children in organized programs, regardless of their backgrounds, are in a sense teachers.

Katz (1970) suggests that there seems to have been a shift in fashion regarding role models with the result that the instructional model seems to be more favored at present.

> We are moving away from building a protective and psychologically safe environment around the vulnerable young child and toward helping him develop the strategies and strength for coping with his natural envir[illegible] p. 44)

The relative degree to [illegible] various roles are adopted may differ from pro[illegible]gram. Perhaps a more obvious difference between programs though, would be the styles with which the roles are rendered. Katz (1970) suggests style may be a more powerful determinant of effects than the teacher role adopted.

A spread in the nature of early childhood education is indicated. Teachers involved are placed in the position of widening demands. Early childhood teacher education has a responsibility to ensure that candidates have a wide enough background to prepare them for the tasks required. Once in the field, means of establishing and maintaining standards of such disparate staffing seems to have become a much discussed problem.

What teacher education scheme and certification/

assessment system will best serve these purposes is a matter of debate. The CBTE system and CBTE certification/ assessment systems represent some possibilities available.

Early Childhood CBTE

Stewart, Denson and Stone (1976) outline early childhood CBTE. They emphasize that features of such are compatible with those outlined by Elam (1971) for CBTE in general (see Chapter Two).

Trends noticeable with CBTE in general are also noticeable at the early childhood level. For instance, it seems obvious from the limited literature available on programs operating on this basis, that diversity amongst programs prevails. Some devote themselves to the training of personnel for particular types of programs. Some are connected with early childhood program models. Others reflect varying philosophical orientations. Examples of these include the Flexible Learning System (Tanaka, 1976) affiliated with the Responsive Model, which trains preschool teacher assistants by way of 15 competency based units; and the person-centered CBTE approach (Lickona, 1976), developed as an early childhood masters program. The latter approach allows for differences in teacher behaviors in the demonstration of a total competence pattern. The developers believe that

> the mandate to provide the learning conditions under which teachers develop competence has universal validity as a goal of CBTE; diverse

> means to that goal should, in an experimental and humanistic spirit, be encouraged. (Lickona, 1976, p. 10)

Accordingly, this system operates on the assumption that assessment of teachers should be relative and not absolute.

As with CBTE overall, it is difficult to find out what specific program competencies are being promoted. Program descriptions are fairly scant, usually paying attention only to general areas of study so that, in effect, the picture portrayed closely resembles traditional teacher education programs.

It may be that the expectations of required competencies differ for different types of personnel in the field. Almy (1975) notes a comparison between competency statements suggested in the area of assessment for two different types of personnel: the teacher and the day care worker. The expected behavior of the student teacher is noted quite specifically:

> The student teacher will be able to diagnose an individual learner's deficiencies in a particular content area. The standard of performance in diagnosis demands that the student (a) prepare a task analysis of an instructional objective by which entry or prerequisite skills are identified; (b) select and develop measures for assessing the pupil's status with respect to these prerequisites; and (c) use these measures in assessing the pupil's status and from the data collected formulate objectives that promise to "close the gaps" identified. (after McNeil, p. 201)

On the other hand, competencies intended for day care workers and necessary evidence for the demonstration of such in Parker and Ditman's views are related by Almy (1975, pp. 201-

202). They maintain that, at the "middle level" of performance, day care workers should be able to "plan and carry out at least one learning activity with children" and "should show an understanding of these differences between individual children". Evidence of the mastery of these competencies is taken from observations of the situation, for example, that the children "usually respond and stay with an activity" and that the worker "reacts positively but differently to different children in the same situation".

Almy draws some conclusions from this comparison:

> The differences in explicitness of these competency statements reflect the differences between expectations for two different age levels, and also the difference in expertise to be expected from personnel whose primary function is education as compared with those whose primary function is care. The differences may also reflect different orientations with regard to teaching behavior. (1975, p. 202)

Examples of Early Childhood CBTE Programs

University of Houston, Texas

One of the most clearly described programs, but one which also does not articulate specific competencies in the literature, is the early childhood CBTE program developed at the University of Houston, Texas (see Stewart et al., 1976). There, potential early childhood teachers undertake two introductory CBTE courses, firstly to make a decision on whether to enter teaching and secondly to "acquire competencies that all teachers need regardless of grade level or teaching area, such as writing behavioral objectives,

making lesson plans, handling discipline, asking higher order questions, etc." (p. 191). From this point the student proceeds with the early childhood specialization competencies extracted from these categories:

> knowledge about the field, child development, observational skills, the teacher as a person, the nature of teacher interactions with children and adults, curriculum development and implementation recording and evaluating techniques, management skills, innovative programs and practices, and internship experiences. (p. 191)

The authors state that the competencies were established by

> looking at the way teachers of young children behave, then listing what good teachers do that fosters growth in their pupils and what they know that enables them to behave in these ways. (p. 191)

Competencies to be mastered are ordered according to complexity and then organized in modules so as to facilitate mastery of competencies thought necessary for effective early childhood teaching.

As noted in Chapter Two, some programs do not adopt an holistic approach to CBTE. Evidence of programs bearing some semblance to CBTE is probably more widespread. On the Alberta front, two programs bearing some CBTE semblance have been developed. These are located at Red Deer (Red Deer College) and Grande Prairie (Grande Prairie Regional College). Both centers have organized their courses around competencies to be gained by working through certain modules.

Red Deer College Program

The early childhood development program at Red Deer College in Red Deer, Alberta, has adopted and adapted several of the University of Hawaii's training modules (Duckering, 1978). These modules, in turn, center around competencies advocated by the Child Development Associate (CDA) assessment system in the United States. The one year program addresses itself to the preparation of staff for day care centers, child care centers, nursery schools as well as assistants to teachers in kindergartens and elementary schools (Red Deer College Calendar, 1977-78, p. 42).

Grande Prairie Regional College Program

The Grande Prairie, two year program aims to serve those already in the field of education and care of young children as well as those planning entry to same. It has been developed in modules based on "required competencies of early childhood workers" (Grande Prairie Regional College Program Proposal, 1975, p. 4). The competencies put forward reflect opinions gained from experience in working with young children. Examples of some of the 20 modules comprising the program are illustrated (see Appendix C).

CBTE Certification for Early Childhood Personnel

As noted earlier in this chapter, interest in the identification of competencies as guidelines for certification of early childhood personnel has become very

evident. This parallels a strongly felt need for guidance and control over the quality of services rendered in programs for young children.

Efforts to ensure quality staffing based on training qualifications have met with several problem areas. In many ways, background qualifications of early childhood personnel can be so disparate. Personnel concerned are derived from an assortment of disciplines. Standards and types of training can vary widely. As well, there is the problem of those personnel who have updated qualifications to current demands but who operate very successfully in the field. The prevailing feeling seems to be that applying the same criteria to all workers as a certification measure is one way of equalizing such disparates.

The CDA Assessment System

In the USA, this very notion has prompted the creation of a nation-wide assessment system: the Child Development Associate (CDA) assessment system, otherwise known as the Credential Award System (CAS). Dimensions of this new development, established in 1972 but operationalized after research and experimentation in 1975, are outlined by Ward and the CDA staff (1976, pp. 244-254).

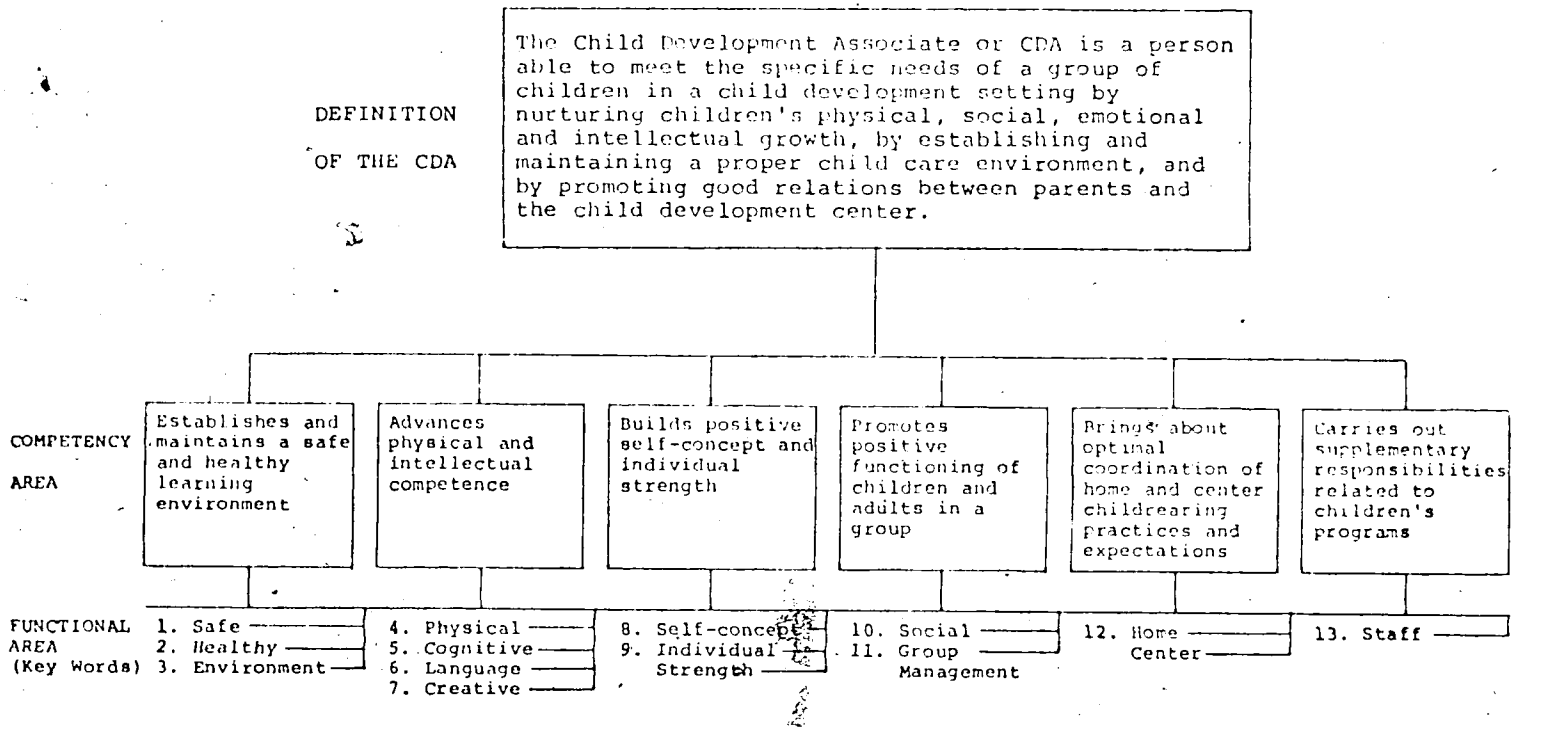
The CDA system is intended to be a flexible one, capable of transcending program disparates, ethnic and cultural diversities, and differing personnel backgrounds. Awards are issued in a professional status sense, not as a

license to practise nor as a state certification substitute. (However, it is noted that several states have adopted this measure as an alternative licensing procedure for personnel in day care). The primary purpose of the system is to "assure children, their parents, and child advocates that an adult who holds a CDA credential has successfully demonstrated competence in working with young children" (p. 244).

