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Supervising student teachers : an individualized systemic approach.

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SUPERVISING STUDENT TEACHERS: AN INDIVIDUALIZED, SYSTEMIC APPROACH

A Dissertation Presented

By

Robert William Fitzmaurice

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Dedicated to,

my father and mother, who have given me so much and expect so little in return, and who I know will be proud to share in this;

my sons, Tom, Tim, and John who have given me their patience, understanding, and support so critical to my efforts;

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ABSTRACT

Supervising Student Teachers: An Individualized, Systemic, Approach

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The principal goal of this study was to propose a strategy for supervision of student teachers based on conceptual constructs drawn from the fields of humanistic psychology, cognitive developmental theories based on the work of Jean Piaget, and relatively recent developments in systems theory (especially as systems theory relates to educational problems and issues). The purpose of this study was to investigate the use of an approach to supervision which utilized a humanistic, cognitive developmental, systemic orientation.

The supervisory strategy recommended in this study is an individualized, systemic approach to the supervision of student teachers. This is an approach in which the supervisor attempts to facilitate the student teachers' discovery of their teaching selves--their beliefs, attitudes, values, ideals, and goals as a teacher. In this role, the supervisor is geared more toward the liberation of a student's own unique teaching style rather than toward his or her indoctrination into pre-established norms and standards.

To lay a foundation for the above, the design model of this

study employed various supervisory strategies designed to identify each student teacher's individual perceptions, values, beliefs about the teaching-learning process. The supervisory strategies included the following: a "Values in the Classroom" activity for clarification of the student's value priorities, a "Philosophy of Education" activity, and an "Assumptions on How Children Learn" activity, all of which were intended to help the population of student teachers discover their teaching selves. Additionally, the concepts of "clinical supervision" (based on the work of Cogan and Goldhammer) were incorporated in this study in which non-normative, non-evaluative observable data were collected by the supervisor for the purpose of giving the student teacher objective feedback concerning his or her classroom teaching.

The major problem addressed in this study is whether the above individualized, systemic approach to supervision of student teachers is a feasible model. Also, this study attempted to measure change over time in responses to the above instruments which measured value changes, philosophy of education changes, and assumptions on how children learn changes on the part of the population of student teachers who participated in this study.

An analysis of student responses on each of the instruments indicated that the population of student teachers modified or changed their value priorities a considerable degree during the period of the internship. However, their respective philosophies of education and assumptions on how children learn were modified or changed to a limited

degree. Providing student teachers an opportunity to modify their values, ideas, beliefs seemed to facilitate their discovery of their teaching selves.

Implementing an individualized, systemic approach to supervising student teachers indicated that the quantity of time necessary to give non-normative, non-evaluative descriptive supervisory feedback, consistent with the design model, ranged between thirty minutes and several hours. Educators interested in implementing said approach should allow the time necessary to do justice to the design model.

Feedback received on a questionnaire from the student teachers who made up the study population and their respective cooperating teachers indicated a favorable response to the design model of this study. Based on the results of the questionnaire and the above findings and within the limitations of the study, the following conclusion appears valid: an individualized, systemic approach to supervision of student teachers is a feasible model and facilitates the process of students discovering their teaching selves.

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CHAPTER I

INTRODUCTION

This study proposes a strategy for supervision of student teachers based on conceptual constructs drawn from the fields of humanistic psychology, cognitive developmental theories based on the work of Jean Piaget, and relatively recent developments in systems theory (especially as systems theory relates to educational problems and issues). Its purpose is to investigate the use of an approach to supervision which utilizes a humanistic, cognitive developmental, systemic orientation. The major problem being addressed in this study is whether such an approach to supervision of student teachers is a feasible model. The significance of this study lies partially in its attempt to develop a new way of thinking about the complex issue of supervision of student teachers; this is done be providing supervisors a different set of cognitive tools to apply to their respective supervisory situations.

Issues and Problems in Supervision

The importance of supervised student-teaching. In a review of the literature on teacher education and supervision from the period 1931 to 1957, John U. Michaelis (1960) noted that the importance of supervised professional laboratory experience in teacher education programs was undisputed. (p. 1473) Ten years later, Denemark and Mcdonald (1967) found research which supported Michaelis' earlier findings,

namely that "There was widespread agreement that supervised classroom practice is a good thing for prospective teachers. . . . (p. 940)

In the early sixties, James B. Conant, former president of Harvard University, was devoting himself to extensive studies of the American educational scene. He subsequently received a two year grant (1961-1963) from the Carnegie Corporation to study the complex subject and controversial field of educating teachers for elementary and secondary schools. As a result of this study, he published a book entitled, The Education of American Teachers, in which he stated that ". . . , the one indisputably essential element in professional education is practice teaching." (p. 142) Accordingly, he advanced the proposal that practice teaching be given the central role in the preparation and certification of future teachers. This proposal has called forth little dissent among teacher educators and is widely practiced in institutions of higher education which have assumed the responsibility of preparing pre-service teachers for the public schools.

The nature of conventional supervision. During student-teaching, it is characteristic for the student teacher to be placed under the supervision of a university professor in conjunction with a certified teacher in whose classroom the student has been placed. This triangular relationship is one in which the inexperienced student teacher serves as an apprentice in an actual classroom teaching situation under the supervision of the more experienced cooperating teacher and university supervisor.

The apprenticeship usually occurs sometime during the student

teacher's senior year of his or her undergraduate program and may last for a portion of a single semester or, in some teacher education programs, for a whole semester or more. During this term, the student teacher is typically present for the entire teaching day.

Initially, the student teacher spends time observing the certified teacher in actual teaching situations. Later, at an appropriate time, the student teacher engages in some of the classroom teaching responsibility. Eventually, it is common practice for the prospective teacher to assume the majority of the teaching responsibilities as if this were his or her own classroom.

During this period of time, the conventional role of the university supervisor is to make periodic observations of the student teacher in a teaching situation, and subsequently make assessments of the student teacher's performance. These assessments are regularly used to determine the student's final grade for student-teaching, as well as ascertaining whether the prospective teacher has met the state certification requirements.

The need for new directions in supervision. Recognizing that student-teaching is the major experiential investment in the prospective teacher's undergraduate program, the quality of this experience becomes one of great importance. Margaret Lindsey (1969) has stated, ". . . , this quality is determined, in very large measure, by those who provide the guidance [supervision] of students in the laboratory." (p. 27) As indicated previously, the guidance or supervision is ordinarily provided by the university supervisor in association with the cooperating teacher.

However, in this regard, Charles E. Silberman noted in his book Crisis in the Classroom - The Remaking of American Education, that "There is general agreement, [among educators] . . . , that supervision is something less than adequate, . . . [and] By and large, . . . student-teaching is in as dismal a state as the rest of teacher education." (p. 452) He concluded, as a result of his three and one-half year study commissioned by the Carnegie Corporation, that what is wrong with supervision has to do principally with the very nature of the proces itself. (emphasis added)

For example, Silberman observed that,

> Students receive incredibly little feedback on their performance, for supervision tends to be sporadic and perfunctory. More important, the target is usually hidden from the student's view; they, their supervisors, and the teachers in whose classrooms they practice usually have no conception of education from which to criticize and evaluate their teaching. (p. 451)

The most common complaint he found was that university supervisors either have never taught the subject in question or have been out of public school classrooms to such an extent that they have forgotten what it is like to teach. Moreover, he observed that supervisors of student-teaching tend to focus on the minutiae of classroom life rather than on the degree to which the student teacher was able to acheive his or her teaching objective. Additionally, he found that supervisors frequently disagree among themselves as to what constitutes good or bad teaching.

Another criticism concerning the nature of supervision comes from Margaret Lindsey (1969) and her associates from Teachers College Columbia University, who made an extensive inquiry into the behavior of supervisors in teacher education laboratories. As Lindsey put it, supervisors have ". . . . tended to place undue weight on the overseeing

managing, directing, and assessing functions and too little emphasis on the guiding, supporting, stimulating, and facilitating functions." (p. 28) Lindsey believes that a laboratory must be a place in which ". . . . supervisors are primarily concerned with more than assessing his [student teacher's] level of competence by predetermined, steril, unimaginative, and often unvalidated standards of teaching performance." (p. 27)

Another concern with the process of student-teaching is that the experience comes too late in the prospective teacher's undergraduate program, so that some student teachers find it difficult to make relationships between theory and practice. Even when some pattern of observation and moderate participation takes place earlier in the prospective teacher's program, the major experiential investment is still located in student-teaching.

This heavy investment is a great part of what is the matter with student-teaching. As Fred T. Wilhelms (1970), former Executive Secretary for the Association for Supervision and Curriculum Development put it,

> The emotional pressure is too high. The situation is too tight. . . . the lid is on; . . . The anxious youngster sweats to do everything as he thinks his mentor wants it done. . . . And so, in what ought to be the greatest learning experience in the young professional's life, what is really happening is the start of an unremitting indoctrination into the very system we are all trying to break out of. (p. 23)

Developing an individualized, systemic approach to the supervision of student teachers. In response to the need for new directions in supervision, the author recommends an individualized, systemic approach to supervising student teachers. From an educational perspective, the

author characterizes an individualized, systemic approach to supervision as one in which the supervisor assumes a role of helping student teachers discover their teaching selves--their beliefs, attitudes, values, ideals, and goals as a teacher. Helping student teachers discover their teaching selves assumes a role for the supervisor geared more toward the liberation of a student's own unique teaching style than toward his or her indoctrination into pre-established norms and standards. From this point of view, the behavior of the student teacher is seen as essentially developing from within rather than as a product of external events which are molded and directed by a supervisor from without. Thus, fundamentally, the job of the supervisor, in conjunction with the cooperating teacher, is to provide a climate for growth in which the student teacher is helped to discover his or her own peculiar strengths and to grow progressively more confident in using them as the student teacher adapts to the situations he/she is in. This is a climate in which the individuality, creativity, and inquiry of the student teacher is promoted. Also, it is a climate in which the student teacher is encouraged to become self-motivated, self-directed, and autonomous as he/she matures into a professional teacher.

In concurrence with Arthur Combs, (1971) the author believes that the effective teacher is the mature person who has learned to use himself or herself effectively as a teaching instrument. Hence, the "primacy of the person"--the person inside the teacher--becomes of paramount importance.

Statement of the Problem

Conventional supervision of student teachers has tended to place undue weight on the overseeing, managing, directing and assessing functions of supervision. Also, the evaluative function of supervision has been based on pre-established norms and standards to which the student teacher has been expected to conform. This paper recommends an approach to supervision which utilizes a helping relationship with an emphasis on the guiding, supporting, stimulating, and facilitating functions of supervision. It is an approach to supervision which emphasizes a non-normative, non-evaluative orientation. Accordingly, this study proposes the following assumption, that a supervisory process which incorporates theoretical constructs from humanistic psychology, cognitive developmental theories, and systems theory will enhance the potential for student teachers to discover their teaching selves--their beliefs, attitudes, values, ideals, and goals concerning the teaching-learning process. Furthermore, discovering their teaching selves will liberate student teachers to develop their own unique teaching style based on personal and professional beliefs and attributes. This assumption differs significantly from current supervisory practice, which, as has been stated, is largely evaluative, judgmental, and based on pre-established norms and standards to which student teachers are expected to conform.

Significance of the Study

The significance of this study lies partially in its attempt to

develop a way of thinking about the complex issue of supervision of student teachers based on theoretical constructs from humanistic psychology, cognitive developmental theories and systems theory. The application of such constructs to the process of supervision may provide supervisors a different set of cognitive tools to apply to their respective supervisory situations.

Limitations of the Study

This study is designed as a feasibility study addressing the question of whether an individualized, systemic approach to supervision of student teachers is a feasible model. The study does not include a control group characteristic of experimental research. Additionally, the population in this study represents a small size, as is appropriate in a feasibility study.

This study took place in a university affiliated laboratory school with a population of student teachers who had chosen the program from more than twenty different alternative pre-service teacher preparation programs available at the School of Education, University of Massachusetts. The results reported in this study may be idiosyncratic to that particular laboratory school setting and population of student teachers and lack generalizability to other school settings, and other student teacher populations.

The author served as the university supervisor as well as the investigator in this study. The author collected all data related to the study and analysed it accordingly.

Overview of the Study

In this chapter the purpose of the study has been stated and the sources of inspiration for developing an alternative approach to conventional supervision have been indicated.

Chapter II is a review of the literature for the purpose of identifying established knowledge in the field of supervision as it relates to models of supervision of pre-service elementary school teachers.

Chapter III identifies pertinent theoretical constructs from humanistic psychology, cognitive developmental theories after Piaget, and systems theory which serve as the foundation for developing an individualized, systemic approach to supervising student teachers.

Chapter IV details how the individualized, systemic approach to supervision recommended by the author was used with a population of student teachers who were experiencing a field based teacher education program that led to teacher certification.

Chapter V examines data collected from informal instruments that were utilized primarily with the student teachers, as well as the cooperating teachers. Also, the pre and post-test results of the Runner Studies of Attitude Patterns (RSAP), a standardized instrument for attitude assessment, are analyzed.

Chapter VI presents a summary, results, conclusions, limitations, and recommendations.

CHAPTER II

REVIEW OF THE LITERATURE RELATED TO THE SUPERVISION OF STUDENT TEACHERS

The present chapter is a review of the literature regarding supervision of student teachers in pre-service teacher education programs. Of particular interest is the identification of strategies or models of supervision which specify the role of the university supervisor. After surveying the literature, trends compatible with an individualized, systemic approach to supervision are indicated.

Criteria for the Review of the Literature

The following criteria served to influence what items were examined in the review of the literature for possible inclusion in the present chapter.

Criterion number 1. Items dealing with pre-service teacher education programs containing professional laboratory experiences.

Criterion number 2. Items dealing with the supervisory conference in general and the relationship between the university supervisor and the student teacher in particular.

Sources for the Review of the Literature

The following sources were utilized for the literature review.

Source number 1. John U. Michaelis' (1960) review of the literature for the period 1931-1957, published in the 3rd edition of the

Encyclopedia of Educational Research. (pp. 1473-1481) Items published prior to 1931 were not reviewed.

Source number 2. Gilles Dussault's (1970) extensive review of the literature for the period 1958-1968. (pp. 37-109)

Source number 3. Robert F. Peck's and James A. Tucker's (1973) extensive review of the literature for the period 1955-1971 published in the Second Handbook of Research on Teaching, Robert M. Travers, editor. (pp. 940-978)

Source number 4. An Educational Resource Information Center (ERIC) search--a computer-indexed information file utilizing Research in Education (RIE) and Current Index to Journals in Education (CIJE) as data bases. This search, prepared by T. R. Potter (1976) of the North Carolina Science and Technology Research Center at the request the author, yielded a computer printout of 145 citations in RIE and 101 citations in CIJE.

Source number 5. Dissertations related to student-teaching supervision identified through Datrix II, a computerized information retrival system of Xerox University Microfilms. A computer printout yielded 150 citations within the parameters specified by the author for the period 1969-1975. (Comprehensive Dissertation Query Service, 1976.)

State of the Art

Michaelis (1960) noted in his review of the literature published from 1931 to 1957 on student-teaching and internships that the general status of critical, evaluative research was poor. (p. 1473) He

characterized the available published literature for that period as made up largely of articles based on opinion, description of practices, recommendations of committees and commissions, surveys and related recommendations, and a few critical studies. (p. 1474)

Ten years later Denemark and Macdonald (1967) found the available research on teacher education not only to be extremely scanty, but in many areas nonexistent. For example, they observed, consistent with Michaelis' findings, widespread agreement among educators that supervised classroom experience is a good thing for prospective teachers, but almost no research going on to find out how, why, or what specific kinds of practice actually do have demonstrably good effects. Indeed, they noted that it was almost impossible to identify the theoretical basis for most of the studies reported. (pp. 233-247)

Additionally, Peck and Tucker (1973) reviewed the strengths and weaknesses of the methods used in research studies of teacher education which constituted the literature for the period 1955-1971 and also found very few studies of an experimental nature. They concluded all too many examples were still of inadequate research design or characterized by inadequate reporting. Nonetheless, they point out that since 1964 there has been a great deal more empirical research performed on one or another operation in the education of teachers than in all the decades before that date.