The CDA consortium controlling the awards is a private, non profit corporation funded by the Office of Child Development. It is multidisciplinary in nature, being composed of 39 national associations connected with early childhood education or child development. This consortium advocates that an award holder should possess six kinds of competence "considered by experts in the field of early childhood education/child development to be essential for a person responsible for young children in a group setting" (p. 246). The required competency standards are depicted in Figure 2.

Applicants demonstrating success in the competency areas become Child Development Associates or CDAs, being distinguished as being

> able to meet the specific needs of a group of children in a child development setting by nurturing the children's physical, social, emotional, and intellectual growth; by establishing and maintaining a proper child care environment; and by promoting good relations between parents and the child development center. (p. 245)



(Ward & the CDA staff, 1976, p. 251)

Figure 2

COMPETENCY STRUCTURE CHART

The CDA has also articulated some broad "personal qualities" thought necessary for early childhood personnel. They are as follows:

(a) being sensitive to children's feelings;

(b) listening to children and understanding meanings;

(c) adapting language and communication style to increase communication;

(d) protecting orderliness without sacrificing spontaneity and exuberance;

(e) exercising control without threatening;

(f) being emotionally responsive;

(g) being committed to maximizing the strengths of the child;

(h) being perceptive to individuality. (Alberta Early Childhood Services Task Force Report, after CDA, 1976, p. 17).

Features of the assessment system include: team assessment; performance based assessment; judgement-referenced assessment; and consortium verified assessment. The assessment team is known as the Local Assessment Team (LAT), comprised of four persons: the CDA candidate; a trainer (a person acquainted with the candidate's inservice/preservice abilities); a consortium representative; and a parent-community representative.

Assessment is gauged according to the competency structure outlined by the consortium via observations, interviews, and perusal of a port-folio presented by the

candidate. Group judgement aids in presenting a composite assessment of the candidates strengths, weaknesses, and suggested improvements together with an overall verdict of whether the CDA award is to be granted at that time.

Day Care and the CDA

Parties concerned with day care in the USA, however, have maintained that the CDA credentials are not adequately representative of the competencies needed by day care personnel. A 12 member Day Care Task Force (1974) thus advocated that the standards did not fully consider such additional factors particular to day care: the long day; the purpose of day care differing from part day services; the nature of the day care system (low pay, poor working conditions, inadequate physical and financial resources), requiring "special" persons; the broad range of services offered (Day Care Task Force position paper, 1974, p. 3). Accordingly, they suggested that for day care purposes, criteria should be expanded to include the areas lacking: human relations; individual differences; principles of learning; self knowledge; objective observation and listening skills; and feeling tone (p. 4).

The Albertan Case

In a somewhat similar way, although less developed, a move has been made in Alberta to identify competencies characteristic of effective early childhood personnel. In 1976, the Early Childhood Services Task Force was given the

responsibility of

> defining the knowledge requirements, specific skills and personal characteristics necessary for persons who could provide programs for young children that effectively promote their learning and development. (Final Report, E.C.S. Task Force, 1976, p. 1)

A set of definitive competency statements was arrived at by means of combining evidence from various sources: interviews with teachers, parents, and assorted professionals together with observations of teacher behaviors in program settings. The Task Force maintains that their work also involved the "consolidation of research studies into early childhood" (Final Report, E.C.E. Task Force, 1976, p. 2). It may well be more realistic to say that advocate literature heavily contributed towards the creation of a framework for the statements and that isolated research studies contributed towards the substantive basis of some competencies. However, the research basis certainly was not representative of the total nature of teacher effectiveness in early childhood programs.

The competencies suggested by the Task Force are aligned with the facilitative role of early childhood personnel. They maintain that

> competence is a synthesis of knowledge, attitudes, and skills, rather than a collection of these. They are formed, and interact with each other, to produce facilitative behaviors. (Final Report, 1976, p. 54)

Their resultant outline of competencies thought to be characteristic of effective early childhood personnel can

be noted under three headings: design and implementation of the program; personal competence; and interpersonal competence. The main ideas which follow have been drawn from the final report, both through direct quote and paraphrase (pp. 54-73).

Design and Implementation of the Program

Generally, successful accomplishment in this area requires the ability to relate the use of time, space and activities to the developmental levels, learning abilities, and individual characteristics of the children. More specific abilities relating to this end include:

(a) ability to involve parents, professionals and others in the planning and implementation of the program;

(b) ability to facilitate language development;

(c) ability to promote problem-solving behaviors among the children;

(d) ability to facilitate sensory motor development;

(e) ability to increase the child's self-knowledge, self-esteem and self-confidence;

(f) awareness of the individual characteristics and special temporary and long term needs of children;

(g) ability to foster social development among the children;

(h) ability to facilitate physical health and development;

(i) ability to observe individual behavior, record and plan.

Personal Competencies

The general ability required in this area s that of serving as an effective model of behavior for children and other adults. Individual components are:

(a) knowledge of self;

(b) ability to express to the children curiosity and exploratory behavior;

(c) sense of humor and perspective;

(d) ability to accept people without prejudice;

(e) commitment to human growth:

(f) ability to be flexible, to adapt activities to the situation;

(g) ability to be emotionally responsive.

Interpersonal Competence

This is defined as the ability to facilitate the child's mastery and satisfaction in interactions with the physical environment, peers and adults: to stimulate the child's exploration and explanatory of reality rather than imposing one's own which may have no meaning for the child; to view success and failure as information rather than as reward and punishment.

Particular abilities in this area are set out as:

(a) ability to support the child's goals in a

particular activity rather than curricular or teacher standards;

(b) ability to recognize and use the individual characteristics of each child;

(c) ability to provide for the children a socially and psychologically safe environment;

(d) ability to provide the structure and encouragement necessary for the children to explore, learn about and master their environment;

(e) ability to respond to the context, motivation and significance of behavior;

(f) ability to communicate effectively

The Task Force acknowledged limitations and cautions in using the guidelines as a means for assessment at the current time. However, they have made 12 recommendations for the general improvement of local Early Childhood Services staff. Some of the recommendations do, in fact, necessitate the use of the guidelines as tools. A sampling of the range of recommendations is presented:

(a) that the ECS branch of Alberta Education prepare and distribute a self evaluation guide to staffs of local ECS operators;

(b) that provincial authorities, including training institutions and certifying authorities, work together to develop means to assess competence of local early childhood staff;

(c) that competence criteria be the basis for granting permanent certification to early childhood teachers;

(d) that competence crit[illegible] be developed to grant temporary certification to early childhood teachers who do not have interim certificates;

(e) that institutions responsible for training early childhood personnel work together to develop appropriate training programs;

(f) that applicants for training programs be screened as to potential for success

(g) that persons demonstrating competence in working with young children be granted advance credit towards certification requirements. (Alberta Education News Release, # 11, 1977, p. 2)

The target population of the investigation was primarily teachers in programs for four to six year olds. The Task Force considers the competencies equally applicable to day care personnel. As well, they can be adapted for teachers in programs for older children and smaller chi[illegible]ren after considerable revision (ECS Task Force Report, 19[illegible] p.3).

Suggested Essential Elements for Early Childhood CBTE and CBTE Certification Practices

CBTE claims to be realistically suited to the needs of the teaching situation and to encompass the totality of teacher education. For any particular teacher education system to achieve this, however, it must take careful steps to ensure that its components are truly reflective of all the real needs and realities involved.

The essential elements for CBTE in general have been

outlined in Chapter Two. In the early childhood sector, for CBTE and CBTE certification practices to be viable, the general parameters should be adhered to. Moreover, it is important that other considerations, noted as essential to the realm of early childhood education, are reflected in the individual components. More particularly, it is critical that the nature of the suggested competencies is reflective in this manner.

Validity of Suggested Competencies

One of the most crucial questions to be asked of CBTE regarding the identification of effective teaching skills to be used as competencies was posed in Chapter Three. In order to test the soundness of the early childhood CBTE base the same question should be queried. The question thus becomes: Is it possible to identify effective teaching skills that can be applied to early childhood education at this time?

For CBTE and CBTE certification practices to be reflective of early childhood needs and to be representative of acquired research knowledge, may in fact prove an awesome task.

CHAPTER V

THE RESEARCH BASE FOR EARLY CHILDHOOD CBTE

An underlying CBTE assumption is that effective teaching skills can be identified. In Chapter Three, the need to test the validity of this assumption and hence the merit of CBTE, was established. The base paralleling this assumption is that of teacher effectiveness research. Results from teacher effectivenesss research should provide the data on which to found such conclusions.

From syntheses of research on teacher effectiveness, evidence proclaims that the research base for CBTE is non-conclusive (Rosenshine & Furst, 1971; Heath & Nielson, 1974; Dunkin & Biddle, 1974). These syntheses testify to the complexities and inconsistencies of teaching as it relates to student outcomes.

The abovementioned studies examined common teacher variables as they pertain to student growth across many different age levels. An unspoken assumption, then, was that results of effective teacher variables may be generalizable to all levels of schooling. Indications are, however, that this may not be so. On the basis of data from the Texas Teacher Effectiveness Study, Brophy and Evertson maintain that

> teaching fundamental tool skills to early elementary school children is qualitatively different in many ways from the kinds of

> teaching that goes on at higher levels and that it will require study in its own right. (1974(a), p. 21)

In light of this evidence from a fairly sound, replicated study, it seems reasonable to query the teacher effectiveness research base for early childhood education in its own right. Hence, the validity of the noted assumption as it relates to Early Childhood CBTE, may be tested.

At this point in time there is no known set of teaching criteria that can be linked empirically to desired learning gains at the early childhood level. It is possible though, to gain some insight into the status of teacher effectiveness research for this level. By looking at collected research studies in this field within early childhood education, it is possible to gauge progress and trends.

Generally, there is a paucity of quality teacher effectiveness studies. Such studies at the early childhood level are no exception. Since early childhood education has regained attention in about the past fifteen years, the area has excited much research. A major part of this research effort has been directed toward comparative effectiveness of different program models. Inferences as to teacher effectiveness could be attempted from such studies. Making inferences of this kind, however, becomes uncertain ground. First, the results do not hang together well partly because programs with very different goals were often compared and the conclusions therefore do not make too much

sense. Secondly, linking results to descriptions of program model behaviors may be too simplistic. Program model behaviors can be considered ultra high inference criteria (K[illegible] 1972, pp. 7-8). Actual teacher behaviors executed to bring about child outcomes within specified program models may not be truly representative of the program model's teacher behaviors.

One potentially productive form of teacher effectiveness research currently being conducted, probes teacher behaviors and classroom processes (affected by the teacher), as they relate to student measures in naturalistic classroom settings. Again, there is a relatively sparse number of this form in early childhood education. However, a number of recent large and rich studies of this nature are applicable to early childhood: Stallings (1976); Berliner and Tikunoff (1976); Soar and Soar (1972); Brophy and Evertson (1974a, 1974b, 1975). Each attempted, in some manner, to build on to acquired awareness in the field. It is thus felt that these studies, reasonably comprehensive and current as they are, should present a fairly accurate picture of the status of teacher effectiveness research for early childhood education.

The purpose of this chapter is to look at the status of early childhood teacher effectiveness research as it is represented by these larger studies and several others. The others are much smaller in nature, probing the effectiveness of a few, very particular processes in somewhat contrived

circumstances.

The studies chosen are similar on several broad dimensions, although they differ extensively on more intimate details of methodology and analysis. In the main, the studies fulfill the following broad criteria:

Each (a) took place in naturalistic classroom settings, or some semblance thereof,

(b) contained an observation of classroom processes component,

(c) noted teacher behaviors or classroom processes,

(d) measured student outcomes,

(e) appeared reasonably sound methodologically and statistically

(f) involved teaching within the early childhood age range.