Apparently a sharp increase in research expenditures, largely through the entry of substantial federal support for graduate training and research in education, has made the difference. (Clifford, 1973, p. 1) In fact, it was estimated by the United States Office of Education

that appropriations for research and development for 1966 through 1968 alone equalled three-fouths of all funds ever made available for empirical research. (USOE, 1969, p. 170) The funds came principally from the U.S. Office of Education, the National Institute of Mental Helath, and the National Science Foundation.

It is interesting to note since that time the majority of studies have come out of a relatively few places and most, if not all, of these places won substantial research grants in the 1960's. Since 1964 a number of these places have begun to receive larger scale, programmatic support as National Research and Development Centers or as Regional Educational Laboratories under the National Center for Educational Research. (Peck & Tucker, 1973, pp. 941-942)

The Far West Regional Laboratory in Berkeley is one example. More recently they have picked up the highly influential work of Flanders (1970) begun at Michigan and the techniques of micro-teaching which Allen (1969) and others first generated at Stanford University. Notable examples of national R&D Centers in Education include the Stanford Center for Research & Development and the R&D Center for Teacher Education at the University of Texas.

Following the availability of funds, there was an influx of increased intellect into educational research which undoubtedly produced more and better research than had ever been done previously. When one considers the inherently complex nature of the phenomenon to be studied in teacher education, it becomes apparent that a programmatic attempt to study at once many parameters operating as a totality requires an extremely complex, multifaceted research operation which

is expensive to perform correctly. "It appears quite understandable, therefore, why very few good empirical studies of teacher education were ever carried out before the middle 1960's." (Peck & Tucker, 1973, p. 942) Some of the empirical research that has been done since that time is reviewed by the author in the remainder of the chapter (especially those studies clustered around training teachers in interaction analysis and micro-teaching).

The Supervisory Conference

Let us now shift our focus from the state of the art in teacher education in general to a closer look at the supervisory conference in particular. The following topics will be discussed: the importance of the supervisory conference, variables in the supervisory conference, the role of the university supervisor, models of supervision, supervisory feedback systems.

The importance of the supervisory conference. Stratemeyer and Lindsey (1958), in their book Working With Student Teachers, suggest the conference is probably the means most frequently employed in guiding the teacher-to-be. (p. 396) One research study that supports the above observation was conducted by Bennie (1964) via a questionnaire sent to 171 first-year teachers who indicated that, during student teaching, the conference was the most frequently used supervisory technique and was perceived by them as the most helpful one. (p. 133) A study by Bradley (1966) found the supervisory conference to be an important element of the ideal process of supervision. (pp. 92-94) In a survey of 351 student teachers by Trimmer (1961), the holding of regular

conferences with the supervisee was found to be the most important factor of good supervision. (pp. 229-231) In essence, the conference in the professional education of teachers is a teaching-learning situation; it is a meeting of the minds with mutual concern for the best interests of children or youth and of the individuals involved in the conference. (Stratemeyer and Lindsey, 1958, p. 396), (Olsen, 1968, p. 230)

Variables in the supervisory conference. Gilles Dussault (1970) in his review of the literature identifies a great number of variables or inputs into the conference which may affect the outcomes of the conference and makes a compelling case for the complexity of the professional laboratory experience known as student-teaching. (pp. 87, 91-103, 106-107) Dussault has identified the following eight categories under which the variables he found in the literature may be grouped: the kinds of experiences provided during student-teaching, the envrionment in which student-teaching is done, the personality of the student teacher, the personalities of the university supervisor and the cooperating teacher, the compatibility of the personalities of the student teacher and of the supervisors, the professional readiness of the student teacher, the professional readiness of the cooperating teacher, the professional and personal objectives of the student teacher.

Kinds of experiences provided. Some examples in this category include the following variables: the grade level placement, the number of placements, the time-pattern of student-teaching, the quality of the experience itself, the method of evaluation, the use of electronic devices to collect data on student-teaching behavior, and the use of

categories for the analysis of teaching behavior.

Environment. Some examples in this category include the following variables: the cooperating teacher's teaching practice, the classroom setting, the classroom requirements, the role expectations of the school, the values of the school, the organization of the school, the social and cultural characteristics of the surrounding community, the cooperation between university and school.

Student teacher personality. Selected examples include the following: socioeconomic status; rearing; sex; intelligence; motivation; interests; attitudes toward school, teachers, and children; confidence; self acceptance; security; anxiety; morale; open-mindedness.

Supervisory personality & compatibility. Some variables include the following: the perceptions of the teacher's role both actual and ideal; perceptions of the ideal supervisor-supervisee relationship; the cooperating teacher's attitudes, openness to experience, perception of student teacher's behavior, and open-mindedness; the university supervisor's perception of the student teacher's behavior.

Professional readiness of student teacher and cooperating teacher. Some examples include the following: academic background, subject matter preparation, type of curriculum engaged in, teaching competence of cooperating teacher and competencies related to working with student teachers.

Professional objectives. Dussault subgrouped this category of variables or inputs into the conference around the following themes: the student teacher as an inquirer into the educational process (into

the relations between theory and practice, into one's own teaching behavior); the competence and effectiveness of the prospective teacher (discipline, master subject matter, communication, motivating pupils, development of teaching techniques and style, understanding and guiding the learning process, professional decision making, skills in human relations and group processes); professional autonomy (self direction, self evaluation, use of one's unique self as instrument for teaching, autonomous personal teaching style, creativity); membership in the profession (formulation of a conscious educational point of view, commitment to teaching, professional attitude); school and community (understanding role of the school in the community and the American school system).

Personal objectives. The personal objectives centered around the following themes: the development and clarification of values, the development of a valid self-concept, personal and psychological adjustment.

Summary. We can see from the above examples identified by Dussault that there are a large number of variables within the supervisory conference and that student-teaching connotes a complex reality in which are involved a variety of persons, a variety of experiences, and a variety of network of interactions. Dussault cites many references from both the research literature and non-research literature regarding these variables.

The role of the university supervisor. An analysis by Kunde (1973) of the perceptions held by 30 directors of student-teaching, 60 university supervisors, 73 cooperating teachers and 182 student teachers concerning the role of the university supervisor indicated a lack of a consistent role definition. This was evidenced by the ambiguous nature of the responses and the absence of consensus among the respondents, which also indicated a wide inconsistency within the education profession. Also, the respondents viewed the university supervisors as being significantly different from what they might want them to be. Later, Youstra (1970) conducted a study via a questionnaire to determine if there were any established criteria or job specifications accepted and being used by the administrators of student-teaching programs when selecting university supervisors. He received 102 responses from representatives of institutions of higher education and 32 responses from public school supervising teachers and found there was an absence of established agreed upon criteria or job specifications for the position of university supervisor of student-teaching.

Not withstanding the fact that there is some evidence suggesting a lack of consenual role definition as indicated by the above mentioned studies, let us now identify roles that have been established. The answers to a questionnaire sent by Stringfellow (1973) to 21 teacher education institutions concerning the role of the university supervisor indicated that the university supervisor is an important member of the supervisory team and has major responsibility for the student teacher. Michaelis (1960) summarized the role of the college supervisor in his review of the literature for the period 1931-1957 as including the

following: serve as a liaison person between cooperating schools and the collegiate institution, play a definite part in selecting the cooperating school but not in selecting the cooperating teacher, interview students prior to assignment, assist in placement of students, act as an intermediary between student teacher and cooperating teacher, make three or four scheduled or unscheduled observations during the term, engage in follow-up conferences, take primary responsibility for evaluation of the student teacher with the cooperating teacher included to a significant extent, teach related classes and seminars but not including in-service activities. (p. 1477) Interestingly enough, twenty years later Michaelis' summary could easily characterize the conventional university supervisor of today.

However, Michaelis points out that there has been a change in the function of supervision from the giving of patterns for teaching to one of guiding the growth of student teachers in such a way as to develop individual potentialities and the ability to meet problems creatively. (p. 1477) Michaelis cited the Commission on Teacher Education in 1946 and the Association for Student Teaching in 1956 to support his observation. Approximately a decade later, Neal et al (1967), on the basis of a survey of the personnel and students involved in a student-teaching program, concluded that helping student teachers is a desired role for the university supervisor as opposed to critical evaluation. (pp. 24-27) More recently, Jones (1970) suggested the role of the university or college supervisor is the role of a teacher, or one who guides the learning of the student in teaching. Data collected from a questionnaire administered by Waters (1973) to 285 student

teachers, 362 supervising teachers, 138 principals, and 71 university supervisors revealed that of fifty items designating the ideal role for the university supervisor of student teachers in elementary education, that the ten most desired items were in the domain of counseling.

Another theme that emerges from the literature regarding the role of the university supervisor has to do with the kind of atmosphere the supervisor establishes during the conference. Staderman (1964) recommended that an atmosphere of acceptance and support be established in order to enhance the potentiality for the student teacher to realize self-actualization as he/she makes the transition from student teacher to assuming the role of teacher. Carl Rogers (1967) states in his article "What Psychology Has to Offer to Teacher Education" that one of the contributions which the field of psychology can make to teacher education has to do with the attitudinal climate in which experiential learning takes place. Rogers elaborated upon three attitudes that he theorizes to be essential for any teacher educator: realness, acceptance, and understanding. Morrison (1962) recommends that the supervisor establish and maintain an atmosphere of confidence and permissiveness. Surveys by McConnell (1960) and Edwards (1966) have indicated that the supervisor should establish a sense of security on the part of the student teacher. Edmund and Heminick (1958) found that the student teachers they studied considered most helpful of all supervisory practices the encouragement, interest, understanding, and sympathy manifested toward them by their supervisors. Dussault (1970) noted that many authors recommend that the student teacher be accepted for what he is by the supervisor (pp. 48-49), and others invite the

supervisor to make the student teacher feel wanted as a co-worker and to support and understand the personal and professional needs of the supervisee. (p. 49) A survey by Edwards (1966) also indicated that the supervisor should be able to recognize and relieve the student teacher's tensions, that he should convey the feeling that he is glad to work with the supervisee, and that he should make the student teacher feel that his ideas are respected. After studying the effective and ineffective behaviors of university supervisors, Gibson (1969) concluded that supervisors should establish rapport with the student teacher and assist in the establishment and maintenance of good working relations between the student teacher and members of the school staff, particularly with the cooperating teacher. Human relations was ranked highest (with public relations and liaison close behind) in a survey by Johnson (1975) of the role of the university supervisor as perceived by 28 university supervisors, 112 student teachers, and 116 cooperating teachers. Another study recommended that the liaison role should be the primary function of the university supervisor and only be available for counseling student teachers when the need arises. (Morris, 1972)

However, the tendency is for the student teacher to become highly dependent on his university supervisor during student teaching. To counteract this tendency toward dependence and subordination, Dussault (1970) noted that it has been recommended by many authors that the supervisor help the prospective teacher during student-teaching to move from a role of dependence to a role of initiative and independence. (p. 47) Reed (1964) suggested that the supervisor help the student teacher develop his own teaching style and techniques based on his

personal and professional attributes and steer him from the blind copying of another's techniques. As Wilhelms (1970) noted, our primary purpose must be to help each candidate as much as we can in his personal/professional "becoming". The student teacher needs desperately to learn that he, the unique person, has his own peculiar mix of strengths and qualities; that he does not need to be like any other teacher. (pp. 15-17)

Another function of the university supervisor quite often mentioned in the literature has to do with evaluation. Gibson (1969) suggested the following guides for effective supervision: supervisors should observe often enough to make an objective appraisal of the student teacher's ability; supervisors should select the appropriate time and place to correct or criticize the student teacher; supervisors should provide evaluative feedback on the student teacher's performance. On the other hand, Dussault (1970) noted that numerous authors view the supervisor as a tutor whose major function is to help, but not to criticize the student teacher. (p. 44) Lane (1972) recommended from his study that the supervisor in student-teaching move away from a type of supervision which is largely judgemental to that which instructs and encourages the novice in the ways of self-supervision. Numerous authors suggest that the student teacher should be made responsible for his own evaluation, and it has been recommended that the supervisor during the conference use evaluative techniques to help the student teacher to assume the responsibility for self-evaluation. (Dussault, 1970, pp. 45-46), (Cheesbrough, 1971)

Fields (1973) studied supervisory conferences under two grading

systems for student teachers. Twenty six students were graded using a satisfactory-fail (S-F) system and 27 students were graded using a conventional letter grade system (A-F). The satisfactory-fail system as reported by Fields provided an improved climate for verbal interaction during the conference and promoted increased self-direction and self-evaluation.

There have been a number of comparative studies to determine the effectiveness of the subject area specialist approach to supervision of student teachers versus the generalist approach. One study concluded that student teachers, cooperating teachers, and administrators did not perceive any differences in effectiveness between a generalist's approach as compared to a specialist's approach. (Beaumont, 1973) In a study to determine the role perceptions of the use of generalists versus specialists in the supervision of student teachers, Miller (1973) found both groups think that they are best suited for the role of the university supervisor. However, the study also indicated that the generalists were more involved, visited the student teachers more often, and held more conferences. Another study concluded that a process oriented, generalist supervisor is more useful to both the school district being served and the university being represented than the highly individualized specialist. (Crocker, 1972)

Models of supervision. One supervisory model is connected to the ever growing concept of Teacher Education Centers. Universities and colleges across the country are joining local school districts in order to develop teacher training programs in joint university-school ventures. Collings (1970) described the Teacher Education Center concept as a

unifying approach to teacher education with an emphasis on continous career development. This is exemplified by coordinated programs of both pre-service and in-service experiences, such that both the neophyte and veteran teacher become a student of teaching according to their respective stages of development in teaching. Physically, a Teacher Education Center is usually a cluster of two or three geographically contiguous elementary schools and organizationally it is a partnership between a school system and a teacher preparation institution. The supervisor is jointly selected and assumes the role of coordinator in residence, while serving as a continuous resource to both the staff members of the school and the student teachers. In addition to supervising student teachers directly or indirectly through the cooperating teacher, the supervisor might offer on site methods courses, with the result that the entire center might be thought of as a "clinical classroom". The pre-service program is characterized by both an intensive experience with one cooperating teacher in a single classroom over an extended period of time and extensive experiences in which the student teacher is able to draw on the entire staff of the teaching center for whatever purpose is appropriate at the time. Studies were cited by Collins (1970) which indicated that student teachers in Teacher Education Centers increased their self-perceptions as teachers. Crocker (1972) considered the "center approach" in his study to be superior to the "transient approach" characterized by periodic visits from the university supervisor. Crocker listed the following attributes in support of the "Center Approach": a higher frequency of visits by the supervisor, greater availability of the supervisor, improved communica-

tion among the staff involved in supervising, and reduced travel time for the supervisor. Fisher (1975) evaluated a student-teaching center approach and noted a number of key features; namely, that since there were a larger number of student teachers in the same building, a greater opportunity was present for interaction amoung the student teachers. Student teachers experienced a greater variety of teaching-learning situations, a closer integration of theory with practice in an actual field situation, and more involvement by the cooperating teacher.

Besides providing a greater variety of student-teaching experiences for the pre-service teachers, it is common practice in Teaching Centers for in-service courses to be offered for cooperating teachers in supervisory techniques and curriculum development. Thus, one of the major objectives in Teacher Education Centers is to involve public school personnel in teacher education and to involve university personnel in curriculum development in the schools.

In-service education of the cooperating teacher, particularly in the area of developing supervisory skills, is an indication of a changing emphasis in teacher education. There are numerous references in both the research and non-research literature which address this point. Apparently, it is becoming more of a reality in teacher education programs for a cadre of field personnel, supportive of the university or college and knowledgable of current supervisory practices, to be available to the student teacher. Dixon and Seiferth (1974) observed that, since the conventional university supervisor spends a relatively short time in observing the student teacher in action compared to the

time spent by the cooperating teacher, it seems obligatory that the cooperating teacher be trained in order to make a more constructive contribution on a day to day basis. Cumming (1970) noted that on account of the increasingly busy schedules of university supervisors in teacher education, one trend in student-teaching is to shift the entire burden of supervising the practicing student upon the host classroom teacher. It was theorized by Bebb and Monson (1970) that decentralization of the responsibility for supervision of student-teaching would allow better utilization of the university supervisor's training and time, increase the opportunity for in-service growth and professionalization for the cooperating teachers, and provide more relevant supervision for the student teachers.

Dodds (1975) investigated another model of supervision, "Peer Assessment", and concluded from her study that student teachers can significantly contribute to their own supervision under the contingencies of an applied behavior analysis model.

Self-supervision is another model which is emerging in the literature. According to Dussault (1970) a number of authors have taken the position that the student teacher should be made responsible for his own evaluation. (pp. 45-46) Flanders Interaction Analysis is frequently employed in "self-supervision" models to enable the student teacher to interpret his teaching by measuring the predominant qualities of interaction between the student teacher and his pupils. Carl Rogers (1967), has taken the position that "The most pervaisve learning is that which is self-initiated, involving the whole person of the learner--feelings as well as intellect--and in which the focus

of evaluation of the learning experience rests in the learner." He stated further that ". . . . creativity in learning is best facilitated when self-criticism and self-evaluation are basic, and evaluation by others is of minimal importance." (p. 56) This interpretation by Rogers and others of evaluation is indeed a change from the time when evaluation meant merely a grade or mark received by the student teacher after the student-teaching experience had ended. The use of evaluation as a learning experience is now emphasized. Thus the idea of self-evaluation has placed emphasis on the student teacher's understanding of his own work.

Nisenholz (1972) designed a study to investigate the use of an approach to supervision of student teachers which utilizes as its main focus a type of relationship between student teacher and supervisor which is humanistically oriented. The supervisory strategy employed in this model makes use of Rogerian and Gestalt counseling techniques. Nisenholz defined a humanistically oriented relationship as ". . . . one which is supportive, warm, open, revealing, and honest" (p.2), consistent with what Combs called a "helping relationship". Gestalt counseling techniques were employed "in order to help student teachers become better able to be self-supporting and to take responsibility for their own actions, and to become more aware and expressive of their feelings." (Nisenholz, p.2) The study was designed to determine whether this humanistic approach to supervision would produce measurable differences in the mean percentage of self-reference statements, positive self-reference statements, feeling statements, expressive adjective and verb statements, and self-responsibility statements between an experimental

and control group as measured in their written journals. The results obtained indicated a significant difference in all of the above categories except the first one, which would seem to indicate that the humanistic approach utilized was successful.

Bebb et. al. (1969) view the supervisory conference as a form of individualized teaching. As they put it, "In essence, the conference is a teaching-learning situation which provides a highly useful form of individualized instruction." (p. 6) In this regard, they have developed a manual for supervising teachers and others involved with the professional growth of students during their professional laboratory experience with guidelines and materials for exploring the means by which supervisors may use the conference to guide students in studying their own teaching behavior. In the discharge of this function, Lindsey and Heidelback (1969) noted that,

> . . . . the supervisor creates the conditions that promise to help each student progress successfully from where he is to what he may reasonably be expected to become as a teacher and helps him to make maximum use of the conditions. He functions in this regard precisely as any teacher functions. In every sense, the supervisor in the laboratory is a teacher and his central activity as a teacher educator is teaching the future teacher about teaching. (p. 31)

As Lindsey (1969) put it, "Supervisory teaching can be studied systematically and eventually knowledge can be accumulated that will enable predicting relationships between supervisory behavior and student learning in the laboratory." (p. 28) To this end, Lindsey (1969) and her associates, developed a monograph in which a number of doctoral studies are reported as beginning steps toward describing supervisory behavior by means of systematic study. Essentially, the studies were designed to demonstrate selected ways in which supervisors might

examine their own behaviors as they teach prospective teachers about teaching. The least effect of such a study would surely be a new awareness by the supervisor of his behavior, and sensitivity to behavior is a prerequisite to taking steps to improve it.

Another supervisory model gaining in usage in teacher education in both pre-service and in-service programs is entitled "Clinical Supervision". Goldhammer (1969), a principal proponent of clinical supervision, noted that the word "clinical" poses difficulties for many people and seems to carry all sorts of connotations that are either irrelevant or opposed to the intended meaning. Clinical supervision is not an analogue of medical treatment or hospital psychiatry and does not presuppose pathological conditions at all. (p. 53) Goldhammer invited educators to conceptualize "clinical" supervision as

> . . . . an image of face-to-face relationships between supervisors and teachers. . . . What the teacher does is central in clinical supervision, of which one hallmark is that the supervisor is an observer in the classroom and that the observation data he collects represent the principal foci of subsequent analysis. (p. 54)

Cogan (1973), another major contributor to the concept of clinical supervision, noted that the central frame of reference in ". . . . clinical supervision is conceptualized insofar as possible from within the teacher's viewpoint. That is, it is principally shaped to be congruent with the teacher's universe, with his internal landscape, rather than with that of the supervisor." (p. xii) He states further that,

> . . . . clinical supervision is focused upon the improvement of the teacher's classroom instruction. The principal data of clinical supervision include records of classroom events: what the teacher and students do in the classroom during the teaching-learning process. These data are supplemented by information about the teacher's and student's perceptions,

> beliefs, attitudes, and knowledge relevant to the instruction . . . . The analysis of these data and the relationship between teacher and supervisor form the basis of the program, procedures, and strategies designed to improve the students' learning by improving the teacher's classroom behavior. (p. 9)

Goldhammer has developed a model of clinical supervision consisting of five stages which he refers to collectively as the "sequence of supervision". Additionally, he calls the collection of such sequences the"cycle of supervision". The five stages are as follows:

Stage 1: Pre-observation Conference
Stage 2: Observation
Stage 3: Analysis and Strategy
Stage 4: Supervision Conference
Stage 5: Post-conference Analysis

The pre-observation conference is mainly intended to provide a mental framework for the supervisory sequence to follow and to set a "contract" in which the supervisor and supervisee reach explicit agreements about reasons for supervision to occur in the immediate situation and about how supervision should operate.

In stage 2 the supervisor observes the supervisee in a teaching situation to see what is happening and how to capture the realities of the lesson so that he can talk about the lesson with the supervisee afterwards.

Stage 3 is intended for two general purposes: first, in Analysis, to make sense out of the observational data, to make them intelligable and manageable; and second, in Strategy, to plan the management of the supervision conference to follow.

Stage 4 is the conference and is intended to give the supervisee the opportunity to deal aggressively with the supervisor's analysis of

his teaching and to initiate his own problems of analysis; in short, to take control of his own destiny and to make explicit decisions about his own behavior.

In essence, the postmortem serves as the clinical supervision's superego, its conscience. It is a time when the supervisor's practice is examined for basically the same purposes that the supervisee's professional behavior was analyzed theretofore.

A more complete summary of Goldhammer's five stages of clinical supervision may be found in appendix A. The author will indicate in chapter IV how Goldhammer's five stages were incorporated into this study on the supervision of student teachers.

Supervisory feedback systems. Peck and Tucker (1973), in their extensive review of the literature indicate that there are a number of empirical studies which test the proposition that feedback to teachers about their style of performance and about the effects on pupils will tend to increase their mastery of teaching skills. (pp. 945-947) Several of those studies are discussed below.

Mac Graw found that feedback based on 35mm time-lapse photography could be effective in changing the behavior of student teachers in contrast to another group which did not receive such feedback.

Heinrich and McKeegan compared the effects of immediate and delayed feedback in modifying student teaching behavior. The experimental treatment was immediate and consisted of having a supervisor raise color coded cards each time the student teacher showed a desirable or undesirable kind of teaching behavior. The control group received feedback by the supervisor after the classroom teaching session was

completed. Both groups reduced the discrepancy between the teacher's beliefs about how they were acting and how they were observed to act with a greater reduction in the immediate feedback group.

Several studies show that solitary self-confrontation by the student with feedback information from both the tape recordings and videotapes is ineffectual, or much less effectual, than when a second person participates in the feedback process. Apparently, simply looking at one's own performance does not lead to much new insight into what one is doing, or else it does not provide adequate motivation to alter that pattern. Peck and Tucker concluded from their review of the literature that the presence of another human being adds a potent factor which does induce positive change (when that influence is beneficially exercised) and suggest there is a need for further research to determine exactly how and why this human influence is essential to the feedback process if positive change is to occur.

Interaction analysis as a training device. Peck and Tucker (1973) noted Flanders' review of a large body of research which demonstrated that most classrooms are overwhelmingly dominated by teacher talk, with most of the remaining time taken up by brief, rote answers to teacher questions. In an effort to help teachers offer alternatives to this pattern of teacher behavior, Flanders developed an Interaction System which is a concise set of dimensions for describing the way a teacher interacts with his class. Its intent is to get teachers to maximize the frequency with which they foster more self-starting, self-directed, actively inquiring patterns of learning behavior in their pupils. The system helps the teacher achieve this objective by

adopting more "indirect" methods of reacting to pupils: more questioning and less lecturing, more positive reinforcement for pupils' responses versus negative or critical comments. Peck and Tucker (1973) cite numerous studies which directly test the proposition that using the Flanders Systems for recording teaching behavior and feeding it back to teachers will get them to engage in more and more "indirect" behavior toward their students. (pp. 947-951) They listed one study by Amidon which reported the results of a two-and-one-half year study of this question. The results showed that student teachers who were taught interaction analysis were significantly more "indirect" at the end of their student-teaching experience on nearly all of the 20 indices than were student teachers who were not taught the system. Other studies came essentially to the same conclusion: namely, that interaction-trained teachers were more indirect and used significantly more praise and encouragement, more acceptance and clarification of student ideas, fewer directions, less criticism, and less justification of authority. Furthermore, their pupils talked more, integrated their ideas into discussions more freely, and talked for longer intervals.

Peck and Tucker concluded from their review that almost all of these studies demonstrated that when teachers actually try to elicit more independent thinking in their pupils, they get it; and that the teacher has to act in ways that specifically allow and encourage such pupil initiative, or it does not occur to any great extent.

The Berkeley Interaction Analysis System (BIAS) modifies the Flanders system by broadening several categories into sub-categories. In a study on the effects of supervisory feedback using the BIAS system

on the verbal behavior of elementary student teachers, Traill (1970) found that feedback which utilizies the BIAS system lead to significant differences in the use of certain verbal teaching behaviors. It was also evident that where student teachers are given more details of information on various levels of a particular teaching behavior from the BIAS system, they are able to lift the level of their teaching from lower to higher levels of behavior. The study also revealed that, through the use of a procedure such as the BIAS, supervisors of student teachers are presented with many more opportunities to become clinical analysts of the teaching-learning process than they are accorded by more traditional methods of supervision.

Dussault (1970) points out that very few studies have dealt formally with the behavior of the supervisors during the supervisory conference. (pp. 51-52) However, he cites one study by Brown and Hoffman, who have developed a system of categories for analyzing and describing the verbal behavior of university supervisors and student teachers during the feedback conference. Another study by Heidelbach developed a system of categories for analyzing and describing the supervisory behavior of the cooperating teacher.

The Arthur Blumberg (1974), Blumberg Interaction Analysis System is another method of verbal interaction analysis which focuses on supervisory verbal behavior. The system provides data in a total of fifteen categories: ten for supervisor behavior, four for student teacher behavior, and one for silence or confusion.

Wulff (1971) used a modification of the Blumberg System to determine if supervisors who engage in systematic analysis of their

verbal behavior when conferring with student teachers modify their verbal behavior in subsequent conferences in ways different from supervisors who do not engage in systematic analysis. He found that those supervisors who were trained in analysis of verbal interaction differed significantly from those who were not trained in the following supervisor verbal behaviors: used more acceptance, clarification, or building on and developing the ideas suggested by student teachers; gave less information; used less extended talk on the information-giving and asking-level; became more indirect in supervisory style; asked for more opinions.

Micro-teaching. Allen and Ryan (1969) describe micro-teaching as a training concept that can be applied at various pre-service and in-service stages in the professional development of teachers. It provides teachers with a practice setting for instruction in which the normal complexities of the classroom are reduced (the length of the lesson, the scope of the lesson, the number of students) and in which the teacher receives a great deal of feedback on his performance. The feedback is given immediately after the brief micro-lesson is taught and may be enhanced by the use of videotape playback. This feedback can then be translated into practice when the trainee reteaches the lesson shortly after the critique conference.

Peck and Tucker (1973) noted that micro-teaching has generated a more persistent, cumulative body of research than is available in most other systems. They cite numerous studies testifying to the utility of micro-teaching. (pp. 951-954) They cite studies by Allen (1969) and others that showed when students are trained in micro-teaching

they perform at higher levels of teaching competence and significantly improve specific skills of teaching.

Summary

In this chapter the author has presented the results of his review of the literature regarding the supervision of student teachers. From this review, the author suggests that the following themes emerge as being compatible with an individualized, systemic approach to supervision:

1. The supervisory conference is a teaching-learning situation and that supervision is a form of teaching.

2. A great number of variables or inputs into the supervisory conference may affect the outcomes of the conference.

3. Student-teaching connotes a complex reality in which are involved a variety of persons, a variety of experiences, and a variety of network interactions.

4. There has been a change in the function of supervision from the giving of patterns for teaching to one of guiding the growth of student teachers in such a way as to develop their own individual potentialities, their own teaching style based on personal and professional attributes.

5. The supervisor should move away from a type of supervision which is largely evaluative and judgemental and move toward a more non-evaluative, non-normative approach, which instructs and encourages the student teacher in methods of self-supervision.

6. A process oriented generalist is more useful to the student

teacher than the highly individualized specialist.

7. There are feedback systems which have emerged in the past decade which may provide the student teacher objective feedback on his or her teaching.

CHAPTER III

THEORETICAL CONSTRUCTS FOR AN INDIVIDUALIZED, SYSTEMIC APPROACH TO SUPERVISING STUDENT TEACHERS

The present chapter identifies theoretical constructs from systems theory and related theoretical constructs from humanistic psychology and cognitive developmental theories based on the work of Jean Piaget. These constructs serve as the foundation for developing an individualized, systemic approach to supervising student teachers.

The thrust of the present chapter is to indicate first, how systems theory informs our thinking in general about educational problems and issues, and second, how systems theory relates to the process of supervising student teachers in particular. Additionally, the relationship between systems theory and humanistic psychology, as well as cognitive developmental theories after Piaget will be indicated.

Historical Development of the System-Theoretic Point of View

In this section the author will briefly trace the historical development of the system-theoretic point of view, on the assumption that sometimes it is reassuring to look backwards in order to establish continuity to evaluate, understand and appreciate intellectual trends. This knowledge will serve as background information to demonstrate how the system-theoretic point of view came to influence educational theory and practice.

Anatol Rapoport (1966), Editor of the General Systems Yearbook, observed that "The system-theoretic point of view received its impetus from two sources: first, a realization of the inadequacy of 'mechanism' as a universal model; second, a tendency to counteract the fractionation of science into mutually isolated specialities." (p. 3)

To comprehend how the first source (namely, the realization of the inadequacy of "mechanism" as a universal model) served as an impetus for the system-theoretic point of view, it is necessary to refer back to the seventeenth century and examine the concept of "mechanism" and its relationship to the field of science.

The idea of mechanism emerged in the seventeenth century as a central principle of interpretation of the universe. Mechanism operated on the assumption that the universe is perfectly mechanical or machinelike, implying not only that it is governed by law, but that we can explain everything about it by the laws of the science of mechanics (or any similarly limited number of physical principles or laws). Thus, mechanism attempted to explain everything in terms of material events based on the general discoveries and theories of modern physical science and assumed that a purely mechanistic account could be given of everything we know. (The phenomenal success of classical physics, which was nurtured on the mechanistic view, attests to the fruitfulness of this approach.)