First, the studies are summarized. Secondly, findings are grouped under broad categories which tended to emerge from the studies. Finally, a general discussion on trends, inherent problems and conclusions is outlined.

Summary of Individual Studies

Stallings (1976)

As part of an observational study of Follow Through Planned Variation Projects, Stallings examined relationships between actual classroom instructional processes and child outcomes. The unit of analysis was the classroom. A

final number of 105 first grade and 58 third grade classrooms contributed to the study. These were selected on the basis of having both baseline and final test scores. These classrooms represented a range of models within the Planned Variation project (models based on positive reinforcement theory; model based on cognitive development theory of Jean Piaget; an open classroom model; three models derived from Piaget, Dewey and British Infant Schools) together with non-Follow Through classrooms. This part of the study considered classroom processes regardless of model derivation. The sample was considered representative of all geographic regions, urban and rural locations as well as several racial and ethnic backgrounds. However, it should be noted that subjects within the Follow Through classrooms were drawn from a particular sector of the community: the economically disadvantaged.

Classroom processes and child outcomes (test scores, days absent, observed child behaviors) were assessed by a number of instruments. Information on classroom environment and instructional practices was ascertained by the Classroom Observation Instrument. Child measures were gauged by the use of a number of instruments. These can be outlined:

entrance ability (at either kindergarten or first grade)	Wide Range Achievement Test (WRAT)
reading and math scores (first and third grades)	Metropolitan Achievement Test (MAT)

perceptual problem solving skills (third grade)	Raven's Colored Progressive Matrices (Raven's)
extent to which children accept responsibility for own success or failure (third grade)	Intellectual Achievement Responsibility Scale (IAR)
child behaviors e.g., independence, task persistence, co-operation, question asking	Stanford Research Institute Observation Instrument (SRI)
absences	school records

Analysis of the data gathered was carried out by partial correlations with baseline WRAT scores held constant. As well, stepwise regressions were used with certain process variables and all child measures.

The chief findings are summarized by Stallings (1976):

> A study of instructional procedures used in classrooms and the achievement of children indicates time spent in reading and math activities, and a high rate of drill, practice, and praise, contribute to higher reading and math scores. Children taught by these methods tend to accept responsibility for their failures but not for their successes. Lower absence rates and higher scores on a non-verbal problem-solving test of reasoning can be attributed in part to more open and flexible instructional approaches in which children are provided a wide variety of activities and materials and where children engage independently in activities and select their own groups part of the time.
>
> Classroom instructional processes predicted as much or more of the outcome score variances than did entering school test scores of children. (p. 47)

Berliner and Tikunoff (1976)

Berliner and Tikunoff (1976) undertook an ethno-

graphic study known as The California Beginning Teacher Evaluation Study. Their chief goal was to "generate variables of promise in the study of teaching effectiveness" (p. 30). Forty classrooms, twenty grade two and twenty grade five, were analyzed. For the purpose of this review though, only the grade two level will be studied.

Beginning teachers of these twenty grade two classrooms were divided equally into two categories of more effective and less effective teachers. This division was based on residual gain scores of students over a two week period on special curriculum units in both reading and math: Experimental Teaching Units (ETUs).

Twelve ethnographers were recruited to analyze the classroom happenings of the more and less effective teachers. Each was responsible for providing the following protocols over a number of classrooms:

> a reading protocol, each day, if reading was taught,
>
> a mathematics protocol, each day, if math was taught,
>
> three to five informal protocols based on observation during recess, talks with principals, conversations in the teachers' lounge etc.,
>
> a summary protocol emphasizing important anthropological concepts e.g., competitiveness, work ethic.
>
> (p. 25)

All ethnographers were blind to the determined classification of each teacher.

Six raters were then engaged in studying pairs of protocols to identify dimensions on which the protocols differed. One protocol was from the less effective

category and the other from the more effective category, although raters were blind to which was which. A final set of 61 variables was identified to further analyze the protocols.

A multidisciplinary team of 20 raters used these dimensions to rate all protocols. These ratings providing the final data, indicated the "presence or absence of greater or lesser degrees of the variable" (p. 26). In order to examine the ratings, a simple binomial test was used.

Of the 61 variables under examination, most were reflective of the teacher's behaviors. However, there were scattered cases of the classroom or students being the unit of surveillance. With this particular study at the grade two level, 36 variables were shown to be associated with more effective teaching in both reading and math. Twenty-four variables could be linked with less effective teaching in both these areas and only one variable had a mixed effect, that is, it could be linked with more effective math teaching and less effective reading teaching in this study. In the main, most relationships gained significance at the .05 level and many were significant even at the .01 level. However, there were cases where relationships did not record significance in either the more effective or less effective areas. Further, some associations were significantly linked with reading but not with math or vice versa.

Soar and Soar (1972)

These researchers attempted to add further understanding to the study of effective teaching for disadvantaged children by testing the hypothesis that certain identified behavioral variables relate to pupil growth. A sample of eight kindergarten classes and five, first grade classes in each of seven experimental programs in Project Follow Through together with two non project classes from the same areas or same schools was used.

Data was collected for both student growth and classroom processes, using low inference measures. Data collected by the Stanford Research Institute provided information on student growth. This was derived from results on the Metropolitan Readiness Test, the Early Childhood Inventory (Deutsch) and the Preschool Inventory (ETS). Another outside agency, the Institute for Development of Human Resources, College of Education, University of Florida, provided observational data on a sample of these classrooms. Classroom process measures were derived from the use of four instruments: Florida Affective Categories (FLAC); Teacher Practices Observation Record (TPOR); Florida Taxonomy of Cognitive Behavior (COGTAX SIGN); and the Reciprocal Category System (RCS).

Data analysis involved factor analysis of items on the observation instruments to produce scores for each classroom on all factors. Factor analysis was also carried out on regressed gain scores of all subtests for all pupils

to produce two final scores for each child: simple-concrete subject matter growth and complex-abstract subject matter growth. Classroom mean scores on both these dimensions were ultimately related to each classroom process factor.

Soar and Soar (1972) suggest from their findings that "the complex-abstract pupil growth measure relates more strongly to classroom process measures than does the simple-concrete measure" (p. 242). Throughout analysis, the concrete factor remained more stable than other factors, suggesting that "the concrete measures are somehow less subject to influence than are the more abstract measures" (p. 243).

Perhaps their most valuable contribution though lies in their proposal of optimum levels of classroom processes relating to child outcomes in complex growth, that is, curves may better explain the relationships rather than straight lines. This detracts from more traditional thinking that more and more of certain classroom processes leads to higher and higher student gains and conversely. There may be a point up to which this remains true but after that the results may be reversed.

Brophy and Evertson (1974a, 1974b, 1975)

In another attempt to distinguish characteristics of effective teachers from less effective teachers, Brophy and Evertson conducted a two year, replicated, observational study of teaching in second and third grade classrooms:

The Texas Teacher Effectiveness Project. The sample of teachers chosen for the study was regarded as both experienced and relatively stable. Each had worked at their particular grade level for at least five years before the study and each had "shown unusually high stability across three consecutive years and five subtests of the Metropolitan Achievement Tests in their degree of success in producing student learning gains on this test" (pp. 1-2). Thirty-one teachers (13 in low SES schools and 18 in high SES schools) participated in the first year and 28 teachers (13 in low SES schools and 15 in high SES schools) were involved in the second year. Nine of the second year teachers were replacement teachers.

As part of the study, classroom processes were studied by way of low inference coding and high inference rating by observers. Linear correlational analysis and non linear curve fitting analysis was used to relate each classroom measure to student learning gains. "The criteria of teacher effectiveness were five mean residual gain scores obtained by averaging the residual gains of the children in each teacher's class on each of the five subtests for which data were available (word knowledge, word discrimination, reading, arithmetic computation, and arithmetic reasoning) across the four years of study for which data were available" (1975, pp. 4-5).

Brophy and Evertson claim several important features to the study (1975, p. 5).

> The possibility that different teaching techniques would be appropriate at the same grade level in different SES schools was taken into account by separating these groups for analysis. Several different contextual factors were taken into account in the coding system: morning versus afternoon instruction, reading group instruction versus whole class instruction; teacher initiated versus student initiated contacts; work related versus procedural versus behavioral contacts.

A large number of relationships between classroom processes and student learning gains were reported. However, the researchers comment that the findings consisted of "mutually supportive but relatively weak correlations" (1974a, p.15). A variety of non linear relationships were disclosed. One important finding involved relationships seen in differing SES circumstances. Brophy and Evertson say that

> the kind of teaching that leads to optimal learning gains in high SES schools differs systematically and considerably from the kind of teaching that leads to optimal learning gains in the same grade in low SES schools. (1974a, p. 16)

More specifically,

> it is the rule rather than the exception that process-product correlations hold for one of the two SES groups but not for the other rather than for both groups. (1974a, p. 17)

Conners and Eisenberg (1966)

Conners and Eisenberg reported a study of 30 summer Head Start teachers. The study aimed to note the effect of teacher behavior on the verbal intelligence of disadvantaged preschool children.

Teacher observations were made using the episoding technique of Reichenberg-Hackett. Episodes were scored on three variables: communication, management, and encouragement. Interconnected episodes were scored on nine variables on the basis of the goals of activities. After ranking scores for the entire sample, teachers were classified high, medium, or low on each variable. Teachers were also rated on the vasis of warmth versus coldness; permissiveness versus restrictiveness; active versus passive; and variety versus non variety.

Teacher effects were assessed by changes in pre and post test scores on the Peabody Picture Vocabulary Test, a test of verbal intelligence for young children. Further methods of analysis were not reported. The authors maintain that

> the pattern of relationships appears to indicate that a high degree of communication and intellectual activity, together with a moderate degree of management and encouragement is optimal for producing increases in verbal IQ scores. (p. 9)

Smothergill, Olson and Moore (1969)

These researchers attempted to assess the influence of an elaborative versus non elaborative teaching style upon young children's behavior. The children were from a welfare, day care setting and ranged in age from three and a half to five years. The elaborative teacher they describe, compared with a non elaborative teacher, is one who "may use about the same number of restrictions and directions but use

proportionately more elaboration, elicit more comments from the child, and offer more options for problem solving" (p. 2).

After observing the teaching at the center, two teachers felt to be initially low on elaborative style were identified to take part in a four week experimental teaching program. The teachers were trained to produce differences in the two styles and both teachers taught all lessons, adapting their styles to different groups of children. The 24 children participating were assigned to groups of six, designated as elaborative or non elaborative groups. This was done after ranking and pairing children on a pre-post battery of tasks, developed to note changes in the children's "tendency to reflect on alternative solutions to problems and to choose among various options" (pp. 3-4).

Time sampling observations of teaching style and child verbalizations were taken daily in the experiment. In addition, samples of the children's time on task were taken every other day. Analysis of variance and t tests were procedures for analysis.

In general, the researchers maintain that

> nursery school teachers who teach elaboratively [illegible] respond positively to their children's [illegible]borative verbalizations, have children who [illegible]ave more elaboratively in their classrooms, [illegible] in some instances at least, approach problem solving tasks more elaboratively than children trained in non elaborative ways. (p. 8)

Larsen (19[illegible]) examined the effects of increased teacher support on young children's learning in two areas: a motor skill (skipping) and a cognitive task (conservation of substance). The study involved 24 student teachers and six, middle class, preschool programs.