For example, the mechanical model was applied to man and society. As Walter Buckley noted in his book, Sociology and Modern Systems Theory,

> With the rapid advance of physics, mechanics, and mathematics in the seventeenth century men turned to an interpretation of man, his mind, and society in terms of the same methods, concepts and assumptions, partly in rejection of the less palatable

> telelogy, vitalism, mysticism, and anthropomorphism of other views. Thus, the "Social Physics" of the seventeenth century arose whereby man was regarded as a physical object, a kind of elaborate machine, whose actions and psychic processes could be analyzed in terms of the principles of mechanics. . . . Man, his groups, and their inter-relations thus constituted an unbroken continuity with the rest of the mechanistically interpreted universe. (p. 8)

Rapoport (1966) noted that, ". . . , the success of mathematical methods made the physicists supremely confident in the power of these methods and led to the creation of mathematical physics, which to this day remains the model of completely rigorous science." (p. 4)

However, the analytic method of physical science at present seems to reach just so far. For example, attempts to extend the analytic method to the study of living processes have been only partially successful. One view on why this is so--variously called mechanism, physicalism, or reductionism--takes the position that the difficulty lies not in an irreducible difference between physical and biological laws, but only in the tremendous complexity of living processes. The reductionists assume that if we knew enough about how living things were put together, we could apply the analytic method and write down the mathematical equations that govern their behavior. To be sure, links have been established between life processes and those of physics and chemistry; and, indeed, inroads of physical science methods into biology are being constantly broadened. We know, of course, that living organisms are physical objects and that, when these objects are involved in physical events, they are subject to physical laws. In fact, we can apply our knowledge of physical principles to explain some manifestation of the life process like the flight of birds. But explaining how a bird is able to fly by invoking the principles of physics does

not explain why a bird takes off in the first place. "Biological processes are simply too complex to yield to the analytic method. . . . [and] When we turn to attempts to subject human behavior to scientific analysis, the problem becomes even more severe." (Rapoport, 1968, p. xvii)

Awareness of the limitations of the doctrine of mechanism and its inherent analytic method emphasized the necessity of re-organizing or extending the conceptual repertoire of science. In this regard, a critique of the mechanistic method of analysis was voiced in the 1920's by Alfred North Whitehead in his book, Science and the Modern World. A principal thesis in his book is the warning that the "intellectual capital" accumulated in the seventeenth century (i.e., the mechanistic method of analysis) on which the then contemporary science was based was becoming depleted. The implication was that unless a new source of ideas was tapped, science would face a dead end. Whitehead suggested the concept of "organism", hitherto neglected in physical science, might be a source of new ideas.

Additionally, Rapoport (1968) noted that

> . . . understanding cannot be extended beyond the scope of physical science without introducing concepts which embody irreducible wholes in place of physically measurable variables. [for example] The concept of organism is indispensable in biology; the concept of the individual in psychology; the concepts of the institution and social class in sociology; the concept of a nation in contemporary political science; the concept of a culture in anthropology." (p. xvii)

Rapoport (1966) points out that,

> The mechanistic method. . . . seek[s] to explain the working of a whole in terms of the working of its parts. . . . in a broader sense the mechanistic outlook is an extension of the Laplacian idea that the universe (or any portion of the universe singled out by our attention) can be explained

> if the laws governing its constituent atomic units are known. Roughly speaking, it is a view which holds the whole to be the sum of its parts. The often cited negation of this view, "The whole is greater than the sum of its parts," should be regarded not as a denial of a well known tautology but rather as an expression of the inadequacy of the mechanistic view. (p. 4)

Rapoport (1968) goes on to comment that,

> A whole which functions as a whole by virtue of the interdependence of its parts is called a system, and the method which aims at discovering how this is brought about in the widest variety of systems has been called general system theory. General system theory seeks to classify systems by the way their components are organized (interrelated) and to derive the "laws", or typical patterns of behavior, for the different classes of systems singled out by taxonomy. (p. xvii)

This paper is concerned with a special class of systems (namely, concrete, open, learning systems, which will be discussed in a later section).

Ludwig von Bertalanffy (1972), one of the principal founders of the "Society for General Systems Research", observed that,

> The notion of "system" has gained central importance in contemporary science, society and life. In many fields of endeavour, the necessity of a "systems approach" or "systems thinking" is emphasized, new professions called "system engineering", "systems analysis", and the like have come into being, and there can be little doubt that this concept marks a genuine, necessary, and consequential development in science and world view. (p. xvii)

In this regard, Ervin Laszlo (1972) noted in his book, The Systems View of the World, that,

> "System sciences" are springing up everywhere, as contemporary scientists are discovering organized wholes in many realms of investigation. Systems theories are applied in almost all of the natural and social sciences today, and they are coming to the forefront of the human sciences as well. . . . These new sciences, which are at the forefront of contemporary scientific inquiry, adopt a flexible method. The systems approach does not restrict the scientist to one set of relationships as his object of investigation; he can switch levels, corresponding to his shifts in research interest. A systems

> science can look at a cell or an atom as a system, or it can look at the organ, the organism, the family, the community, the nation, the economy, and the ecology as systems, and it can view even the biosphere as such. A system in one perspective is a subsystem in another. But the systems view always treats systems as integrated wholes of their subsidiary components and never as the mechanistic aggregate of parts in isolable causal relations. (pp. 14-15)

Laszlo concluded that, "The systems view is the emerging contemporary view of organized complexity, one step beyond the Newtonian view of organized simplicity, and two steps beyond the classical world views of divinely ordered or imaginatively envisaged complexity." (p. 15)

Reductionism in contemporary teacher education. We have examined the doctrines of mechanism and reductionism and the influence they have had, notably in the fields of science. With this as background information, let us now focus our attention on the impact the doctrines of mechanism and reductionism have had in the field of education in general and teacher education in particular.

Russell L. Ackoff, Professor of Systems Science at the University of Pennsylvania, cites education in his book, Redesigning the Future - A Systems Approach to Societal Problems, as one of a number of major crises that confront us as we change from the so called "Machine Age" to the emerging new era, what Ackoff termed the "Systems Age". For example, Ackoff views present day education as a Machine Age product of mechanistic, reductionistic, analytical thinking. "Most of our schools", noted Ackoff (1974), "are industrialized disseminators of information and instruction using materials and methods that were appropriate when students--like factory workers--were thought of in machine-like terms, particularly as black boxes whose output would hopefully exactly match what was put into them." (p. 74)

Ackoff goes on to comment that,

> Today's school is modeled after a factory. The incoming student is treated like raw material coming onto a production line that converts him into a finished product. Each step in the process is planned and scheduled, ... Few concessions are made to the animated state of the material thus processed; . . . . The material worked on varies widely in quality but the treatment is uniform. (pp. 74-75)

Ackoff's criticism of Machine Age education has provided us one view of the influence reductionism and mechanism have had in the field of education. Let us now narrow our scope and examine more specifically the role mechanistic, reductionistic thinking has had in the area of teacher education.

Competency-Based Teacher Education. Arising with considerable momentum throughout the domain of teacher education is a movement that is designated alternatively as "competency-based" or as "performance-based" teacher education; a movement which the author contends is consonant with reductionistic, mechanistic thinking.

Houston and Howsam (1972) noted that,

> Two characteristics are essential to the concept of competency-based instruction. First, precise learning objectives--defined in behavioral and assessable terms--must be known to learner and teacher alike.
>
> The second essential characteristic is accountability. The learner knows that he is expected to demonstrate the specified competencies to the required level and in the agree-upon manner. He accepts responsibility and expects to be held accountable for meeting the established criteria." (p. 4)

These characteristics of identifying precise learning objective--defined in behavioral and assessable terms--are at the heart of competency-based teacher education programs. "Insofar as the knowledge, behaviors, and skills can be identified," noted Houston and Howsam (1972) "they thus become the competency objectives for the teacher education

program. The criteria for performance are devised from these objectives." (p. 6)

One question concerning identifying competency objectives is whether or not it is possibe to look at the art of teaching and specifically identify the knowledge, behaviors, and skills necessary for preparing professionally competent teachers. This attempt to reduce the teaching act into parts in order to understand the whole epitomizes the reductionist thesis; a thesis which assumes that the understanding of the whole (act of teaching) comes about by adding up the sum of its parts (knowledge, behavior, skills).

In contrast, a systemic approach would assume with Greenebaum (1972, p. 1) the Aristotelian dictum that the whole is greater than the sum of the parts, and add to this that behavior of the whole is a function both of its parts and of the relationship among its parts. Concurrently, this view assumes the existence of an appropriate level of generality which permits a non-reductionsist analysis of complex phenomena.

The movement toward performance objectives can be contrasted in another way to the assumptions underlying a general systems viewpoint. As Greenebaum (1972) has pointed out,

> It can be argued that the more precisely desired outputs are specified, the more the student will perform as an adjusting system, [a system which has the capacity to adjust its output to predetermined environmental parameters] and the less likely his performance will result from learning. Put another way, the more specific the conditions under which specified behavior is to take place, the more likely that the behavior will occur only when those specified conditions are present. (pp. 22-23)

The reader might infer from the above quote that in a systems approach objectives are not valued. However, as Greenebaum (1972) noted,

> The issue is not one of objectives, which have great value, but rather one of the relationship between behavior and learning. The familiar phenomenon of children who have "mastered" their performance objectives but do not know what they have learned is a manifestation of this problem. (p. 23)

Houston and Jones (1974) have noted that proponents of Competency-Based Teacher Education programs recognize the danger of fragmenting the teaching act into small incremental parts and identifying specific competency objectives assumed to be related to those parts. However, they argue

> . . . . that it is only through this view of the teaching act as being made of smaller parts that professionals can focus on their own personal growth. In most existing CBTE efforts students are expected to put it all together prior to certification and to continue growing during their careers. (p. 28)

The author argues that expecting students to "put it all together" prior to certification is indicative of the reductionist thesis that by adding up the parts the student will understand the whole. However, given the alternative assumptions that the whole is greater than the sum of its parts and that the behavior of the whole is not only a function of its parts but also a function of the relationships among its parts, this "adding up" will not take place.

Additionally, asking students to "put it all together" prior to certification not only assumes that such an act is possible, but also that a terminal points exists in the process of becoming a teacher at which time the prospective teacher no longer needs to be a student of the art of teaching. A systems approach, in contrast, assumes that becoming a teacher is a dynamic-open process--a process in which the teacher continuously alters his or her perceptions about the teaching-learning process through interactions with the environment. Thus, a

teacher may spend a "life time" in the process of "becoming". The author argues that we need to view pre-service and in-service education not as separate entities, but realize that they are part of a continuous process.

Systems Age Education. In the previous section, the author attempted to show that our current system of education is a Machine Age product of reductionistic, mechanistic, analytical thinking. Let us now foucus our attention on the historical evolution of a conceptualized alternative to Machine Age education.

Ackoff (1974) recommends that education be redesigned in broad interactive terms from a systems point of view. He goes on to comment that, "We need a system that is a product of expansionistic, synthetic, and teleological thinking." (p. 74)

In this regard, Ackoff noted that,

> Expansionism is a doctrine that manitains that all objects, events, and experiences of them are parts of larger wholes. It does not deny that they have parts but it focuses on the wholes of which they are part. Expansionism is another way of viewing things, a way that is different from, but compatible with, reductionism. It turns attention from ultimate elements to wholes with inter-related parts, to systems. . . .
>
> . . . A system is more than the sum of its parts.
>
> Viewed structurally, a system is a divisible whole; but viewed functionally it is an indivisible whole in the sense that some of its essential properties are lost when it is taken apart.
>
> In the Systems Age we tend to look at things as part of larger wholes rather than as wholes to be taken apart. This is the doctrine of expansionism. (pp. 12-14)

It is easy to see that expansionism brings with it the synthetic mode of thought much as reductionism brought with it the analytic mode. Thus, expansionism is another way of viewing things, a way that is different from (but not incompatible with) reductionism. As Ackoff

points out, "Neither way of thinking negates the value of the other, but by synthetic thinking we can gain an understanding of individual and collective human behavior that cannot be obtained by analysis alone." (p. 14)

The third component that Ackoff mentioned in his recommendation is teleological thinking; a thinking based on teleology--the study of goal-seeking and purposeful behavior. Ackoff noted that, "Because the Systems Age is teleologically oriented, it is preoccupied with systems that are purposeful; that is, with systems that can display choice of both means and ends." (p. 18)

Ackoff recommended that education based on expansionistic, synthetic, and teleological thinking, which he referred to as System Age Education, should do the following:

> . . . Systems Age education should focus on the learning process, not the teaching process.
>
> . . . teaching is at most an input to the learning process, not an output. Nevertheless, our current educational system operates as though an ounce of teaching produces an ounce of learning. . . .
>
> . . . Systems Age education should not be organized around rigidly scheduled quantatized units of classified subject matter, but rather around the development of the desire to learn and the ability to satisfy this desire.
>
> It is widely recognized that we learn well what we want to learn and learn poorly what we do not. . . . When students want to learn something . . . they will learn it.
>
> . . . Systems Age education should individualize students and preserve their uniqueness by tailoring itself to fit them, not by requiring them to fit it.
>
> . . . the same input to each student will not, and does not, produce the same output.
>
> . . . Systems Age education should be organized as a continuing, if not a continuous, process.
>
> Learning is not restricted to part of one's life. . . .
>
> . . . Systems Age education should be carried out by educational systems that can and do learn and adapt. (pp 77-79)

It is clear from the above that Ackoff views the most important

product of education to be the learning process itself--a view the author shares. It is also clear that Ackoff values choice for the learner very highly and feels that is should be maximized both in what is learned and how material is learned.

When Ackoff refers to learning as an individual process, he has much support from both the past and the present. Historical examples of this viewpoint include such educational giants as Jean-Jacques Rousseau, an eighteenth century French philosopher who published Emile in 1762 (in which he prescribes an ideal education for one imaginary French boy to illustrate his general philosophy, namely, that education should be completely natural and spontaneous in contrast to conventional formal learning). Heinrich Pestalozzi, an eighteenth century Swiss educator, supported Rousseau's contention that a true education is the outcome of personal experience. Friedrich Froebel, considered to be the German counterpart of Rousseau and Pestalozzi, viewed education as a process of "unfoldment". John Dewey (1938) described tradition education as the transmission of bodies of information, skills, standards, and rules of conduct that had been worked out in the past; and offered, on the other hand, progressive education which stressed learning not through teacher-led instruction but through personal experience.

Contemporary educators who in many ways may be considered congruent with Ackoff's views of Systems Age education, include proponents of the free school movement such as: A. S. Neill (1960), George Dennison (1969), John Holt (1964), and Herbert Kohl (1967). Essentially their discussions present free or progressive education as an alternative to controlled or traditional education and base many of their arguments on

Dewey's earlier writings.

Open education may serve as an alternative between the extremes of control in the traditional classroom and freedom in the free school classroom. Open education emphasizes the individual in agreement with Ackoff and others and provides both the teacher and the child the opportunity to make decisions about the content the child will learn and the process whereby the child will learn it. Some examples of contemporary proponents, who also may be considered supporters of Ackoff, include the following: Anne M. Bussis and Edward A. Chittenden (1970), Casey and Liza Murrow (1971), Lillian Weber (1971), Herbert J. Walberg and Susan Christie Thomas (1972), and Charles E. Silberman (1973).

Since Open Education would claim the work of Jean Piaget, Swiss born zoologist, epistemologist and philosopher, as their psychological foundation, it follows that Systems Age education has another supporter in Piaget. Piaget's theories on the intellectual development of children are having a wide-ranging impact on current educational practices. He places emphasis on the need for the child to develop his or her own conception of the world. "A first principle drawn from Piaget's theory," noted Constance Kamii (1973), "is the view that learning has to be an an active process, beacause knowledge is a construction from within." (p. 199) Eleanor Duckworth (1964) emphasized this point when she stated,

> As far as education is concerned, the chief outcome of this theory of intellectual development is a plea that children be allowed to do their own learning. . . . Good pedagogy must involve presenting the child with situations in which he himself experiments, in the broadest sense of the term--trying things out to see what happens, manipulating symbols, posing questions and seeking his own answers, reconciling what he finds one time with what he finds at another, and comparing his findings with those of other children. (pp. 172-173)

We can see from the above that Systems Age education as presented by Ackoff is quite compatible with Piagetian thinking.

One other area congruent with Systems Age education's emphasis on the individual is the area of humanistic psychology. This movement in American psychology is also referred to as Third Force psychology, the perceptual view, holistic-dynamic psychology, organismic psychology, or self-psychology. Prominent proponents of humanistic psychology include Abraham H. Maslow (1971), Arthur Combs (1965), and Carl Rogers (1969). Maslow is considered the founder of humanistic psychology or Psychology's "Third Force" (Behaviorism and Freudian psychoanalysis being the First and Second). Maslow developed a number of concepts including the notion of "self-actualization"--the concept that within each individual there is an inner nature which, if unhampered, will allow each person to become the best that he can become. The author's interest in helping student teachers discover their teaching selves is quite compatible with the concept of self-actualization.