Teachers were observed over a two week period and rated on an observation schedule according to six measures related to supportive behavior (physical proximity, facial proximity, verbal and physical contact) and instructional behavior (demonstrating and showing, and verbal directing). They were also rated on simultaneous supportive behavior on a time interval basis.

By random assignment, four teachers were placed into each preschool program. Teachers from three of the programs were then trained to increase their supportive and simultaneous supportive behaviors after which the effect of training was checked. The remaining teachers (nonvaried support) and children in other programs became the control group.

All children were pretested in both skipping and conservation of substance. They then received treatment by way of four 15 minute, specified lessons in each area before post tests were carried out. The instruction element was thought to be controlled; only the supportive element differed with increased support being delivered to the experimental group and nonvaried support given to the control group. A mixed model analysis of variance was used to

analyze data for both teachers and children.

Findings suggested that increased teacher support is not related to cognitive tasks. There was some evidence to suggest that nonvaried support was superior for cognitive tasks. Increased teacher support proved significantly superior for teaching the motor skill. However, this was only evident in the case of girls. It should be noted that their results are reflective of a particular type of teaching: a tightly structured, durected style.

Lepper, Greene and Nisbett (1973)

These people examined the effects of using extrinsic rewards with young children. Their research centered on the overjustification hypothesis: "the proposition that a person's intrinsic interest in an activity may be undermined by inducing him to engage in that activity as an explicit means to some extrinsic goal" (p. 130).

A sample of 51 preschool children aged from 40 months to 64 months (white, middle class, average/above average intelligence) participated in the study. These children were identified by two observers (hidden behind a one way mirror) as showing relatively high, intrinsic interest in a classroom option, a drawing activity.

The sample was blocked on degree of interest shown and randomly assigned to one of three conditions: expected award, unexpected award, or no award. Simple but carefully designed treatments pursued the target activity (drawing) in

an adjacent room on an individual basis. A later dependent measure was obtained by observing the children's interest twoards the target activity in the classroom setting.

Analysis was carried out by using one way unweighted means analysis of variance, T tests and an additional rating to gauge the quality of performance of each child's drawing. Results indicated that interest in the target activity of those in the expected condition decreased significantly. There was a tendency for those in the other conditions to spend more time with the activity. As well, the quality of performance by those in the expected awa condition during the experimental session was significa ly lower. The researchers thus concluded that the use of extrinsic rewards for young children displaying intrinsic interest may have detrimental effects by undermining their intrinsic interest.

Process-product Findings

Following, findings from the chosen studies are grouped under the broad categories of classroom management; teacher control; classroom organization; lesson presentation; communication; reinforcement measures; SES differences; and phenomena in curvilinear analysis. The categories outlined can by no means be considered entirely exclusive of one another. However, this may in part be reflective of the nature of teaching.

Findings of the individual studies have been taken at face validity. They are not exhaustive of the complete findings of the studies sampled. Notwithstanding this, they do represent the greater part of the results which were claimed as either being significant or showing very strong tendencies.

Throughout, some of the processes stated seemed ambiguous. Therefore, where necessary, they have been defined according to the reporter's definition.

Further, for brevity, references are included in the text or noted very simply. All refer only to the studies outlined.

Classroom Management

This category refers to processes related to the preparation and implementation of classroom activities with emphasis on the engagement of children and good use of time. Brophy and Evertson have identified teacher skills within this broad category as being consistently and strongly related to student learning gains in grades two and three.

In their study, the more successful teachers had carefully prepared classrooms and curricular activities; ran smooth, well paced lessons with minimum interruptions and had students actively engaged on assignments. In addition, some had developed systems, known by the children, of peer help or certain activities to be carried out when

assignments were completed. Other successful characteristics were those of ensuring that children understood assignments before entering group work and monitoring work in progress. Brophy and Evertson maintain that their data

> strongly support the conclusions of Kounin (1970) concerning the use of classroom management methods that keep the children continually actively engaged in productive work, minimize wasted time and dead spots, and generally avoid letting problems get started in the first place. (1974a, p. 71)

Monitoring Learning

Monitoring students' work in the sense of checking and adjusting instruction, seems to be an important variable within classroom management across studies. Berliner and Tikunoff found it to be significantly related to higher math and reading gain scores. Soar and Soar's work emphasises its relevance also. They found the alternate of monitoring and teacher support in task settings--teacher neutral control, correlated negatively with concrete-simple learning and significantly negatively with abstract-complex learning.

Student Engagement

Student engagement, too, gained importance across other studies. Berliner and Tikunoff provide support for student engagement being significantly linked with more student learning. Insights into correlates of student engagement then come from Stalling's study. She notes one form of student engagement--task persistance occurring with

frequent use of textbooks and workbooks and also [illegible] classrooms where teachers instructed one child at a time.

Time

Variables related to time in a broad sense--on the part of the teacher's pacing or capitalizing on the moment or time allotted for various curricular areas, show interesting trends. In addition to Brophy and Evertson's finding that well paced lessons with few interruptions were effectively related to learning gains, Berliner and Tikunoff found that dimensions of rushing, waiting, pacing, spontaneity, abruptness, filling time and flexibility also gain importance. Pacing (adjustment of teaching pace to child's learning rate), flexibility (adjustment to accommodate changes in plans, absenteeism, time schedules), waiting (either before a student responds or before reacting to student's response) and spontaneity (capitalizing instructionally on unexpected events) were all significantly related to higher achievement in math and reading. Alternatively, rushing, filling time with busy work, time fixedness, and abruptness (unanticipated switching e.g., instruction to behavior management to classroom management etc.) were significantly linked with less effective teaching in the math and reading areas.

It also appears that the greater amount of time a child spends on an area, say math, can be related to higher gains in that same area (Brophy & Evertson; Stallings).

However, from results in these studies it is evident that more time spent in one area cannot be associated with gains in any other area. More time spent in math is not associated with higher gains in reading, for example.

The linear correlation between time spent and gains does not appear to hold completely true in some activities past a certain point. Brophy and Evertson found that continuing activities for too long can be associated with poor learning gains. This was particularly so in the case of high SES schools where the activity reached the point of boredom for the students.

The length of the school day, too, is a significantly strong factor in connection with greater child outcomes (Stallings). Absence rate, affecting the overall time a child spends on certain activities also becomes an important factor. Stallings analyzed correlates of absence rate. In her work, correlates of lower absence rate were open classrooms (high rate of child independence; child questioning, adults responding; individualized instruction; open-ended questioning by the teacher), and classrooms where the teacher smiled and laughed often. Correlates of higher absence rate were found to be classrooms with frequent, large, group work with use of direct questions in academic work and frequent corrective feedback; classrooms where punishment of a higher rate of harsh, negative or demeaning statements prevailed; and classrooms which had more highly

structured environments, materials and interactions.

Teacher Control

Considerations within this section involve firstly, teachers' responses to undesirable student behavior in order to control and secondly, teacher measures evidenced with a view to maintaining control.

Responses to Undesirable Behavior

The use of punishment and, in other instances, the use of a higher rate of harsh, negative, or demeaning statements were significantly related to higher absence rate (Stallings). Significantly negative associations were noted by Berliner and Tikunoff on a number of teacher variables: sarcasm; moralizing; excluding the child; belittling; shaming; harassing and ignoring. Similarly, Brophy and Evertson found that criticisms for misbehavior correlated negatively with student learning across both years of their study. Alternatively, those teachers' responses to misbehavior with simple warnings could be linked to higher achievement gains. Isolating or removing a student generally tended to have negativistic patterns.

Measures to Maintain Control

Berliner and Tikunoff noted significant relationships between consistency of message (giving a direction or threat and following through on it), and higher achievement in math and reading. Complimenting desirable student behavior

followed this pattern, too, but only gained significance in the reading area. Policing (placing disproportionate time and undue emphasis on quietness, orderliness and good behavior) was consistently and significantly related to lower achievement in both areas. Signaling (teacher use of body language or non verbal signs to change student behavior), did not prove significant although it was identified with the less effective teachers in both math and reading areas.

Somewhat related to this area also are results from the Soar and Soar measure of pupil interruption versus teacher direction. Pupil interruption correlated positively and significantly with abstract-complex growth, and very weakly positively with concrete-simple growth. This tends to suggest maintenance of control and direction by the teacher is not always beneficially associated with child growth. However, this suggestion might be tempered by Soar and Soar's precise definition of the term "direction", which is not obvious in their report.

Classroom Organization

Considerations in this section include flexibility of classroom processes; type of class grouping (classwork/ group work/individualized work); and extent of decision making powers of students.

Flexibility of Classroom Processes

Flexibility of teacher-pupil activities together with an accepting classroom climate tended to be negatively associated with concrete-simple growth. However, in relation to abstract-complex growth, this process appeared to be positively linked, although not significantly so (Soar & Soar).

Stallings found that more flexible classroom processes (designated by use of a variety of materials; variety of activities; self selection of activity by child for part of the time; one to one relationship between teacher and child; and evidence of open ended questions), were significantly linked to higher student scores in perceptual problem solving. As well, children in these types of classrooms accepted responsibility for their success but not their failures. Alternatively, the more rigid classrooms had children accepting responsibility for their own failure but not their successes.

Type of Class Grouping

Several varied findings emerged in this area. Stallings found that different types of groupings seem appropriate for different age levels in the teaching of reading. The most effective teaching of reading for grade one pupils occurred in small groups while for grade three pupils, groups of nine or more proved appropriate. However, for both age groups, higher reading and math scores

were also gained in classrooms where children worked alone and were task persistant.

Positive gains seem to be associated across the studies with individualizing and in classrooms where the child is allowed to choose groupings at least for part of the time (Berliner & Tikunoff; Stallings; Brophy & Evertson). Individualizing, personalizing, and equity (sharing time equally among students), were positively associated with math and reading gains while one-ness (treating the class as one), was negatively linked. All relationships were significant (Berliner & Tikunoff).

As previously noted, individualized instruction was found to be connected with task persistance (Stallings). Stallings further found that instances of one to one relationship where the teacher responds to the child's questions and adds general, conversational comments, can be linked to the outcome of children asking more questions. Classrooms with individualized attention, allowance for selecting own groups and a wide range of activities and materials were linked to the growth of independence in children. Further, classrooms offering a wide variety of daily activities, availability of exploratory materials, and choice in groups were associated with the child outcome of co-operation (Stallings).

Extent of Child's decision-making powers

Democracy or providing opportunities to involve

students in decision making in relation to class standards, instruction, and procedures, together with opportunities for the child to exercise discretion within certain known limits, tends to show a positive trend across studies. However, the general positive trend has to be balanced against the expense suffered in some other areas. Berliner and Tikunoff indicate that democracy and mobility of students (allowed to move purposefully), were significantly related to learning gains. Likewise, Brophy and Evertson showed that children allowed more freedom and independence with activities and movement displayed greater gain scores. However, this relationship was restricted to high SES schools. They maintain that classrooms where children always had to ask permission before moving showed low gains. On the other hand, classrooms with structure to the effect that students knew they could move within certain limits, showed higher gains.

Brophy and Evertson's results indicated that private work contacts that were student initiated and where the child approached the teacher for help were significantly correlated with learning gains in the positive way. As well, significantly positive correlations with student gains occurred in classrooms where students were allowed choice in assignments (though few of these referred to low SES schools).