Arthur Combs developed the perceptual view of behavior. The perceptual view sees man as a growing, dynamic, creative being--a purposive agent engaged in a never ending business of becoming. "The perceptual view leads to methods of dealing with people which recognize the internal character of perception and seek to affect behavior through processes of facilitation, helping, assisting, or aiding the normal growth strivings of the organism itself." (Combs and Snygg, 1959, p. 312)

Carl Rogers extended his psychotherapy technique of non-directive, or client-centered, therapy to the role of the teacher in his book, Freedom to Learn. Rogers believes that the learner has his or her own

internal motivating force; thus, the individual requires only an accepting and trusting atmosphere for innate potentialities to develop. If the teacher trusts the learner's capacity to develop his or her own potential, the teacher can aid the learner's development by providing the student with a variety of learning opportunities, thereby encouraging the learner to evolve his or her own learning style.

Concrete, open, learning systems. In the previous section, the author attempted to show how systems thinking allows us to conceptualize an alternative to Machine Age education, thereby providing educators a different set of cognitive tools to apply in their respective educational situations. In this section, the author will identify specific theoretical constructs from systems theory and relate these constructs to the process of supervision of student teachers.

"The term system has a number of meanings," noted James G. Miller (1975), past president of The Society for General Systems Research. Miller (1975) stated,

> There are systems of numbers and of equations, systems of value and of thought, systems of law, solar systems, organic systems, management systems, command and control systems, electronic systems, even the Union Pacific Railroad system. The meanings of "system" are often confused. The most general, however, is: A system is a set of interacting units with relationships among them. The word "set" implies that the units have some common properties, which is essential if they are to interact or have relationships. The state of each unit is constrained by, conditioned by, or dependent on the state of other units. (p. 4)

Similarly, Rapoport (1968), defined a system, in a previous section as "A whole which functions as a whole by virtue of the interdependence of its parts. . . ." (p. xvii)

If we view the student teacher as representative of a system

with a set of interacting units or parts, then examples of those interacting parts would include the following: the student teacher's background, personality, perceptions, prior experiences, current life situation, as well as his or her height, weight, etc. As Greenebaum (1972) pointed out, "There is no end to the list of attributes that people can have. Not all of them, of course, will be of interest to the observer. . . . Some of them will, however, and those that do are parts of the system." (p. 31)

This paper concerns itself with a special class of systems; specifically, those systems classified as concrete, open, learning systems. Examples of such systems related to this study include student teachers, university supervisors, cooperating teachers, and school children.

Miller (1975) defined a concrete system as follows: "A concrete system is a nonrandom accumulation of matter-energy, in a region in physical space-time, which is organized into interacting interrelated subsystems or components." (p. 4)

Greenebaum (1972) points out that,

> The tests of a concrete system are two-fold:
>
> 1) The system and its components consist of matter-energy and occupy physical space;
> 2) The system and its components change over time. (p. 7)

Student teachers are examples of systems which meet the tests for concrete systems. This study recognizes student teachers as one example of concrete systems and attempts to "build on" those changes which take place over a period of time (especially during the tenure of the supervised student-teaching experience).

Concrete systems are classified in accordance with their capacity to adapt to a changing environment.

> A concrete system with impermeable boundaries through which no matter-energy or information transmissions of any sort can occur is a closed system. No actual concrete system is completely closed, so concrete systems are either relatively open or relatively closed. (Miller, 1975, p. 5)

Our interest is with open systems which are involved with transactions with their environment.

> The transactions between a system and its environment consist of exchanges of matter, energy, and information. When entering the system, these are called inputs; when leaving the system, they are called outputs. . . . open systems depend upon inputs and outputs in order to maintain themselves. . . . [Therefore] open systems maintain themselves through transactions with their environments. (Greenebaum, 1972, pp. 45-46)

Student teachers are examples of concrete, open systems.

Open systems are classified in accordance with their ability to maintain themselves in changing environments. Greenebaum defines concrete open systems which have the capacity to adjust their outputs to predetermined environmental parameters as adjusting systems. The classic example is the thermostatically controlled heating and cooling system found in our dwellings. Adjusting systems are programmed by their environments.

The class of concrete open systems that we are interested in, in this study, are designated learning systems. Greenebaum (1972) characterized learning systems as follows:

> . . . [Learning systems] can exist in environments which cannot be either entirely predictable nor entirely contolled . . . . Learning systems have the capacity to adapt their behavior to new and continually changing environmental circumstances. While adjusting systems can vary their outputs, learning systems can change their internal organization as well. While adjusting systems require small deviations in order to prevent large deviations from desired parameter values,

> learning systems may amplify deviation. While adjusting systems maintain a pre-determined level of organization, learning systems tend towards elaborated structures and higher levels of organization. While adjusting systems are deterministic, learning systems are probabilistic. (p. 52)

The concrete, open, learning system that we are looking steadily at in this study is the student teacher, with the university supervisor, cooperating teacher, and classroom of children as the environment in which the student teacher operates.

Learning systems and Piaget. When Greenebaum characterizes a learning system as having the capacity to adapt its behavior to new and continually changing environmental circumstances and as a system which tends toward elaborated structures and higher levels of organizations, this characterization of a learning system is consistent with cognitive developmental theories after Piaget. The Piagetian concept of mind and knowledge is described from a "transactional" point of view. Mind functions as an expression of interaction between the individual and his world. According to Piaget (1964),

> To know an object, to know an event, is not simply to look at it and make a mental copy, or image, of it. To know an object is to act on it. To know is to modify, to transform the object, and to understand the process of this transformation, and as a consequence to understand the way the object is constructed. (p. 8)

This process of the mind Piaget terms an "operation". "An operation is thus the essence of knowledge; it is an interiorized action which modifies the object of knowledge, . . . a particular type of action which makes up logical structures." (1964, p. 8) Thus, an operation's essential quality is that of interiorized construction of reality--hence, of reconstruction. Piagetian epistemology poists the existence of logical structures to describe general forms of operational

intelligence, or knowledge. "Above all," noted Piaget (1964), "an operation is never isolated. It is always linked to other operations, and as a result, it is always a part of a total structure." (p. 8)

Structural change: assimilation and accommodation. In cognitive-developmental theory, mental structures change because the nature of the process of thinking is such that while thinking acts to modify the object of thought, its own scheme of reference--its way of processing the object--can be altered too. Piaget (1967) describes "this fundamental interaction between internal and external factors" as "an assimilation of reality to prior schemata. . . [and] at the same time an accommodation of these schemata to the actual situation." (p. 103) Charles (1974) noted that, Piaget's concept of "adaptation" is related to assimilation and accommodation.

> Adaptation is the continuing change that occurs in an individual as a result of his interaction with the environment. It occurs as he assimilates experiences--fits them into his existing mental structures--and accommodates (modifies) mental structures to permit the inclusion of experiences that do not fit into existing structures. (p. 2)

Thus, accommodation to new situations leads to the reconstruction of a previous schemata, or structure, and hence to the emergence of new structures.

Development occurs, according to Piaget, as a continuous seeking of equilibrium between individual mind and outer reality. Equilibration is a key idea in Piaget's theory of cognitive development and is defined by Charles (1974) in his book Teacher's Petit Piaget, as "the process of bringing maturation, experience, and socialization together so as to build and rebuild mental structures." (p. 2) The design model of this study recognizes the student teacher from a systems perspective as a

concrete, open, learning system and from a Piagetian perspective as a learner in the process of equilibration. Of course, both perspectives are compatible with each other and the supervisory strategies employed in this study attempt to incorporate these perspectives in the process of supervising student teachers.

Greenebaum (1972) based his general theory of concrete systems on two premises.

> The first premise is that there is an appropriate level of generality which permits a non-reductionist analysis of complex phenomena. . . . It assumes the Aristotelian dictum that the whole is greater than the sum of the parts, and adds to this that behavior of the whole is a function both of its parts and of the relationship among its parts. (p. 1)

Greenebaum noted that,

> [When] this premise is rigorously applied it leads to the discovery of formal isomorphisms among systems of different types and levels. Non-rigorously, it facilitates the development and analysis of suggestive and fruitful analogies which can lead to new insights about familiar systems.

The second premise is

> . . . that all behavior is well-adapted to the particular environment of the system whose behavior is being observed. Behavior, from this viewpoint, is a reciprocal and transactional relationship between the system and its environment. An analysis based upon this premise must be both non-judgmental and non-normative. (pp. 1-2)

Both of the above premises are incorporated into the present study. They are viewed by the author as significant constructs which have considerable capacity for influencing the role of the university supervisor of student teachers.

In discussing the first premise, namely, that there is an appropriate level of generality which permits a non-reductionist analysis of complex phenomena, it is instructive to refer back to a previous

discussion in this chapter on "competency-based" teacher education, a movement which the author contends is consonant with reductionistic, mechanistic thinking.

The reader will recall that proponents of CBTE attempt to identify knowledge, behaviors, and skills that become the specific competency objectives for the program. Proponents assume that it is possible to look at the art of teaching and specifically identify the knowledge, behaviors, and skills necessary for preparing professionally competent teachers. At the same time proponents recognize the danger of fragmenting the teaching act into small incremental parts and identifying specific competency objectives assumed to be related to those parts.

However, recognizing the danger of fragmenting the teaching act into small incremental parts has not deterred proponents of CBTE programs from trying nor should it necessarily do so. After all, it can be argued that the competencies identified do in fact represent one level of generality. Nevertheless, the author argues that CBTE programs take an atomistic approach and run the risk of doing an injustice to the notion of holistic teacher education.

The author does not deny that the act of teaching is made up of parts but argues for a systems approach which focuses on the wholes of which they are part. As Laszlo indicated in an earlier section, the systems view always treats systems as integrated wholes of their subsidiary components and never as the mechanistic aggregate of parts in isolable causal relations.

Thus far, we have concerned ourselves with the first premise,

namely, that there is an appropriate level of generality which permits a non-reductionist analysis of complex phenomena.

Now let us focus our attention on the second premise (namely, that all behavior is well adapted to the particular environment of the system whose behavior is being observed). Our particular interest is to indicate how the second premise can also influence the role of the university supervisor of student teachers.

In discussing the construct that all behavior is well adapted to the particular environment of the system whose behavior is being observed, Greenebaum (1972) noted earlier that, "Behavior, from this viewpoint, is a reciprocal and transactional relationship between the system and its environment. An analysis based upon the premise must be both non-judgmental and non-normative." (pp. 1-2) He goes on to comment that,

> Another way of saying this is that all behavior is adaptive. From the point of view of the analyst or observer, the behavior may be good or bad, normal or abnormal, desirable or undesirable, but these judgments are external to the behavior itself. (p. 15)

Greenebaum (1972) suggested that,

> Norms, therefore, can be blinders which inhibit the analyst or observer [in this study the supervisor of student teachers] from really seeing the behavior of the particular system [student teacher] under study. . . . If we remove the blinders which our labels and judgments impose on our study of behavior, and limit ourselves to a purely descriptive language of analysis, we come to a better realization of the transactional nature of behavior. (pp. 14-15)

The author will indicate in chapter IV the strategies employed in this study to collect descriptive data.

Greenebaum (1972) comments further that,

> One of the consequences of adopting a non-normative analysis is the abandonment of the notions of maladaption and deviance

> (in its ethical sense). . . . This point of view allows us to divest ourselves of much cumbersom analytical baggage, and also significantly simplifies the analysis of complex systems by forcing the analyst to focus on actual behavior which does exist while relieving him of the obligation of inquiring into behavior which might exist, but does not. (p. 145)

Thus, from this perspective analysis must start with the way a system does behave, not with the way it might behave or the way it ought to behave.

The author concurs with Greenebaum that analysis of behavior must be non-normative and non-judgmental. Furthermore, it is the author's position that this concept is foreign to the thinking of many educators in general, as well as foreign to the thinking of supervisors of student teachers in particular.

As indicated in chapters I and II, the historical and conventional model of supervision has emphasized a modus operandi which stresses a normative and evaluative approach to working with student teachers. It is the author's intent in this study to employ a more non-normative, non-evaluative approach to the supervision of student teachers. These strategies will be indicated in chapter IV.

Summary

In this chapter the author has attempted to identify theoretical constructs from systems theory as well as related constructs from humanistic psychology and cognitive developmental theories based on Piaget which serve as the foundation for an individualized, systemic approach to supervising student teachers. Initially, the author traced the historical development of the system-theoretic point of view and

how this view received part of its impetus from a realization of the inadequacy of mechanism as a universal model. Next, the author indicated that our current system of education in general and dimensions of teacher education in particular are a Machine Age product of reductionistic, mechanistic, analytical thinking. Then, the author suggested that systems thinking allows educators to conceptualize an alternative to Machine Age education; thereby providing them a different set of cognitive tools to apply in their respective educational settings. Next, the author identified specific theoretical constructs from systems theory; constructs related particularly to a special class of systems, namely, concrete, open, learning systems. (The student teacher was identified as one example of said system.) Additionally, theoretic constructs related to systems theory from humanistic psychology and cognitive developmental theories after Piaget were identified. In the following chapter the author will indicate the specific supervisory strategies employed which attempt to incorporate the theoretical constructs identified in this chapter.

CHAPTER IV

OPERATIONALIZING AN INDIVIDUALIZED, SYSTEMIC APPROACH TO SUPERVISING STUDENT TEACHERS

The present chapter details how an individualized, systemic approach to supervising student teachers was operationalized by the author with a population of students who were experiencing their practice teaching in a field-based teacher education program.

Study Population

The study population consisted of seventeen undergraduate education majors--fifteen females and three males. The majority of the students were upper-level undergraduates in their early twenties with several students a few years older and one student in his late twenties. The study transpired during the spring semester of the 1974-1975 academic year, which was the group's last semester, senior year.

School of Education - University of Massachusetts

The students were engaged in a teacher preparation program within the School of Education at the University of Massachusetts which is located in the historic New England town of Amherst, Massachusetts.

The school of Education at the University of Massachusetts has a national reputation for the variety and quality of its learning experiences. In this regard, J. Myron Atkin and James D. Raths (1974) noted in their publication "Changing Patterns of Teacher Education in the

United States" that,

> A definitive trend in teacher education in the United States is that of single institutions offering multiple programs in teacher education. Students interested in becoming elementary school teachers at these institutions can elect an off-campus or an on-campus training program; can choose a series of courses geared toward urban education or stay in a mainstream of courses aimed at the general population of students; can take a program with a particular philosophical bent, such as behavior modification or open education, etc. An institution that is singularly and prominently characterized by the offering of an array of programs is the University of Massachusetts. Recently, the School of Education of the University of Massachusetts was presented a "Distinguished Achievement" award by the American Association of Colleges and Teacher Education (AACTE) for the more than twenty teacher education programs offered there. The award is an indication that options are considered an exemplary practice. (pp. 8-9)

The School of Education's "alternatives" approach to teacher education began in the spring of 1971 when the newly appointed Teacher Preparation Program Council (TPPC) invited faculty and graduate students to propose their "ideal" teacher preparation programs.

> There existed a wide range of opinions within the School as the ideal content for teacher preparation programs. Definitive leads for decisions about teacher education were not deducible from the research on teacher competency and on teacher education. In sum, there was little consensus as to the best ways of preparing teachers.
>
> . . . disagreement among the experts reinforced the School's commitment to a series of alternatives in teacher preparation." (Crosby and Reed, 1974, pp. 20-21)

A program sampler listing the variety of options available to undergraduate education majors at the School of Education for the 1974-1975 academic year is listed in appendix B.

Study Environment/TEPAM - Program

The study population were members of a program entitled TEPAM--an acronym for Teacher Education Program at Mark's Meadow--one

of the more than twenty different alternative pre-service teacher preparation programs available at the School of Education.

The author was connected to the TEPAM - Program through a teaching assistantship which he received in conjunction with his doctoral program. The author's prime responsibility as a teaching assistant in the TEPAM - Program was for supervision of student teachers enrolled in the program. The author's secondary responsibility was concerned with instruction in the curriculum area of science education. The author was awarded two consecutive teaching assistantships with the TEPAM - Program commencing with the academic year September, 1973-1974 and continuing with the 1974-1975 academic year. This study occurred during the spring semester of the 1974-1975 academic year of the author's teaching assistantship.

As indicated earlier, TEPAM is an acronym for Teacher Education Program at Mark's Meadow. Mark's Meadow is the School of Education's Laboratory School at the University of Massachusetts. It served as the location for this study. Mark's Meadow is one of four public elementary schools in the town of Amherst. At the time of the study it enrolled 350 children on the basis of geographic residence. It is a K-6 school with thirteen classrooms, most of which are multi-grade classrooms. The curriculum is non-graded so that the individual child's needs, abilities and interest, rather than his age or grade level, determine his learning activities. Mark's Meadow has incorporated the concept of the "open integrated day classroom" as a major component of its offerings. Visitors are welcomed at Mark's Meadow and are accommodated by an observation corridor which allows them to view classroom

activities without interrupting the teachers or children. The observation corridor receives considerable traffic from interested educators during the school year. For additional information about Mark's Meadow, the reader is referred to appendix C.

The Teacher Education Program at Mark's Meadow (TEPAM) is an approved pre-service program of the National Council for Accreditation of Teacher Education (NCATE). (Clark, 1974, p. 9) It is a multi-phase elementary teacher training program with a four semester sequence typically beginning in the intern's junior year. The total program consists of thirty-six (36) credits, allocated as follows among normal certification areas:

Educational Psychology - 6 credits
Elementary Methods - 6 credits
Curriculum Development - 3 credits
Student Teaching - 6 credits
Supervised Internship -15 credits

The program develops sequentially as follows:

Phase I - Introduction to Educational Careers - 3 credits

Phase II - The Child and His/Her World - 6 credits

Phase III - Student Teaching - 6 credits
Elementary Methods - 6 credits
Curriculum Development - 3 credits

Phase IV - Specialized education courses based upon the student's needs as determined by previous semester's experiences.

Phase V - Supervised Internship - 15 credits

Phase I is a requirement of all Education majors enrolled in the School of Education, University of Massachusetts. The requirement consists of completing a three credit course entitled "Kids, Schools and the School of Education: An Introduction".

Phase II marks the beginning of the TEPAM Program. During Phase II selected topics in educational psychology are stressed in bi-weekly seminars with a particular emphasis upon learning theory and child development theory. Concurrently, each student identifies two Mark's Meadow children whom he/she will interact with during the semester and whose development he/she will systematically observe and record in an on-going log. The seminars serve to relate the student's personal observations to theory and practice as the students and the TEPAM staff reflect on "the child and his/her world".

The trainee spends Phase III as a full time intern student teaching in the Mark's Meadow Laboratory School under the guidance of a cooperating teacher who is a member of the faculty of the school. This experience is integrated with weekly activity oriented workshops on methods and curriculum development. The student teacher receives released time from classroom responsibilities to attend the workshops. The workshops are planned and presented by teams of teachers in conjunction with TEPAM staff members from the School of Education. This arrangement allows for the teachers themselves to experience in-service training, thereby enhancing their potential for professional growth. In this regard, the author's colleague, Peggy George (1975), Co-director of the Program, has submitted a dissertation proposal to analyze the potential effectiveness of this strategy for increasing the professional competence of in-service teachers. Her dissertation proposal is entitled "Design For A School-Based, Pre-service Teacher Education Program Containing An Integral Pre-service, In-service Interaction." Upon completion of their Phase III full semester student-teaching experiences in

in the classroom, the trainees return to the University the following semester to complete their University requirements. In addition, they elect specialized education courses based upon their needs as determined by their student-teaching experience the previous semester. Completing University requirements is referred to as Phase IV.

The fifth phase finds the intern returning to the classroom for a second full semester of student-teaching under the supervision of a classroom teacher and a member of the TEPAM staff. During this time the students assume increased responsibilities for the entire range of teaching skills and are expected to undertake the duties of a full member of the Mark's Meadow teaching staff. For a more detailed description of the TEPAM Program, the reader is referred to appendix D.

It was during Phase V of the TEPAM Program when the author undertook this study using an individualized, systemic approach to supervising the student teachers enrolled in the TEPAM Program.

An Individualized, Systemic Approach to Supervising Student Teachers

Before this study was conducted the author met with the principal of Mark's Meadow Laboratory School and the Mark's Meadow faculty (who served as the cooperating teachers for the student teachers enrolled in the TEPAM Program) to gain their support for the study. The author received their support and began the study in the spring semester of the 1974-1975 academic year.

During the study the author supervised the entire block of eighteen student teachers enrolled in the TEPAM Program. The author met with the student teachers in the beginning of the study to explain

the role and responsibilities the author would assume as their university supervisor.

The reader will recall from chapters I and III that the author characterized an individualized, systemic approach to supervision from an educational perspective as one in which the supervisor assumes a role of helping student teachers discover their teaching selves; a role geared more toward the liberation of a student's own unique teaching style than toward his or her indoctrination into pre-established norms and standards. From this point of view, the behavior of the student teacher is seen as essentially developing from within rather than as a product of external events which are molded and directed by a supervisor from without.

In order to enhance the potential for liberating the student teacher's own unique teaching style, the author employed various supervisory feedback strategies which engaged the students numerous times during the period of their internship. Some of the strategies were designed to identify the student teacher's perceptions, values, and beliefs about the teaching-learning process. Once the student teacher's perceptions, values and beliefs were identified, they served as a focal point for discussion between the student teacher and the author as their TEPAM supervisor. Furthermore, the student teacher's concepts about the teaching-learning process were incorporated into the supervisory feedback conferences related to the interns' teaching in their respective classroom situations. In this regard, it was not uncommon for different student teachers to have different concepts about the teaching-learning process. In recognition of those differences and in

respect of the student teacher's individuality, the author began to work with each student teacher wherever he or she was in his or her respective teaching careers.

The activities the student teachers were engaged in for this study, included the following: a supervisory strategy incorporating concepts of "Clinical Supervision" based on the work of Goldhammer (1969) in which non-normative, non-evaluative data was collected by the author (TEPAM supervisor) for the purpose of giving the student teacher objective feedback on his or her classroom teaching, a "Values in the Classroom" instrument, a "Philosophy of Education" statement, and an "Assumptions on How Children Learn" statement; all of which lent themselves to being used as part of the supervisory feedback conference. Additionally, a standardized instrument for attitude assessment, namely, the Runner Studies of Attitude Patterns (RSAP) was administered both before and after their student-teaching experiences.

All of the above activities, except the RSAP Instrument, were selected because of their capacity to allow the author (TEPAM supervisor) to work with student teachers at an appropriate level of generality which permitted a non-reductionist analysis of complex phenomena. This is a level of generality judged by the author which would enhance the potential of taking a holistic approach to the process of supervision of student teachers as advocated by the author.

Clincial supervision. The first activity mentioned above concerned itself with a supervisory strategy which incorporated concepts of

"Clincal Supervision" based on the work of Goldhammer (1969). As part of the process of clinical supervision, the author collected descriptive data (non-normative, non-evaluative) concerning the student's classroom teaching. The data was utilized during the supervisory feedback conference with the student teacher.

The sequence of clinical supervision consisted of five stages:

Stage 1: The Pre-Observation Conference

Stage 2: The Observation

Stage 3: Analysis and Strategy

Stage 4: The Supervisory Conference

Stage 5: The Post-Conference Analysis

In the following paragraphs the author will describe how each stage of clinical supervision was utilized.

Stage 1: Pre-Observation Conference. The pre-observation conference was mainly intended to provide a mental framework for the supervisory sequence to follow and served several important purposes. First, it provided an opportunity for the author (TEPAM supervisor) and the student teacher to develop rapport by establishing and re-establishing communication. This was a useful period of time for reducing anticipatory anxieties as the author and the student teacher prepared to schedule an observation date to observe the student teacher in the classroom teaching situation.

During this period of time the author would try to understand the student teacher's frame of reference regarding the lesson to be taught. The author would attempt to overlap his perceptual field with that of the student teacher in order to enhance communication. By

understanding the student teacher's frame of reference, the author would be in a position to help the student function successfully in his or her own terms. Thus, the author would learn just what the student teacher had in mind, and the student teacher would be able to test and increase his or her own fluency by verbalizing ideas to the author.

The second important function of the pre-conference was to establish a contract between the student teacher and the author. In this contract explicit agreement would be reached about reasons for supervision to occur and about how supervision should operate. The contract would establish specifically what the student teacher would like to have feedback on regarding his or her classroom teaching. For example, the student teacher might be interested in receiving feedback on question-asking skills. That being the case, the author would focus his attention during the observation on question-asking skills and collect descriptive data related to that area.

The purpose for the observation was made public and agreed upon by the participants. Additionally, since the student teacher was aware of the particulars concerning the observation, the student teacher was able to prepare accordingly. It was not the style of the author to observe the student teacher unannounced unless this practice was requested by the student teacher. However, it was common practice for the author to stop by for the purpose of visiting with the student teacher to ascertain if the author might be helpful in any way. This brief visit was not considered a formal observation unless contracted for in the pre-conference.

Stage 2: Observation. The author (TEPAM supervisor) would observe the student teacher in order to collect written data consistent with the contract agreed upon in the pre-conference. The data collected were as objective and comprehensive an account as possible regarding the student's classroom teaching. The data were recorded in descriptive terms (non-normative, non-evaluative). For example, if the author was collecting data on question-asking skills, the data might include the following: the number of questions raised by the student teacher, the kinds of questions asked by the student teacher, the percentage of children responding to each question, and the number and kind of questions children raised in response to the student teacher's questions. The data would be free of value judgements on the author's part.

Collecting written descriptive data on behalf of the student teacher during the observation required constant writing by the author. In this regard, the author would remind the student teacher not to be threatened by this copious note taking since the author was not collecting evaluative, judgemental data so typical of conventional supervision. Rather, the author was trying to collect as much descriptive data as possible to honor the contract agreed upon in the pre-conference.

The data collected during the observation would then be analysed by the author and later shared as feedback with the student teacher during the supervisory conference. This strategy operated on the assumption that feedback leads to change when the student teacher so desires to change his or her classroom teaching.

Feedback then, is a way of giving help; it was a mechanism employed by the author to help student teachers discover their teaching

selves. It was a mechanism for helping the student teacher to learn how consistent his or her classroom teaching matched his or her intentions.

Stage 3: Analysis and Strategy. Stage 3 is intended for two general purposes: first, in Analysis, that of making sense out of the observational data, making it intelligible and manageable; and second, that of Strategy, planning the management of the supervision conference to follow, that is, what issues to treat, which data to cite, what goals to aim for, how to begin, where to end, and who should do what.

Stage 4: Supervision Conference. The purpose of the supervision conference was to give the student teacher feedback on his or her classroom teaching. The feedback was based on descriptive data collected during the observation and was consistent with the contract established during the pre-conference.

The following criteria were judged useful by the author in giving feedback to the student teacher:

1. The feedback should be descriptive rather than evaluative. As indicated earlier (chapter III), by avoiding evaluative language and limiting ourselves to a purely descriptive language of analysis, we come to a better understanding of the transactional nature of the behavior of the student teacher. Also, avoiding evaluative language reduces the possibility for the student teacher to react defensively to the feedback he or she is receiving.

2. The feedback should be specific rather than general. To offer general feedback of a global nature may present the student teacher with an information overload.

3. The feedback should be directed toward behavior which the receiver (student teacher) can do something about. It is frustrating for a student teacher to adapt his or her behavior to a situation(s) over which the student teacher has no control.

4. The feedback should take into account the needs of both the

receiver (student teacher) and the giver (supervisor). Feedback can be destructive when it serves only the needs of the supervisor and fails to consider the needs of the student teacher.

5. The feedback should ideally be solicited by the student teacher rather than imposed by the supervisor. Feedback can be most useful when the student teacher has formulated the kind of questions to which the student teacher wants answers.

6. The feedback should be well timed. In general, feedback is most useful if it is given at the earliest opportunity after the observation--preferably on the same day of the observation.

7. The feedback should be checked by the supervisor to ensure clear communication between the supervisor and the student teacher. One strategy employed by the author to check the communication was to ask the student teacher what he or she had heard, or learned, or discovered about himself or herself that day. In this way the author could determine if the feedback the student teacher had received corresponded to what the sender (author) had intended for the student teacher to hear. Checking on communication regarding the feedback conference was primarily done during Stage 5: The Post-Conference Analysis.

The above mentioned criteria for giving feedback were distributed by the author prior to the supervision conference for the interest of the student teacher and the cooperating teacher.

As indicated earlier, feedback is a way of giving help. It was one of the principal mechanism employed by the author to help student teachers discover their teaching selves. Specifically, the feedback was used to help the student teacher discover, within the descriptive data, patterns of information or behavior that could be used to make inferences regarding the student's classroom teaching.

In this regard, inferences from the descriptive data were arrived at in several ways. Sometimes the author would suggest inferences from the data, other times the student teacher would suggest inferences, while at other times both the student teacher and the author

would arrive at the inferences together.

In the first case, if the author showed the student teacher evidence from the descriptive data that led the author to make certain inferences about what the student teacher had done in the classroom, and if the author enunciated the sequence of reasoning by which the author traveled from perceptions of the student's classroom teaching to inferences about it, then as Goldhammer (1969) put it, "I [author] have made myself sufficiently vulnerable for you to discover logical inconsistencies in my reasoning, to be able to read the data differently, to offer alternative interpretations, to provide missing data, to isolate other issues, to frame questions that my be truer, or, in some way, more productive to treat--or, if it works out that way, to be persuaded by my evidence and by my reasoning and to commit yourself to work through the problems I have identified." (p. 65)

In the second case, namely when the student teacher makes inferences from the descriptive data, the same holds true. Of course, the above holds true when both the student teacher and the author arrive at the inferences together.

The very nature of making inferences from descriptive data (non-normative, non-evaluative) usually requires an investment of time related to the supervision conference which far exceeds the more conventional approach to supervision in which the supervisor makes value judgements based on normative, evaluative data. For example, the author determined from this study that giving student teachers feedback based on descriptive data required an amount of time ranging from a minimum of thirty to forty-five minutes, to an average of one to one-

and-one-half hours, with some feedback sessions lasting several hours or more.

The author's involvement in analysis of the student's classroom teaching should demonstrate the author's committment to the student teacher. At the very least, it should show that the author is not carefree regarding the student teacher's professional behavior. To have invested energy in connection to issues that are important to the student teacher should make that investment seem at least tentatively trustworthy.

Before proceeding to the Post-Conference, it should be noted that, in addition to the written word, other techniques were employed to collect data on the students' classroom teaching. For example, whenever it seemed appropriate, audio tapes and/or video tapes were used to help analyze the teaching performance of the student. However, the principal mechanism for collecting data remained the author's observation of the student teacher in a teaching situation and his written account of what happened in that situation, as per agreement in the pre-conference.

Stage 5: Post-Conference Analysis. During this stage, several goals were addressed. First, the author (TEPAM supervisor) would check to see if what he intended to communicate to the student teacher had indeed been communicated. As indicated earlier, one strategy employed by the author was to ask the student teacher what he or she had heard, learned, or discovered about himself/herself during the supervisory feedback conference. From this study, the author concluded that the student teachers were essentially able to communicate to the author

what he had intended for them to receive.

Second, the author would seek feedback from the student teacher regarding the role the author played as the student teacher's university supervisor. Actively seeking feedback from the student teacher was intended to offset any misgivings that may exist concerning the author's commitment to the process of supervision and the historical disparity between the student teacher's vulnerability and the author's as his or her supervisor.

Each student cycled through the five stages of clinical supervision at least four times during the semester as part of a formal observation. Most students experienced the cycle five to six times; while other students completed the cycle upwards to eight or ten times, depending upon individual needs.