The work of Soar and Soar points out that the idea of free choice or pupil selected activity may bear quite complex

relationships with growth scores according to the type of growth anticipated (simple-concrete or complex-abstract). Free choice versus structured learning in groups correlated positively with complex-abstract growth yet negatively with with simple-concrete growth. In a similar vein, teacher directed activity versus pupil selected activity correlated negatively with complex-abstract growth. This would seem to suggest that greater pupil freedom relates positively to complex growth but at the expense of simple growth. Alternatively, greater amounts of teacher direction and control have a destructive effect on complex growth but a beneficial effect on simple growth, seemingly.

By charting curvilinear relationships from the data, Soar and Soar introduced the concept of optimal levels for student growth. The relationship between student complex growth and pupil selected activity versus teacher directed activity appeared as an inverted U shape curve. Soar and Soar thus suggested that moderately high levels of freedom seem functional for complex-abstract growth (p. 254).

Lesson Presentation

This area relates to more specific lesson presentation as opposed to general classroom organization or management. It considers such aspects as methods of lesson presentation; accommodation of different needs and levels of students; the focus of lessons; and feedback to students on academic work.

Methods of Lesson Presentation

Drilling. Overall, trends for drilling appear to be quite negative, although the tendency is not clear-cut. Results on the use of drill within Brophy and Evertson's work are mixed. In one year, significant correlations with learning gains were obtained while in another year, it was not correlated. Drilling in Berliner and Tikunoff's study did not rate significantly although it consistently seemed more apparent with the less effective teachers. Drill versus pupil initiation as studied by Soar and Soar only tended towards significance, being negatively correlated with complex-abstract growth. By curvilinear analysis, they found that some sort of balance between drill and pupil initiation is a condition for maximum complex-abstract to occur.

Systematic instructional pattern. On this account the studies do not blend well mainly because of the slightly different foci adopted by each. Stallings looked into the general sequence of the teacher presenting information, questioning the children, responding to the children's answers and providing some form of positive reinforcement. This pattern was found to be significantly correlated with higher achievement in math and reading. Structuring, whereby the teacher prepared the student by reviewing, outlining, explaining objectives and summarizing, also bore a significantly positive relationship with higher

learning gains (Berliner & Tikunoff).

However, Brophy and Evertson discovered that the use of advance organizers, the sequencing of lesson structures and directing lessons through embedded questions did not correlate with student learning gains. What did seem important in learning the tool skills of reading, writing, and arithmetic was a sequence of instruction, practice, and feedback, they maintain. Teacher demonstration as opposed to lecturing without demonstration, and silent reading by students also seemed worthwhile practices. The processes of giving complete and detailed instruction or giving overly explicit directions seemed relatively unrelated to student gains in their work.

Soar and Soar delved into the relationship between pupil interruption versus teacher direction in lessons with related student outcomes. A significantly positive correlation with complex-abstract growth resulted.

Accommodation of Different Needs and Levels of Students

More effective teachers showed an awareness of developmental levels and flexibility in adjusting to changing needs of students (Berliner & Tikunoff). The appropriateness of tasks assigned or questions asked seem to be important. Brophy and Evertson found that assignments rated as too short, too easy, or too long bore negative associations with learning gains: classrooms in which no inappropriate assignments were offered had positive links.

Generally, work for high SES schools needed to be more challenging while an easier level was required for low SES schools in order to be related to higher gains. Modifying the curriculum to meet students' needs was related to student learning in an inverted U fashion. In high SES schools; learning was optimal when approximately 70 per cent of the teacher's questions could be answered correctly. For low SES schools, about 80 per cent success rate was required.

Focus of Lessons

Associations with learning gains from the focus of lessons were looked at by Soar and Soar. Narrow versus broad focus in teachings could be negatively correlated with complex-abstract growth, but not significantly so. Both moderately and highly focused learning tasks (e.g., phonics, math skills), bore significantly positive results: the moderately focused tasks were related to complex-abstract growth while highly focused tasks were related to simple-concrete growth.

Feedback to Students on Academic Work

Across these studies, the trends pertaining to feedback must be coupled with other contextual conditions. Stallings for instance, found that frequent corrective feedback in association with frequent, large, group work and the use of direct questions in academic work could be significantly associated with higher absence rate. Brophy and Evertson reported that when students came to the teacher

for help with private work contacts initiated by themselves and the teacher provided feedback on the spot, there were significantly positive correlations with learning gains. In reading groups and other contexts, it seems that the length or extent of feedback may be a relevant factor. Only brief feedback seemed appropriate within reading group situations. In other contexts, brief feedback bore positive associations while long feedback bore mixed associations with learning.

Communication

This section encompasses classroom communication in its broadest sense, whether it be teacher initiated, child initiated, teacher-child interaction, or peer-peer interaction.

Questioning by the Teacher

Berliner and Tikunoff found that open questioning by the teacher was significantly linked with higher student gains. Similarly, Stalling's study revealed that the use of open ended questions in flexible classroom settings could be significantly linked to greater perceptual problem solving ability. The results of Brophy and Evertson, though, do not support these claims. Their work showed no correlations between divergent questioning or the use of higher order questions and student learning gains.

The use of more direct questions seems to be linked with some worthwhile positive gains. Brophy and Evertson

found that closed questions that required only short answers and which heavily concentrated on the fundamentals of reading, writing, and arithmetic could be associated with student learning gains. Further, teacher directiveness in posing questions and giving instructions was associated with greater gains for both high and low SES schools. However, lessons which were directed through embedded questions showed no correlation with gains.

It seems that what the teacher does as a follow up to question asking may be an important factor in forming a link between question asking and student outcomes. Soar and Soar maintain that in cases where the teacher posed a question but then gave the answer, a negative correlation with complex-abstract growth occurred.

Questioning by the Student

Grade one students asked significantly more questions in one to one situations where there was adult response and where general conversational comments were made by adults (Stallings). Soar and Soar indicated that when students asked questions or gave directions coupled with adult response, there were associated positive gains in both simple and complex growth areas. Thus, adult response and attention seems to be an important factor. Berliner and Tikunoff found the teacher practice of attending to what the child was ssying could be significantly linked with student learning gains. Student initiated questions do not always

appear to be beneficially linked with child outcomes. Brophy and Evertson found SES to be a differentiating factor in this condition, with positive correlations for low SES children but negative correlations for high SES children.

Teacher-child Interaction

A number of significant processes which can be positively linked with varied child outcomes were identified in this area. These include information giving and receiving (Soar & Soar); teacher monitoring answers given by children in response to peers, together with immediate feedback (Brophy & Evertson); and teacher concern with substantive content rather than form of response (Brophy & Evertson).

On the other hand, illogical statements made by the teacher (Berliner & Tikunoff) and teacher given, narrow versus broad answers (Soar & Soar) had significant negative relationships. In this connection, narrow answers by the teacher gained significance in relation to complex-abstract growth although its association with concrete-simple growth was in the same negative direction.

Teacher clarity did not show up as an important variable, contrary to some traditionally held beliefs. In Brophy and Evertson's work, only a few positive correlations appeared and these were restricted to low SES schools.

Conners and Eisenberg indicate that teacher

communication to either individuals or to groups can produce differing outcomes. Results indicated that teachers high on communication to individuals produced significantly less verbal intelligence growth than teachers high on communication to groups.

Reports by Smothergill et al. and Conners and Eisenberg tend to indicate that the teacher can be an important model in language. Nursery school teachers who taught with more elaborative statements, more eliciting statements and fewer directive statements had children who communicated more elaboratively (Smothergill et al.). Likewise, children of teachers high on the variable communication were able to show significantly more verbal intelligence gains than other children (Conners & Eisenberg).

Pupil Talk

The data from pupil talk versus teacher talk in the classroom suggests that teacher talk can be connected with abstract-complex student growth. Pupil talk was significantly and negatively associated with abstract growth and only weakly related to simple growth (Soar & Soar). In a similar vein, Brophy and Evertson found that pupil to pupil interaction and making use of student ideas was negatively correlated with growth scores.

Student initiated comments bear quite complex and significant relationships with student learning. Brophy and Evertson maintain that the pattern is one of positive

relationships when occurring in the mornings but negative for those occurring in reading groups or in the afternoons. The results for the morning occurrences held consistently over their replicated study. Results on their analysis of whole class interaction bear somewhat similar findings but are differentiated on an SES basis. Whole class interaction in the mornings and afternoons was aligned with positive gains for low SES schools but negative gains for high SES schools. Again, within reading groups the pattern was negative for high SES schools: low SES schools showed mixed patterns.

How Students Get Response Opportunities

This interesting focus was studied by Brophy and Evertson. Results were based upon teacher pre-selection versus teacher calling on non volunteers versus teacher calling on volunteer versus student calling out answer first. They found that when students called out answers there was a subsequent positive correlation for low SES schools and a negative correlation for high SES schools with student gains. In the case of teacher pre-selection, there were mixed effects. In year one, there were negative associations for high SES schools yet in the second year the pattern was positive. In the second year, there was a single negative correlation, that time being for low SES schools. This is just one example of many whose results were quite perplexing since no definite pattern was replicated over time.

Reinforcement Measures

Praise/Warmth/Encouragement/Support

The expressions listed fall under a general category of expressions of favorable judgement or well-being or inspiration towards the students. Traditionally, behaviors such as those represented have been identified with the "good" teacher.

Praise. Berliner and Tikunoff found praise to be significantly linked with the more effective grade two teachers and with higher student gains in math and reading. Stalling's findings are somewhat variable. At the grade one level in the area of math, praise had a significant positive relationship with achievement scores but only for those children with lower entering ability. Used as a reinforcement mechanism within systematic instructional patterns for reading, grades one and three children displayed higher reading scores.

Contrary to any positive tendencies in these studies, however, Brophy and Evertson maintained that praise never correlated significantly positively overall on any measure. In fact, it was found to correlate negatively on several measures, for example, on student initiated work interactions. For low SES schools though, results tended to be mixed. Praise was either uncorrelated with student gains or positively correlated in the instance of being used as a spontaneous reward to the low SES student's

opinions.

Interesting findings on the use of an opposite of praise--negativistic behavior (e.g., criticisms or insistence), appeared in Brophy and Evertson's work. Positive correlations with learning occurred for high SES schools.

Warmth

Dimensions of conviviality (warmth, family-like feeling to classroom interaction), and warmth (teacher seeking contact with students, talking to them, showing affection), proved to be positively and significantly related to gains by Berliner and Tikunoff. Conners and Eisenberg found that when Peabody Picture Vocabulary Test change scores of high and low intellectually oriented teachers were considered, the warmth rating of teachers became an important variable. In cases of high intellectually oriented teachers (strict lesson orientation teachers), it was those who were also high on the warmth rating who produced the most change. Teachers low on warmth produced only about the same amount of change as the teachers rated as low intellectually oriented.

Encouragement/Support

Results on encouragement and support do not hang together well. Berliner and Tikunoff found that the encouraging and accepting dimensions were consistently associated with the more effective grade two teachers and

with significantly higher achievement scores in math and reading. In the Conners and Eisenberg study, though, teachers high on the encouragement factor produced less improvement in verbal intelligence scores compared with teachers lower on encouragement. Brophy and Evertson indicate that the use of encouragement together with patience as a means of motivation proved significant in being related to higher gain scores, but only in the case of low SES schools.

Larsen's study resulted in increased teacher support not being related to gains in cognitive tasks. Moreover, there was some evidence to suggest that nonvaried teacher support was superior for cognitive tasks. Increased teacher support did prove superior for producing more success in the motor skill area, although only in the case of girls.