Values in the Classroom activity. This acitivity served as a beginning toward identifying the student teacher's value priorities and seeing how those priorities were reflected in his or her teaching and classroom. In this regard, the student teachers were given a "Values in the Classroom" instrument which is a modification of a values instrument developed by Richard L. Curwin and Barbara Schneider-Fuhrmann in their book, Discovering Your Teaching Self--Humanistic Approaches to Effective Teaching. (pp. 27-32) See appendix E for a sample copy of the "Values in the Classroom" insturment. The "Values in the Classroom" insturment contains a list of twenty-four values that might be displayed in various ways in a classroom. The student teachers were asked to rank order the twenty-four values from the instrument for their "ideal classroom" such

that a number one was placed next to the quality the student teachers valued the most in their ideal classroom, a number two next to the second most important value and so on through number twenty-four which was the quality they valued the least in their ideal classroom. The objective was for the student teacher to list in order of importance the personal values that could influence his or her classroom teaching. For example, some student teachers chose self-direction as their most important value for their ideal classroom and alienation as a quality they valued least in their ideal classroom. Additionally, the objective was to examine the student teachers' value priorities in terms of observable classroom behavior and to compare their value priorities with that classroom behavior.

Classroom indicators worksheet. After completing the rank ordering of their twenty-four value priorities, the student teachers completed an accompanying worksheet in which they isolated the values they ranked in the top three positions and the values they ranked in the bottom three positions. See appendix E for a sample copy of the worksheet. After isolating their top three value priorities and their bottom three value priorities, the students were asked to list three examples of "classroom indicators" for each of their top three values as well as their bottom three values. Thus, nine classroom indicators were listed for their top values and nine for their bottom values; resulting in eighteen classroom indicators listed in all.

The classroom indicators were listed to demonstrate the presence or absence of a particular value in their actual classroom situations. For example, if a student teacher listed as a "classroom indicator"--

"encourage children to use their imaginations, originality in projects, group activities, etc." (related to the value priority "creativity")--the presence or absence of that "classroom indicator" could be observed by a supervisor.

The information generated by the Values in the Classroom instrument and the accompanying worksheet listing the "classroom indicators" could be used in a variety of ways. For example, the information might raise the question of what specifically the student teacher might do to insure that their nine "classroom indicators", representing their three highest-ranked values, are incorporated into their respective classroom situations. Conversely, the information might raise the question of what specifically, the student teacher might do to insure that the nine "classroom indicators" of their three lowest-ranked values are not introduced or are eliminated from their respective classrooms. Also, the information might be used as part of the Post-Conference following an observation of the intern's teaching. The student teacher might compare the descriptive data collected by the supervisor with their stated values. If the student teacher's actions were not congruent with his or her stated values, that provided the student teacher an opportunity to re-evaluate his or her value priorities or to adapt his or her behavior in relation to his or her stated values. Additionally, the student might wish to add a number of values, other than those already listed, rank them again, and compare the results with his or her earlier ranking.

The Values in the Classroom instrument operates on the assumption that teaching behavior may emanate from what we value as teachers

and that values are one of the strongest influences on teaching behavior. Additionally, the Values in the Classroom instrument assumes that too often we, as educators, do not stop to think about which values are most important in our teaching, and how much less we consider how our behavior in the classroom reflects our highest value priorities. Furthermore, the 'Values in the Classroom' instrument recognized that while it is difficult to always act in accordance with our beliefs, we can be continually working toward a healthy integration of the two.

As indicated previously, this activity served as a beginning toward identifying the student teacher's value priorities and toward seeing how those priorities were reflected in his or her classroom teaching. The student teachers completed one "Values in the Classroom" instrument (as well as the accompanying "classroom indicators" worksheet) prior to assuming their teaching responsibilities in the beginning of their student-teaching internship. After completing their initial "Values in the Classroom" instrument, the student teachers were asked by the author to complete two additional "Values in the Classroom" instruments. Most students completed one of the additional values instr-ments at the mid point of the internship and one instrument at the end of their student-teaching internship.

The author reasoned that a student teacher experiencing a field-based, pre-service, teacher education program which utilizes, as part of the process of supervision, the student teacher's personal beliefs concerning his or her value priorities for his or her ideal classroom, will modify those priorities during the period of the internship. In this regard, the author collected data during the student teachers'

internship in the TEPAM Program. The results of these data will be examined in chapter V.

Philosophy of Education activity. This activity served as a beginning toward identifying the student teachers' respective philosophies of education. At the beginning of the internship, each student teacher was asked to submit in writing to the author (TEPAM supervisor), his or her philosophy of education. In this regard, an "open-ended" form was provided the student teachers for that purpose. See appendix F for a sample copy of the form.

Recognizing that stating one's philosophy of education might be a challenging task for some student teachers, the author explained that since the activity was intended as a beginning toward identifying their respective philosophies of education, they should not be inhibited by the activity. In fact, the author indicated to the student teachers that their initial efforts to write a philosophy of education might include a range of responses including the following: a single word, an incomplete sentence or phrase, a list of statements, complete sentences, paragraphs, or as voluminous a statement that any individual student teacher felt necessary to make.

The information obtained from the student teachers initial efforts to state their philosophies of education was used during the process of supervision to help student teachers discover their teaching selves and when it seemed appropriate to use it as part of a supervisory feedback conference with an individual student teacher. Additionally, these statements would prove useful later when the student

teachers were applying for full time teaching positions which usually require said statements to be written on an application form and/or orally discussed during a job interview.

At the end of the internship, the student teachers were provided a second opportunity to submit in writing their respective philosophies of education. By completing a post student-teaching response, it was possible to compare their pre and post philosphy of education responses for similarities and differences.

The author reasoned that a student teacher experiencing a field-based, pre-service, teacher education program which utilizes, as part of the process of supervision, the student teacher's personal beliefs concerning his or her philosophy of education, will modify those personal beliefs regarding his or her philosophy of education during the period of the internship. In this regard, the author collected data during the student teacher's internship in the TEPAM Program. These data will be examined in chapter V.

Assumptions About How Children Learn activity. This activity served as a beginning toward identifying the student teachers' respective assumptions about how children learn. At the beginning of the internship, each student teacher was asked to submit in writing to the author (TEPAM supervisor), his or her assumptions on how children learn. In this regard, an "open-ended" form was provided the student teachers for that purpose. See appendix G for a sample copy of the form.

The information obtained was additional information (besides the philosophy of education and the values in the classroom activities)

that might be utilized to help student teachers discover their teaching selves. Also, the information could be helpful during a supervisory feedback conference.

The author reasoned that a student teacher experiencing a field-based, pre-service, teacher education program which utilizes, as part of the process of supervision, the student teacher's personal beliefs concerning his or her assumptions about how children learn, will modify those beliefs during the period of the internship. The author collected data in this regard which will be examined in chapter V.

Runner Studies of Attitude Patterns (RSAP)

The Runner Studies of Attitude Patterns is a standardized instrument for attitude assessment developed by Kenyon Runner and presented in his book, A Theroy of Persons. It is also the basis of a system for improving how we communicate to each other about each other.

Boyer (1973), in an introduction to A Theory of Persons, observed that,

> The Runner Studies of Attitude Patterns (RSAP) is both ingenious and simple. In essence, the RSAP identifies four broad Styles of Life (Adventure Oriented, Comfort Oriented, Affiliation Oriented, Recognition Oriented) and as many Styles of Action (Reactive, Responsive, Restrained, Mechanical). . . . By relating life style to action style the pattern that emerges from the RSAP scales is potentially as unique as a fingerprint. (p. vii)

In this study, the RSAP instrument was administered to specifically identify two of the four Styles of Life, namely Adventure Oriented and Comfort Oriented.

The RSAP instrument was administered to the student teachers prior to their internship and at the completion of their internship as a pre-test/post-test. Both tests were scored at the completion of the student teachers' internship.

The RSAP instrument was administered to address two questions: first, would the respondents change their attitude pattern over time; and second, to the extent that the life styles identified by Runner represent how different people see the world, will the adventure oriented respondent react in a similiar or different manner than the comfort oriented respondent on a questionnaire (discussed in the following chapter) regarding the individualized, systemic approach to supervision of student teachers advocated by the author. The results to these questions will be discussed in chapter V.

Summary

In this chapter the author has identified some fo the characteristics of the population of student teachers who made up this study and of the specific program the student teachers were enrolled in at the School of Education, University of Massachusetts. Also, specific supervisory strategies for operationalizing an individualized, systemic approach to supervising student teachers was indicated.

As stated earlier, the supervisory strategies employed, namely the "Values in the Classroom" instrument, the "Philosophy of Education" statement, the "Assumptions on How Children Learn" statement, and the concept of "Clinical Supervision", were employed to help the student teachers discover their teaching selves.

It is the author's position that the supervisory strategies employed in this study operate on the assumption that a student teacher is a concrete, open, learning system. The student teacher is a concrete system because the student teacher consists of matter and energy, occupies physical space, and changes over time. The student teacher is an open system because he or she carries on transactions with the environment. Finally, the student teacher is a learning system because he or she adapts his or her behavior to new and continually changing environmental circumstances.

CHAPTER V

ANALYSIS OF DATA

In this chapter the author will examine data collected during the study; specifically, data related to: 1) the "Values in the Classroom" instrument, 2) the "Philosophy of Education" statement, 3) the "Assumptions on How Children Learn" statement, 4) a comparison of supervisory strategies in Phase III to supervisory strategies in Phase V, and 5) the Runner Studies of Attitude Patterns (RSAP). The data will be examined to determine what changes occurred during the period of the internship and how these changes relate to the process of supervision advocated by the author in this study.

Values in the Classroom Data

Analysis of the Values in the Classroom data. The reader will recall that completing the "Values in the Classroom" instrument served to identify the student teacher's value priorities and seeing how those priorities were reflected in his or her classroom teaching. Also, the reader will recall, that the author reasoned that a student teacher experiencing a field-based, pre-service, teacher education program which utilized, as part of the process of supervision, the student teacher's personal beliefs concerning his or her value priorities for his or her ideal classroom, will modify those priorities during the period of the internship.

The student teachers were requested to complete the "Values in the Classroom" instrument three separate times during the period of the internship; once at the beginning of the student-teaching internship (prior to assuming their respective teaching responsibilities), once at the mid-point of the internship, and once at the close of the internship.

All eighteen of the student teachers who made up the population of this study completed an initial "Values in the Classroom" instrument in the beginning of the student-teaching internship (early February) as part of a seminar designed to help the population of student teachers discover their teaching selves. Concerning the completion of the second and third "Values in the Classroom" instrument, the author (TEPAM supervisor) recognized that some student teachers might feel that this experience may not be helpful to them and therefore were provided the option not to do the activity. In this regard, sixteen student teachers in the study population completed a second "Values in the Classroom" instrument at the mid-point of their student-teaching internship (late March), and twleve student teachers completed a values instrument at or near the end of their student-teaching internship (mid May). A number of students who had not completed the values instrument in May indicated to the author that they were experiencing the peak of their student teaching responsibilities and in combination with finishing up their undergraduate college careers did not have time to complete the values instrument.

Value priorities of the student teachers modified during the internship. The author was particularly interested in determining if the population

of student teachers modified their value priorities during the period of the internship. In this regard, the data indicated that an average of eithteen values out of twenty-four values were modified (that is, changed at least one rank order position) by those student teachers who had completed the values instrument a maximum of two times during the period of the internship. The number of values that were modified ranged from fifteen values to twenty-one values.

The student teachers who had completed the values instrument all three times during the period of the internship averaged seventeen modifications after their second completion of the values instrument with the number of values that were modified ranging from thirteen values to twenty-one values. After their third completion of the values instrument, the student teachers averaged sixteen modifications with the number of values that were modified ranging from zero to twenty-two values.

Table 1 indicates the number of values that were modified at least one rank order by the individual student teachers during the period of the internship. The average number of modifications on the "Values in the Classroom" instrument indicated that the population of student teachers in this study did modify, in writing, their value priorities during the period of the internship (with the exception of one student teacher who had completed only one instrument).

One example of how the student teachers modified their value priorities is related to the student teachers' first completion of the values clarifying instrument and specifically the value the student teachers ranked as their highest priority for their ideal classrooms.

TABLE 1

THE NUMBER OF VALUES MODIFIED AT LEAST ONE RANK ORDER BY THE STUDENT TEACHERS

STUDENT TEACHER	# of Values Modified After a Second Completion		# of Values Modified After a Third Completion	# of Value Instruments Completed
	Group A*	Group B**	Group B	
1. A		18	22	three
2. B	16		--	two
3. C		17	0	three
4. D	Grouped Values		Grouped Values	three
5. E	20		--	two
6. F	Grouped Values		--	two
7. G		21	19	three
8. H		19	20	three
9. I***		--	--	one
10. J		14	19	three
11. K	19		--	two
12. L		16	15	three
13. M		13	13	three
14. N		19	19	three
15. O	21		--	two
16. P	15		--	two
17. Q	17		--	two
18. R		17	18	three

*Group A - student teachers who completed the values instrument twice.
**Group B - student teachers who completed the values instrument three times.
***Student I completed the value instrument once.

As one might expect, different student teachers ranked different values as their highest priority for their ideal classrooms. For example, "self-direction" was chosen by five student teachers as their highest value priority (number one), followed by four student teachers choosing "equality" as their highest value priority, with three students choosing "love", two students choosing "fairness" and two choosing "respect", and one student teacher each choosing "creativity", and "freedom" respectively as their most important value for their ideal classrooms. Thus, seven different values were selected from the list of twenty-four to represent the population of student teachers' highest value priorities. After completing the values instrument a second time, it was found that eight student teachers retained their highest ranked value priority while eight student teachers changed to another value choice.

Concerning the student teachers who modified their value priorities, the greatest change came from a student teacher who moved a value ("creativity") which originally occupied position number seven on the previous rank ordering to position number one on the second rank ordering. Two students changed their fifth ranked values ("Purposefulness" and "love") to their first value priority on the second rank ordering. The remainder of the students who had modified their value priorities moved their second and third previously ranked values to their first choice.

Another example of how the student teachers modified their value priorities was noted by observing change in the rank order of the twenty-four values between the student teachers first rank ordering and their last. For example, by examining only those values that changed

the most, namely, those that ranged in change from four rank orders to eleven rank orders (the range of four to eleven was chosen arbitrarily as indicating extreme change) indicated that two student teachers had modified as many as ten different values four or more rank orders, while at the other extreme, two student teachers had only one value that changed four or more rank orders, and one student teacher who did not have any values that changed four or more rank orders.

Concerning the two student teachers who had changed as many as ten different values four or more rank orders, one had indicated to the author (TEPAM supervisor) his or her uncertainty about becoming a classroom teacher and the other student teacher indicated to the author his or her strong desire to become a classroom teacher but feeling very insecure about it. It is the author's opinion that the above considerations were related to the relatively large number of values that had changed four or more rank orders for the two student teachers.

An examination of Table 2 indicates the average number of different values that a given student teacher changed four or more rank orders was 4.3 values. The range of values that changed four or more rank orders was between zero and ten. The average change of rank order for those values was 5.6 with a range of four to eleven. Table 2 also indicates that for a given value the average number of student teachers who changed a given value was 2.8 with a range of one to six.

Table 3 indicates the values that changed between four and eleven rank orders between the student teachers' first rank ordering and their last rank ordering. Examining the values that changed four or more ranks indicated that six of the twenty-four values were changed

TABLE 2

STUDENT TEACHERS VALUES MODIFICATIONS THAT CHANGED IN RANK ORDER BETWEEN FOUR AND ELEVEN RANK ORDERS

VALUES	STUDENT TEACHERS																	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1 Alienation					+4			+4										
2 Chaos							-4								-11			
3 Concentration												-5				-4		
4 Creativity							+6			+6								
5 Disorder								-4							-10	-6		
6 Dogmatism					-7										-8			
7 Dominance					+7			-5			-6							
8 Equality	-5							-5			+10				+4			
9 Fairness	-5	+4						-5		-4								
10 Favoritism												+4	+5					
11 Fear								+6										
12 Freedom										-5					+8			
13 Independence										-5		-4		-6				
14 Laughter	+4							-4			-8			+4	+4			
15 Love	+4		+5				-5	+4		+9				+5				
16 Obedience			+8										-8		+6	+5		
17 Orderliness					+7			+5									+5	
18 Passivity							+6									+5		
19 Privacy														+8	+4	-4		
20 Purposefulness													+4	-6	-5			
21 Quiet											-5				+5			
22 Respect					+4		-6	+7				+5						
23 Rigidity																		
24 Self-Direction			-6															
	4	1	3	*	5	*	5	10	**	5	4	4	3	5	10	5	1	0

Number of values that changed four or more rank orders.