Use of Extrinsic Rewards

Lepper et al. studied the effects of varied extrinsic rewards on children identified as being intrinsically interested in a particular activity. Results indicated that for those children expecting a reward, their subsequent interest in the same type of activity declined significantly. Moreover, their quality of performance declined in aiming towards the reward. Increased interest on the part of children receiving unexpected rewards was noted.

In Brophy and Evertson's study, the use of incentives was examined in relation to learning gain scores rather than to interest. They found that for both high and low SES children, the use of incentives could be significantly correlated with higher gain scores.

SES Differences

Throughout Brophy and Evertson's research, very strong distinctions on seemingly desirable teacher behaviors occurred on the basis of socio-economic status. Although the other researchers have not explicitly made this distinction, the results of Stallings, Soar and Soar, Smothergill et al., and Conners and Eisenberg should be tempered accordingly as all of these drew samples from populations which could be broadly considered as low SES schools.

High SES Schools

Practices with related positive outcomes for high SES schools included: more freedom and independence with activities and movement; use of peer pressure; critical demandingness of poor work; appropriate lengths of assignments; and control over student initiated response opportunities. Brophy and Evertson (1974a, p. 30) maintain that

> the teachers who got the highest gains in the high SES schools are teachers with extremely high and somewhat inflexible expectations and

> great determination to teach the students, combined with short patience for students who fail to meet those expectations.

It also seems that those teachers obtaining greatest gains particularly concerned themselves with achievement gains, sometimes to the exclusion of all other areas.

In addition, greater gain scores were obtained by a number of practices not mentioned throughout the text. When high SES students came to the teacher for help, it was more beneficial to either delay the child to explain at a later, more convenient time or to offer encouragement without actually providing help, or to scold the child for failure to understand. In lesson presentation, review of old material, practice of new material, eliciting student evaluation and giving feedback rated as most worthwhile processes. High SES children benefited from focused discussion also.

Low SES Schools

Generally, students within this category required tighter control, more restrictions on independent movement and more structure concerning assignments in order to obtain higher student learning. Significantly positive outcomes were also obtained when good thinking on the part of the child was recognized, even if the thinking did not lead to the correct answer; when the teacher stressed factual realism and avoided childish idealism; when little time was wasted between activities with smooth transitions;

when the teacher had efficient routines which minimized interruptions for housekeeping matters; when students initiated questions; when teachers were encouraging and elicited response and participation; and when praise following an opinion was issued.

There were striking differences in the area of responses to children's questions for help from those of the high SES schools. Low SES students benefitted from immediate feedback and teacher help. Higher learning gains were also facilitated when the teacher gave actual help in preference to mere encouragement without help.

Negative outcomes occurred in classrooms using focused discussion. This pattern ensued also when there was failure to give feedback to student initiated comments and in cases of peer tutoring.

Generally, the most effective teachers of low SES schools succeeded by being

> warm and encouraging and by "over-teaching", presenting the material to the children in small doses and with greater repetition of both explanations and opportunities to practise compared to teachers in high SES schools. (Brophy & Evertson, 1974a, p. 71)

Phenomena in Curvilinear Analysis

The notion, introduced by Soar and Soar, that teaching processes may be related to student outcomes in curvilinear fashion is most important. Brophy and Evertson's analysis supports this notion. They found that

> many relationships which do not appear in correlational analysis are revealed when non-linear analyses are performed, and more importantly, that most teacher behaviors are related non-linearly to student outcome measures. (1974b, p. 167)

In curve fitting regression analysis, they disclosed many different types of curves which varied from the ideal types of inverted U shaped curves, decelerating curves, candy cane curves, and U shaped curves. The inverted U shaped curves have been described within the Soar and Soar summary. The others may be described:

Decelerating curves. These rise or fall to a point then trail off horizontally. The suggested interpretation is that more of a certain process variable is good to a point after which no excess gains are incurred (1974b, p. 22).

Candy cane curves. These are a variation of the decelerating curves. After the horizontal trailing, they hook back, suggesting that more of a variable is better to a point after which outcomes regress (1974b, p. 24).

U shaped curves. These are self explanatory in format. However, the interpretation is difficult to conceptualize. They suggest that extreme high or low amounts of a process variable are associated with higher criterion measures while intermediate amounts are associated with lesser outcomes. Brophy and Evertson express the opinion that variables following this type of curve probably interact with other types of variables (1974b, p. 25).

Discussion

Early childhood teacher effectiveness research, as represented by these studies and their findings, presents a very complex picture. The complexity can be interpreted in several ways. Though glimmers of trends may be appearing, the complexities evident may well mean that the nature of the process-product relationships is such that no simple, clear cut, definitive answers can be stated. Alternatively, it may indicate that this type of research is very much in its infancy. A closer look at some of the more obvious complexities, inconsistencies and problems may serve to illustrate these points.

Inconsistencies and Complexities

Throughout the findings, many processes were claimed to be related to student learning gains. However, the findings must be considered conditional with each study.

Some relationships proved to be strong and positive for certain aged children or particular types of children while not for others. Some occurred under very specific classroom circumstances. Some occurred only when a combination of teacher behavior/s and classroom conditions prevailed. Others appeared for particular achievement areas yet not for others. Several processes were linked to gains in one area while a simultaneous depression in other areas was indicated. Some positive relationships were indicated, given the constraints of time--either time of day or time on

task, for example.

Often the trend noted for similar processes across different studies was one of showing links with student outcomes in the same general direction, that is, either positively or negatively. However, while very strong relationships may have been claimed within one study, often much weaker connections were shown in other studies. Even in the case of Brophy and Evertson's replicated work, this trend was noticeable. Strong results for one year often were simply not replicated in another year. On the other hand, strong relationships which appeared in some studies were sometimes flatly contradicted in others.

Inherent Problems

In several instances, indications were that certain processes could generally be considered to be favorably linked with student outcomes. Even in the case of relationships gaining support across various studies though, several problems are inherent.

To begin with, the process variables considered grouped together only in very gross terms. A closer look at the researcher's definitions of individual processes revealed that even those processes which appear similar at face value, differ substantially on finer details. Thus, quite different process measures may be being unfairly compared. Further, the studies varied in the measuring instruments used. Different instruments place different

emphasis and weights to particular aspects. Thus, even the same general concept across studies may not be being considered on an equal basis. Overall then, the question becomes: Are the findings truly supported across different studies?

Generally, even strong tendencies in the findings represent weak evidence on which to place complete faith. With the exception of Brophy and Evertson's replicated study, the findings represent one instance happenings. The studies have not been duplicated over time or differing circumstances. Results have not been replicated. In addition, the chosen studies reflect many general problems and deficiencies applicable to current research in such an intricate area (see Berliner, 1976; Dunkin, 1976).

Strong and even significant relationships noted can in no way be taken as cause and effect relationships. In the main, the studies were only correlational and of an hypothesis generating nature, rather than an hypothesis confirming one. At the most, all that can be said is that certain processes and certain products occur together or are strongly related. As an interacting situation is being examined, it cannot be said definitely in which direction the cause/effect relationship occurs. In short, we do not know which is the dependent variable and which is the independent variable. Certain teacher processes may well bring about certain child outcomes. On the other hand, it

may be that the presence of certain student variables induces certain teacher behaviors.

Throughout the collected findings, another trend seemed to be that both the quality and quantity of variables were important. In this respect, the notion of optimal conditions for optimal success, introduced by Soar and Soar and supported and developed by Brophy and Evertson, becomes most relevant. Without further analyses of the types indicated by these people, specific conclusions are hampered.

In these studies most of the child outcomes encompassed the cognitive domain. Very few measures referred to affective or non-academic areas (e.g., attitude to learning, independence, co-operation). While cognitive goals are important within early childhood education, so too are many other areas.

The main studies concentrated heavily on the early elementary grades. Only minor attention was afforded the kindergarten and preschool age group by way of the smaller studies. Thus, the findings overall can in no way be considered to reflect tendencies throughout all early childhood programs.

Despite the above problems, some categories of findings seem to be worthy of mention. In the following areas, findings seem to be similar enough that they may suggest the shadows of competency statements to come: time;

class groupings; accommodation of different needs and levels of students; systematic structuring pattern in lesson presentation; responses to undesirable behavior; monitoring learning; student engagement; and decision making on the part of the child.

Conclusion

It was previously stated that there is no known set of established criteria that can be linked empirically to desired learning gains at the early childhood level. The current state of teacher effectiveness research as represented by the studies sampled does not provide a much more progressive state. It does, however, serve to highlight areas needing development by further research.

Clearly then, the early childhood teacher effectiveness research base provides no comprehensive statement of processes which can be noted as effective teaching behaviors. It does tend to indicate that certain teaching processes relate to certain student outcomes in a complex manner.

Thus, at this time, the early childhood teacher effectiveness research base does not lend adequate support to the underlying CBTE assumption that effective teaching skills can be identified in any comprehensive way. Moreover, it does not lend support to the validity of early childhood CBTE at this time.

CHAPTER VI

IMPLICATIONS

Throughout this study the concept of CBTE has been explored, criticized and illustrated at the early childhood level. An assumption central to the whole foundation of CBTE was raised, questioned, and examined via the teacher effectiveness research base at the early childhood level. It was concluded that the assumption that effective early childhood teaching skills can be fully identified at this time, is not supported by the outcomes of current research.

From this conclusion several general implications can be derived: It is premature to allege prescriptions for CBTE competencies. In the absence of an adequate research base, CBTE cannot hope to present a lever for teacher education reform. At the present time it would seem that the system knowledge base for CBTE is stronger than the research knowledge of its base.

At this point in time, then, further progress and validation of the CBTE movement hinges firmly on further research development. Research to date has not been unproductive. What has been gained is a rudimentary picture of classroom life with some indication of the complexities of the teaching and learning processes. It has indicated that competencies cannot be stated too

specifically at this point, nor can they be stated as simple generalizations. One of the strongest indications is that effects for all children, in all contexts, at all times vary tremendously. To present an accurate description of the specific dimensions of these variations depends ultimately on much more refined research effort. Thus, overall, findings from research on teaching must currently be considered only tentatively (Dunkin & Biddle, 1974, p. 361). Further, it would seem that the current state of knowledge has been far more productive in pointing new directions for research rather than for immediate transfer into the classroom situation.

Ideally, what research can work towards is a rich and accurate portrayal of classroom intricacies for different types of children, in different contexts and at different times. In Brophy and Evertson's views, this information should be specific to the early childhood area rather than to the elementary school in general. They add that

> we need research to build a data base that teachers can use to draw upon for decision making. ... such a data base will have to be built by individuals who are committed to research rather than to advocacy, and who take into account all of the factors involved in conceptualization of teaching as it really is. Also, to free new teachers from needless confusion and guilt, and to provide them with information they can use, we need greater specificity and realism in teacher education programs for those who will be teaching in the early grades and concentrating on tool skill mastery. This will mean special courses at the very least, and perhaps even separate programs of coursework and practical experiences. (1975, p. 26)

If we consider early childhood programs past those within the early grades of elementary school, it should be borne in mind that much diversity prevails. As outlined previously, the range of available programs differs widely on purposes, goals and the role expectations of the teachers. Should research reach the point of noting effective competencies for early grade teachers, it seems unreasonable to think that all competencies could be generalizable to all types of early childhood programs. The matter then becomes one of establishing priorities in selecting those competencies which are known to effect certain outcomes. Before CBTE certification can become a viable proposition then, adequate measures for a whole range of options should be available. In the absence of such, teachers could be forced into teaching in ways which do not promote desired child or program goals. On the basis of their findings, Soar and Soar (1972) emphasize this point for one type of CBTE certification practice:

> If teachers are paid according to the achievement of their pupils on simpler measures, then they may reasonably be expected to teach in highly focused and controlling ways. This pattern of teaching can be expected to minimize complex-abstract growth; but since it is not to be measured, this result will not be known. (p. 254)

More specific implications for future research, teacher education and teacher certification practices can be pointed out.

Future Research

Future research to enable CBTE to progress involves not only research into the effects on children but also research into the effects on adults participating in CBTE systems.

Research into the Effects on Children

Ultimately what is needed in this respect, is a scientific study of teaching and its effects in the early childhood years. We need to know that the stated teacher competency is the independent variable and that student achievement is the dependent variable. We need to be able to say with some certainty that the child outcomes are a direct result of manipulation of the independent variable or teacher competency.

Research should not only aim towards providing information on immediate child effects but also information on long term effects. This suggests ultimately including longitudinal studies into the research repertoire. Further, researchers should attempt to indicate which teacher behaviors stand alone and which group together in clusters to promote growth; in which areas growth will occur and any simultaneous side effects that may happen.

In the long run, optimal levels of teacher behaviors producing optimal levels of growth should be probed. This would not seem to be a bonus step in refining stated competencies; rather, it would seem necessary before

statements of competencies become too general. It would tend to deter the "more is better" syndrome in cases where it is known that a certain level of teacher competence brings about optimal growth but with additional amounts, depression in growth is evidenced.

However, these are just some of the ultimate goals. Before these can eventuate or even begin to take place, a much wider base with fuller conceptualization of early childhood teaching is needed. In this regard, the call is for more descriptive and observational studies as well as replication studies, using the same instrumentation, methodology and analyses over time and over differing circumstances.

Progress in this basic state for early childhood teaching is not discrete from general impediments to the study of teacher effectiveness. Berliner (1976) outlines some of these impediments. He maintains that

> [researchers] need to deal with the problems of instrumentation, methodology and statistics. Empiricists in this area must come to grips with the inadequacy of standardized tests, the unknown predictive validity of tests from special teaching units, the problem of building multivariate outcome measures, the problems of measurement of appropriateness of teacher behavior, the lack of experience in choosing an appropriate unit of analysis for describing teaching behavior, and the lack of stability of many teacher behaviors. (p. 12)

Research into the Effects on Adults

At the present time, there are many CBTE programs in existence. The opportunity is present to conduct research

into the effectiveness of teachers trained in this system compared with teachers receiving more traditional teacher education. For so much timely and costly energy to go into making CBTE progress, there should at least be some guarantee that CBTE training is as beneficial or more beneficial than established, more general programs.

Teacher Education

Findings of this study do not support the movement of teacher education programs towards a competency based approach. At the very least, the results strongly suggest that a moratorium on further spreading of CBTE should be declared. At the most, CBTE could be considered as a component of existing teacher education programs or as an alternative system to the more traditional programs. CBTE should in no way take the position of an over-riding system until evidence of its potential success is established.

There are already a large number of CBTE programs and programs showing tendencies towards such. Costly energy has been devoted to their establishment. If these are to stay, care should be taken to ensure that their emphases are broad rather than too prescriptive. Further, opportunity should be taken for research possibilities on these existing alternative programs. Research could aim towards both improvement of components of the system as well as noting comparative effectiveness of CBTE trained

teachers with more traditionally trained ones.

Teacher Certification Practices

In the absence of substantiated evidence and accurate measuring devices, certification practices along CBTE guidelines are not well founded. As was suggested for teacher education, further expansion of CBTE certification practices should be halted. It will take many years of well-planned studies before such practices are a reality (Coker, 1976, p. 56).

In conclusion, it should be said that teaching really does appear to be the "orchestration" of a wide range of variables. No simple answers are available. CBTE proponents may well be thanked for promoting attention towards the improvement of teacher education and the study of teaching. However, on the basis of our present state of knowledge on teaching in the early years, CBTE and CBTE certification practices for early childhood are both unfounded and premature.

BIBLIOGRAPHY

BIBLIOGRAPHY

Almy, M. The early childhood ed[illegible] at work. San Francisco: McGraw H[illegible]

Anderson, D.W., Cooper, J.M., De[illegible] M., Dickson, G.E., Johnson, C.E., & Weber, W.A. Competency-based teacher education. Berkeley: McCutchan, 1973.

Andrews, R.L. How sound are the assumptions of competency-based programs. Educational Leadership, 1974, 31, 310-312.

Berline[illegible]. Impediments to t[illegible] study of teacher effectiveness. Journal of Teacher Education, 1976, 27, 5-13.

Berliner, D.C. & Tikunoff, W.J. The California beginning teacher evaluation study: overview of the ethnographic study. Journal of Teacher Education, 1976, 27, 24-30.

Brophy, J. & Evertson, C. Process-product correlations in the Texas teacher effectiveness study: final report. Austin, Texas: Research & Development Center for Teacher Education, 1974a. (ERIC Document Reproduction Service No. ED 091 394)

Brophy, J. & Evertson, C. The Texas teacher effectiveness project: presentation of non-linear relationships and summary discussion. Austin, Texas: Research & Development Center for Teacher Education, 1974b. (ERIC Document Reproduction Service No. ED 099 345)

Brophy, J. & Evertson, C. Teacher education, teacher effectiveness, and developmental psychology. Paper presented at the annual meeting of the American Psychological Association (83rd, Chicago, Illinois, Aug 30-Sept 3, 1975). (ERIC Document Reproduction Service No. ED 118 257)

Broudy, H.S. A critique of performanc-based teacher education. American Association of Colleges for Teacher Education PBTE series: No 4, 1972. (ERIC Document Reproduction Service No. ED 063 274)

Campbell, D.N. Affective domain, too, has professional competencies. Educational Leadership, 1974, 31, 326-328.

Child Development Associate Consortium. Day care and the CDA: a position paper. Washington D.C., 1975. (ERIC Document Reproduction Service No. ED 118 251)

Child Development Associate Consortium. Report on the Child Development Associates consortium's award system: development & first year evaluation. Washington D.C., 1976. (ERIC Document Reproduction Service No. ED 129 425)

Coker, H. Identifying and measuring teacher competencies: the Carroll County Project. Journal of Teacher Education, 1976, 27, 54-56.

Conners, C. & Eisenberg, L. The effect of teacher behavior on the verbal intelligence in operation Head Start children. Baltimore, 1966. (ERIC Document Reproduction Service No. ED 010 [illegible]82)

Communications News Release #11. Department of Education Communications Branch, Government of Alberta. Edmonton, Alberta, 1977.

Cooper, J.M. & Weber, W.A. A competency based systems approach to education. Berkeley: McCutchan, 1973.

Cooper, J.M., Weber, W.A. & Johnson, C.E. Competency-based teacher education: a systems approach to program design. Berkeley: McCutchan, 1973.

Cox, R.C. Confusion between norm-referenced and criterion-referenced measurement. Phi Delta Kappan, 1974, 55, 319.

Drummond, W.H. Does PBTE mean reform? Educational Leadership, 1974, 31, 291-297.

Duckering, E. Personal Communication, Feb. 20, 1978.

Dunkin, M. & Biddle, B. The study of teaching. New York: Holt, Rinehart & Winston, 1974.

Dunkin, M. Problems in the accumulation of process-product evidence in classroom research. British Journal of Teacher Education, 1976, 2, 176-187.

Elam, S. Performance-based teacher education: what is the state of the art? Washington D.C., 1971. (ERIC Document Reproduction Service No. ED 058 166)

Final report of the Early Childhood Services Task Force on teacher competence. Department of Education,

Planning & Research Branch, Government of Alberta. Edmonton, Alberta, 1976.

Flanders, N.A. The changing base of performance-based teaching. Phi Delta Kappan, 1974, 55, 312-315.

Foster, C.D. Analyzing the PBTE approach. Educational Leadership, 1974, 31, 306-309.

Gage, N.L. & Winne, P.H. Performance based teacher education. In K. Ryan (ed.) Teacher education. Chicago: The University of Chicago Press, 1975.

Grande Prairie Regional College Program Proposal. Grande Prairie Regional College, Grande Prairie, Alberta, 1975.

Grande Prairie Program Modules. Grande Prairie Regional College, Grande Prairie, Alberta, n.d.

Handler, E. Comparative effectiveness of four preschool programs: a sociological approach. Child Welfare, 1972a, 51, 550-561.

Handler, E. Organizational factors and educational outcome: a comparison of two types of preschool programs. Education and Urban Society, 1972b, 4, 441-457.

Heath, R.W. & Nielson, M.A. The research basis for performance based teacher education. Review of Educational Research, 1974, 44, 463-484.

Horton, L. The hidden curriculum of competency-based teacher education. In L. Horton & P. Horton (eds.) Teacher education: trends, issues and innovations. Danville, Illinois: The Interstate Printers & Publishers, 1974.

Houston, W.R. & Howsam, R.B. Competency based teacher education. Chicago: SRA, 1972.

Houston, W.R. (ed.) Exploring competency-based education. Berkeley: McCutchan, 1974.

Introduction to the Early Childhood Services Task Force report on teacher competence. Department of Education, Planning & Research Branch, Government of Alberta. Edmonton, Alberta, 1976.

Ishler, R.E. (ed.) Competency-based teacher education: a potpourri of perspectives. ATE Bulletin, 38, 1974.

Katz, L. Early childhood education as a discipline. Young

Children, 1970a, 26, 82-89.

Katz, L. Teaching in preschools: roles and goals. Children, 1970b, 17, 42-48.

Katz, L. Teacher-child relationships in day-care centers. San Francisco, 1972. (ERIC Document Reproduction Service No. 046 494)

Larsen, J.M. Effects of increased teacher support on young children's learning. Child Development, 1975, 46, 631-637.

Lawrence, G. Delineating and measuring professional competencies. Educational Leadership, 1974, 31, 298-302.

Lepper, M.R., Greene, D., & Nisbett, R.E. Undermining children's intrinsic interest with extrinsic rewards. Journal of Personality & Social Psychology, 1973, 28, 129-137.

Lickona, T. A person-centered approach to competency-based teacher education. New York, 1976. (ERIC Document Reproduction Service No. 104 851)

Lorentz, J.L. The development of measures of teacher effectiveness from multiple measures of student growth. Paper presented at the American Educational Research Association annual meeting. New York, April, 1977.

Maxwell, W.D. PBTE: a case of the emperor's new clothes. Phi Delta Kappan, 1974, 55, 306-311.

McDonald, F. The national commission on performance based education. Phi Delta Kappan, 1974, 55, 306-311.

Medley, D.M. An approach to the definition and measurement of teacher competency. Paper presented at the American Educational Research Association annual meeting. New York, April, 1977.

Nash, R.J. & Agne, R.M. Competency in teacher education: a prop for the status quo. In L. Horton & P. Horton (eds.) Teacher Education: trends, issues and innovations. Danville, Illinois: The Interstate Printers and Publishers, 1974.

Quirk, T.J. Some measurement issues in competency-based teacher education. Phi Delta Kappan, 1974, 55, 316-319.

Red Deer College Calendar 1977-78. Red Deer College, Red Deer, Alberta.

Rosenshine, B. & Furst, N. Research on teacher performance criteria. In B.O. Smith (ed.) Research in teacher education. Englewood Cliffs, New Jersey: Prentice Hall, 1971, 37-72.

Rosner, B. (ed.) The power of competency-based teacher education. Boston: Allyn & Bacon Inc., 1972.

Rosner, B. & Kay, P. Will the promise of C/PBTE be fulfilled? Phi Delta Kappan, 1974, 55, 290-295.

Sandoz, E. CBTE: the nays of Texas. Phi Delta Kappan, 1974, 55, 304-305.

Schalock, H.D. Impact of competency definition on teacher preparation. Educational Leadership, 1974, 31, 318-321.

Schmieder, A.A. Competency based education: the state of the scene. Washington D.C., 1973. (ERIC Document Reproduction Service No. ED 073 046)

Smothergill, N.L., Olson, F. & Moore, S.G. Effects of manipulation of teacher communication styles in the preschool. Paper presented at the meeting of the Society for Research in Child Development, Santa Monica, March, 1969. (ERIC Document Reproduction Service No. ED 034 598)

Soar, R.S. & Soar, R.M. An empirical analysis of selected Follow-through programs: an example of a process approach to evaluation. In I. Gordon (ed.) Early childhood education NSSE Yearbook. Chicago: University of Chicago Press, 1972.

Spaulding, R.L. Mandated competency-based teacher certification and the public interest. Paper presented at the annual meeting of the American Educational Research Association (Washington, D.C., March 31, 1975). (ERIC Document Reproduction Service No. ED 104 849)

Spodek, B. Staff requirements in early childhood education. In I. Gordon (ed.) Early childhood education NSSE Yearbook. Chicago: University of Chicago Press, 1972.

Stallings, J. Implementation and child effects of teaching practices in Follow Through classrooms. Monographs

of the Society for Research in Child Development, 1975, 40, (7-8, Serial No. 163).

Stallings, J. How instructional processes relate to child outcomes in a national study of Follow Through. Journal of Teacher Education, 1976, 27, 43-47.

Stewart, I.S., Denson, R.A. & Stone, N.K. Competency-based early childhood teacher education: beginning at the beginning. Young Children, 1976, 31, 188-194.

Tanaka, M.N. & others. The Flexible Learning System: a program for early childhood staff development. San Francisco, 1976. (ERIC Document Reproduction Service No. ED 134 339)

Ward, E.H & the CDA staff. The child development associate consortium's assessment system. Young Children, 1976, 31, 244-254.

APPENDICES

APPENDIX A

KEY TO CBTC COMPETENCIES

KEY TO CBTC COMPETENCIES

Code	Description
G-1	Gathers and uses information related to individual differences
1B-S	Reduced deviant behavior
1C-S	Better physical, mental health
G-2	Organizes pupil, resources, and materials for effective instruction
2A-T	Selects goals and objectives appropriate to pupil need
2C-T	Gathers multi-level materials
2D-T	Involves student in organizing and planning
2A-S	Enjoys class, happy smiles
2B/C-S	Actively involved, working on-task
2B/C-S	Evidence academic growth
2D-S	Absence of withdrawn behavior
2E-S	Enthusiastically involved
2F-S	Evidence of involvement
G-3	Demonstrates ability to communicate effectively with students
3A-T	Gives clear explicit directions
3B-T	Pauses, elicits and responds to student questions
3C-T	Uses a variety of methods, verbal and non-verbal
3A-S	Less confusion, less time wasting
3C-S	Self-directed to move toward task
G-4	Assists students in using a variety of relevant communication techniques
4A-T	Demonstrates proper listening skills
4B-T	Respects individual's right to speak
4C-T	Utilizes non-verbal communication skills
4B-S	Students able to speak freely
4C-S	Able to follow directions on-task
4D-S	Able to communicate through writing
G-5	Assists students in dealing with their misconceptions or confusions using relevant clues and techniques
5A-T	Utilizes student feedback, verbal and non-verbal, to

Code	Description
	modify teaching practices
5B-T	Demonstrates flexibility in classroom management practices
5D-T	When student not on-task, teacher makes contact
5E-T	Provides feedback to pupil on his misbehavior
5A-S	Students ask questions
5B-S	Students feel free to interrupt pupil presentations
5C-S	Movement toward tasks
G-6	Responds appropriately to coping behavior of students
6A-T	Maintains self-control in classroom situation and with students
6B-T	Recognizes and treats individual student behavior
6D-T	Accepts necessity of dealing with individual students
6A-S	Absence of student manipulation of teacher and peers
6B-S	Modifies behavior positively
6C-S	Reduction of disruptive behavior
G-7	Uses a variety of methods and materials to stimulate and promote pupil learning
7A-T	Uses more than one teaching method in a single presentation
7C-T	Uses more than one instructional activity simultaneously
7A-S	Attentive
7C-T	Actively involved
G-8	Promotes self-awareness and positive self-concepts in students
8C-T	Evidence of a personal one-to-one relationship with students
8E-T	Evidence of praise and/or rewards in operation
8F-T	Supportive classroom management
8B-S	Moving toward self-direction
8C-S	Attending to task
8E-S	Evidence of importance as class member, group involvement
8G-S	Evidence of enthusiasm
G-9	Reacts with sensitivity to the needs and feelings of others

Code	Description
9A-T	Accepts and incorporates student ideas
9B-T	Listens to students and provides feedback
9C-T	Evidence of opportunity for one-to-one counseling
9A-S	Expresses ideas and opinions different to those of teacher
9B-S	High interest
9D-S	Evidence of confidence in teacher

(Lorentz, 1977, pp. 9-10)

APPENDIX B

COMPETENCY AREAS IDENTIFIED BY TEACHER TASK FORCE WITH BEHAVIORAL INDICATORS

Teacher Competency Area	Teacher Behaviors (Process)	Student Outcomes
1) ...hers and uses ...rmation relating to individual differences among students	a) Maintains and uses formal/ informal up-to-date records on individual students	a) working at task on appropriate level of instruction.
	b) Consults appropriate authorities to select and administer appropriate standardized tests when information is needed on individual students and follows through with information on learning levels, interests, values, cultural and socio-economic background.	b) reduced deviant behavior
	c) Teacher recognizes limitations and seeks additional professional help.	c) better physical, mental health
2) Organizes pupils, resources and materials for effective instruction	a) Selects goals & objectives appropriate to pupil need	a) enjoys class, happy, smiles
	b) Matches student with appropriate material	b)c) on task, actively involved
	c) Gathers multi-level materials	b)c) evidences academic growth
	d) Teacher involves student in organizing and planning	d) absence of withdrawn behavior
		e) enthusiastically involved

Teacher Competency Area	Teacher Behaviors (Process)	Student Outcomes
		f) evidence of involvement
3) Demonstrates ability to communicate effectively with students	a) Gives clear explicit directions which are understood by students	a) less confusion, less time wasted
	b) Pauses, elicits and responds to student questions before proceeding.	b) more relaxed, less frustration
	c) Uses a variety of methods, verbal and non-verbal, to deliver instructions	c) self-directed to move toward task
4) Assists students in using a variety of relevant communication techniques.	a) Demonstrates proper listening skills	a) acquires capacity to be a good listener
	b) Respects individual's right to speak	b) students able to speak freely
	c) Utilizes written language as type of communication	d) discriminates acceptable or n - acceptable behavior
		e) able to communicate through writing
5) Assists students in dealing with their misconceptions or confusions, using relevant clues and techniques	a) Utilizes student feedback, verbal and non-verbal, to modify own teaching behavior	a) Students ask questions
	b) Demonstrates flexibility in classroom management practices	b) students feel free to interrupt presentations

Teacher Competency Area	Teacher Behaviors (Process)	Student Outcomes
	c) Provides opportunity for student-initiated questions	c) movement toward task
	d) When student not on task, teacher makes contact	
6) Responds appropriately to coping behavior of students	a) Maintains self-control in various classroom situations and interactions with students	a) absence of student manipulation
	b) Recognizes and treats individual student behavior	b) modifies behavior positively
	c) Seeks appropriate help from others	c) reduction of disruptive behavior
	d) Accepts necessity of dealing with individual students on an individual basis	
7) Uses a variety of methods and materials to stimulate & promote pupil learning	a) Uses more than one teaching method in a single presentation	a) attending (attentive) behavior
	b) Adapts methods & materials instructional situation and to established goals & objectives	b) motivated c) actively involved
8) Promotes self-awareness and positive self-concepts in students	a) Provides opportunity for each student to meet success daily.	a) student working on individual level
	b) Provides variety of	b) moving toward self-

Teacher Competency Area	Teacher Behaviors (Process)	Student Outcomes
	materials	direction, attending to task
	c) Evidence of a personal one-to-one relationship with each student	c) knowledge of variety of cultural & socio-economic background
	d) Provides opportunity for student to have voice in decision making	d) evidence of importance as class member--group involvement
	e) evidence of praise and/or rewards in operation	e) assumes responsibility for own success or failure
	f) Supportive classroom management	f) evidence of enthusiasm
9) Reacts with sensitivity to the needs and feelings of others	a) Accepts & incorporates student ideas	a) expresses ideas & opinions different to those of teacher or peers
	b) Listens to students and provides feedback	b) high interest
	c) Evidence of an opportunity for one-to-one counseling and absence of evidence that students are rejected (brushed off)	c) student/teacher rapport is evident, develops sense of belonging, evidence of confidence in teacher
10) Engages in personal and professional growth	a) Reads widely and critically	
	b) Maintains membership & active participation in professional	

Teacher Competency Area	Teacher Behaviors (Process)	Student Outcomes
	organizations appropriate to the individual	
	c) Exchanges ideas & teaching techniques with colleagues	
	d) Continuously improves knowledge and skills	
	e) Engages in continuous self-evaluation	
11) Works effectively with pupils, parents, colleagues, community & educational administrators of school system	a) Attends school-related community activities	
	b) Accepts responsibility for some community activity	
	c) Supportive of school policies.	

(Medley, 1977, pp. 2-5)

APPENDIX C

EXAMPLES OF GRANDE PRAIRIE REGIONAL COLLEGE MODULES

GRANDE PRAIRIE REGIONAL COLLEGE

MODULE XVIII

COMPETENCIES

1

Students will be able to outline goals for a program for young children.

2

Students will be able to plan an environment to meet program goals.

3

Students will be able to define goals and plan programs for individual children.

4

Students will be able to develop a daily schedule based on program goals.

5

Students will understand the importance of advance planning in programs for young children.

6

Students will be aware of the elements involved in program evaluation.

GRANDE PRAIRIE REGIONAL COLLEGE

MODULE XV

COMPETENCIES

1. Appreciate the way children think: Piagetian approach

2. Be familiar with factors that influence learning

3. Develop an awareness of the meaning and measurement of intelligence

4. Be able to identify the stages of language development

5. Gain skills in analyzing children's speech

6. Be able to relate cognitive development in young children to an early childhood classroom

GRANDE PRAIRIE REGIONAL COLLEGE

MODULE III

COMPETENCIES

1

The student should have a wide range of songs and fingerplays

2

The student should be able to teach fingerplays and songs to young children

3

The student will know how to construct musical instruments

4

The student should be able to select and assess books and stories for young children

5

The student should be skilled in reading a book and telling a story to young children

6

The student should be able to make a flannel-board

7

The student should be able to adapt a story and prepare it for use on a flannelboard

8

The student should be able to tell the story to young children using a flannel-board

9

The student should be able to assess and use film-strips with young children

10

The student will acquire pictorial resources

11

The student should be able to create bulletin board displays

12

The student should be able to make a puppet and use it with young children