*Grouped Values
**Completed one values instrument

TABLE 3

VALUES THAT CHANGED BETWEEN FOUR AND ELEVEN RANK ORDERS BETWEEN THE STUDENT TEACHERS FIRST RANK ORDERING AND THEIR LAST RANK ORDERING

VALUES	Magnitude of Value Change in an Upward Direction	Magnitude of Value Change in a Downward Direction
1 Alienation*	+4 +4	
2 Chaos**		-4 -11
3 Concentration**		-4 -5
4 Creativity*	+6 +6	
5 Disorder**		-4 -6 -10
6 Dogmatism**		-7 -8
7 Dominance***	+7	-5 -6
8 Equality***	+4 +10	-5 -5
9 Fairness***	+4	-4 -5 -5
10 Favoritism*	+4 +5	
11 Fear*	+6	
12 Freedom***	+8	-5
13 Independence**		-4 -5 -6
14 Laughter***	+4 +4 +4	-4 -8
15 Love***	+4 +4 +5 +5 +9	-5
16 Obedience***	+5 +6 +8	-8
17 Orderliness*	+5 +5 +7	
18 Passivity*	+5 +6	
19 Privacy***	+4 +8	-4
20 Purposefulness***	+4	-5 -6
21 Quiet***	+5	-5
22 Respect***	+4 +5 +7	-6
23 Rigidity		
24 Self-Direction**		-6

*Values that changed in an upward direction
**Values that changed in a downward direction
***Values that changed in both directions
(Each number represents one student teacher)

by the student teachers in an upward direction (alienation, creativity, favoritism, fear, orderliness, passivity) while six of the twenty-four values were changed by the student teachers in a downward direction (chaos, concentration, disorder, dogmatism, independence, self-direction). Eleven of the twenty-four values that changed four or more ranks changed both in an upward direction and a downward direction, depending on the individual student teacher. For example, five of the student teachers changed the value "love" in an upward directions and one of the student teachers changed the value "love" in a downward direction. One value (rigidity) did not change four or more rank orders.

Examining ranked data as scaled data. Thus far, comparisons of ranked data have been made concerning the data collected from the "Values in the Classroom" instrument. It was deemed desirable to examine the ranked values data as scaled data, thereby providing another means of examining the data collected from the "Values in the Classroom" instrument.

The twenty-four values were subjected to scaling using the Law of Categorical Judgements.(Torgenson, 1958, pp. 221-234) This procedure transforms a series of items, ranked by the respondent student teachers, from their ranked form into an equal-interval scaled form. The mean and standard deviation of the resultant scales are arbitrary and were set at fifty and ten respectively for these data. (Computer program written by Robert E. McClintock, University of Houston, Clear Lake City, September 13, 1976)

The ranked data were placed into six categories (low to high) according to frequencies of student teacher response. The categories

were designated low 24, 20-23, 13-19, 6-12, 2-5, high 1. For example, the value "alienation" was rank ordered number twenty-four by six student teachers, number twenty-three by five student teachers, number twenty-one by one student teacher, and number nineteen by two student teachers. Thus, six responses were placed into the low 24 category, six responses in the 20-23 category, and two responses into the 13-19 category. The data were then subjected to scaling using the Law of Categorical Judgements.

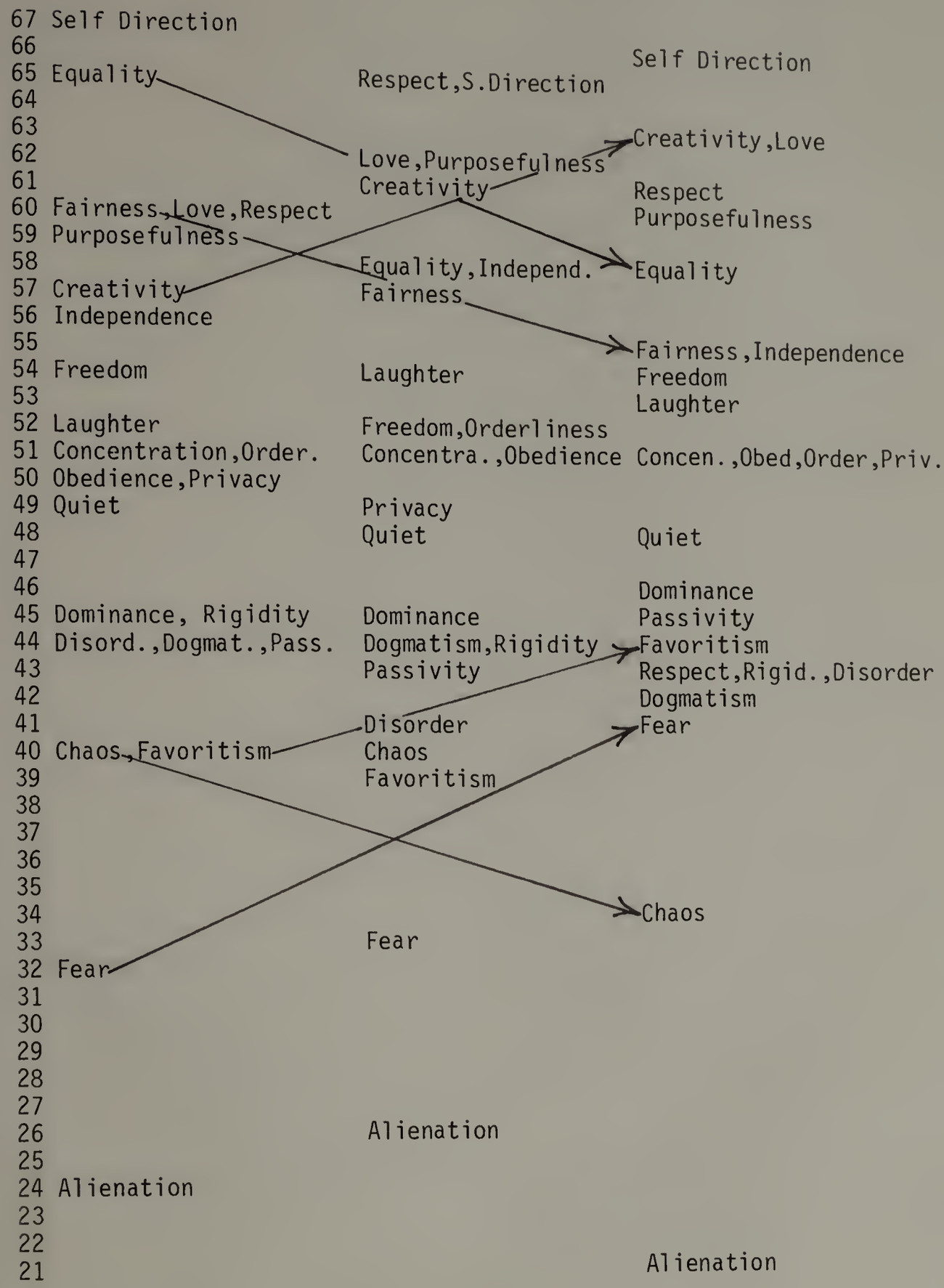
The three sets of value data were scaled independently and the results examined to determine whether distances between specific values changed during the period of the internship. The scaled data were examined in a similar manner to the ranked order data.

Examining Table 4 indicates that twenty-three out of twenty-four values shifted on the scale. ("Concentration" remained the same on the scale.) Those values that shifted the most on the scale (six) and their respective shifts in direction are indicated by arrows on the scale between the first and third columns. Three of those values shifted in an upward direction and three of those values shifted in a downward direction. The remaining values shifted between one and three positions on the scale.

Examining Table 4 also indicates a similarity among the twenty-four scaled values regarding their respective positions on the scale over the three testing periods leading to the conclusion that the student teachers perceived the twenty-four values in a similar manner during the period of the internship.

TABLE 4

SCALED DATA FROM THE VALUES IN THE CLASSROOM INSTRUMENT



Modifying the Values in the Classroom instrument. Two student teachers modified the actual "Values in the Classroom" instrument. One student teacher modified the twenty-four value rank order scale into three categories. One category included examples of values that would always be present in the student teacher's classroom, another category included examples of values that might sometimes be present in the student teacher's classroom, while a third category included examples of values that would never be present in the student teacher's classroom.

Another student teacher completed the "Values in the Classroom" instrument twice and modified the twenty-four value rank order scale both times into different categories. The first time the rank order value scale was modified into the following four categories: 1) Always; 2) At times there is a need for; 3) Rarely seen, occasionally evident, needed; 4) Never. The student placed eight values into the first category listed above, seven values into the second category, three values into the third category, and six values into the fourth category.

The second time the student teacher completed the "Values in the Classroom" instrument the rank order value scale was modified into five categories listed as follows: 1) Most important, all the time; 2) Nice to be there, not an ultimate necessity; 3) Occasionally, can't completely rule out, is needed for at times; 4) Never--no way; 5) I don't know, I'm thinking about. The student teacher placed his or her twenty-four values into the above categories.

The significance of the "Values in the Classroom" instrument from the student teachers' point of view. At the completion of the internship,

the author requested the students to record their reactions and feelings concerning the significance the values clarifying instrument had regarding their student-teaching experience. See appendix H for a sample copy of the question which was one of five on a questionnaire.

The question was designed to be "open ended". The student teachers' responses to the question suggested that completing the "Values in the Classroom" instrument was a worthwhile experience for the student teachers and helped them discover their teaching selves.

The student teacher responses fell into two categories. One category of responses was related generally to the student teachers increased understanding of their teaching selves. The other category of responses was related specifically to the student teachers' increased understanding of their role in the classroom.

The following are summaries of the student teachers' responses regarding the values clarifying instrument and how the instrument helped them to understand their teaching selves. One student teacher indicated that the values instrument gave the student teacher a foundation from which to build--somewhere to start reaching for the values the student teacher felt were most important. Another student teacher indicated that the values instrument helped the student teacher put the student's thoughts and ideas into perspective. A number of student teachers indicated that the values clarifying instrument got them to reflect on themselves and their respective values. Another student teacher indicated the values instrument helped the student teacher isolate values and experiment with them in the classroom. Additionally, the student teacher indicated that if the student had not used the instrument, the

student would have remained uncertain about the values. Another student teacher indicated the values instrument made it easier for the student teacher to self-evaluate his or her teaching. Other student teachers indicated that the values clarifying instrument helped them in stating their objectives and whether or not they had reached them.

The following are summaries of how the values clarifying instrument helped the student teachers understand their role in the classroom. One student teacher indicated the values clarifying activity made the student more aware of various aspects of the class--for example, the amount of laughter, freedom, or structure. Another student teacher indicated that the values clarifying activity gave the student teacher a clearer look at what the student teacher wanted and expected in his or her classroom. Another student teacher indicated that the values clarifying activity made the student more aware of goals to be met in the classroom and to look more closely at the activities within the classroom related to those goals. Other student teachers indicated the values clarifying instrument gave them insight as to what they felt was important in the classroom and as a result became more observant in the classroom in looking for classroom indicators related to their classroom teaching.

The significance of the "Values in the Classroom" instrument from the cooperating teachers' point of view. In addition to receiving feedback from the student teachers regarding the "Values in the Classroom" instrument, the author requested that the twelve cooperating teachers in this study record their reactions and feelings concerning the

significance the values instrument had for their respective student teachers from their point of view. See appendix I for a sample copy of the question which was one of five on a questionnaire administered to the cooperating teachers in this study. The reader will note that this questionnaire differs from the student teachers' questionnaire in that a Likert Scale, using a five point number system, was utilized (number 1 indicating little significance and number 5 indicating considerable significance). Additionally, personal comments made by cooperating teachers were at the option of the individual cooperating teacher.

An examination of the results of the questionnaire indicated that two of the cooperating teachers viewed the values clarifying instrument as having considerable significance (5) for their student teachers. The second highest rating (4) included four of the cooperating teachers. Thus, the higher ratings (4 and 5) included six of the cooperating teachers. The middle rating (3) included three of the cooperating teachers. The second lowest rating (2) included two cooperating teachers. Only one cooperating teacher rated the values clarifying instrument in the lowest rating (1) as having little significance for his or her student teacher.

Two of the cooperating teachers offered personal comments regarding the values instrument. These comments are listed verbatim below:

> It helped to point out the appropriateness of different values for different circumstances and the overlapping of values necessitating an establishment of priorities.
>
> My intern gave alot of thought to this and we discussed it at length.

The data led to the conclusions that the "Values in the Classroom" instrument was rated by at least six of the cooperating teachers as having above average significance or considerable significance for their student teachers.

In sum, an examination of the data related to the "Values in the Classroom" instrument indicated that the student teachers modified their value priorities during the period of the internship. This was evidenced by the fact that many values had changed at least one rank order position and other values had changed between four and eleven rank orders. The values that changed between four and eleven rank orders were in the direction of increased alienation, creativity, favoritism, fear, orderliness, passivity, and decreased chaos, concentration, disorder, dogmatism, independence, self-direction.

Obviously there is no consistent pattern to the values that changed between four and eleven rank orders. What one might suggest is that those values that changed four or more rank orders after actual classroom experiences were the values that may have been the most unrealistic at the beginning of the student-teaching internship. For example, the three student teachers who decreased independence and the one student teacher who decreased self-direction may have learned to modify their values based on actual classroom experience in a school which had incorporated the innovative concept of the "open integrated day classroom" as a major component of its offerings.

Also, an examination of the data related to the questionnaire indicated that the student teachers and cooperating teachers felt the "Values in the Classroom" activity was a significant activity for the

student teachers to be engaged in during their internship.

Modifying their value priorities during the period of the internship may suggest that the student teachers increased their understanding of their teaching selves. That is, the value changes may indicate a clarification of their own teaching values and this would be part of the process fo finding their teaching selves. Providing the student teachers an opportunity to modify their value priorities, in writing, as part of the supervisory process seemed to have facilitated this value clarification.

Classroom Indicators Related to the Values in the Classroom Instrument

Analysis of the "classroom indicators" related to the Values in the Classroom instrument. The reader will recall that the population of student teachers in this study were asked to list three examples of "classroom indicators" for each of their top three value priorities as well as three examples of "classroom indicators" for their bottom three value priorities. The "classroom indicators" were listed to demonstrate the presence or absence of a particular value in the student teachers' classroom experiences. The "classroom indicators" were used during the supervisory feedback conference whenever it seemed appropriate. In addition, the student teachers used the "classroom indicators" for the purpose of self evaluation.

Since the population of student teachers completed the "Values in the Classroom" instrument several times during their student-teaching internships, as well as the accompanying "classroom indicators" worksheet

a large number of indicators were generated by the study population. For example, after a given student teacher completed a single "classroom indicators" worksheet there would be a total of eighteen examples of indicators on the worksheet. See appendix J for an example representative of how one student teacher in this study completed the worksheet. Obviously, if one student teacher generated eighteen examples of "classroom indicators" on a single worksheet, and the same student teacher did this two to three times during the internship, then the whole population of student teachers in this study generated large numbers of "classroom indicators".

An examination of the "classroom indicators" suggested that the indicators represented several different categories. For example, some of the "classroom indicators" were related to the student teacher's behavior in the classroom, other indicators were related to the behavior of the pupils in the classroom, while other indicators were related to the classroom environment. Because of the large number of "classroom indicators" generated by any one student teacher in this study and the population as a whole, as well as the variety of indicators generated (student teacher behavior, pupil behavior, classroom environment) the author did not attempt a pre-post analysis of the "classroom indicators". Additionally, the subjective nature of the student teachers' responses in this study made analysis of the data difficult. However, in chapter VI the author recommends a strategy for modifying the "classroom indicators" worksheet in a way which might help future researchers quantify the resultant data generated by this instrument change.

The significance of the "classroom indicators" activity from the student teachers' point of view. At the completion of the student-teaching internship, the author requested the student teachers to record their reactions and feelings concerning the significance the "classroom indicators" activity had regarding their student-teaching experience. See appendix H for a sample copy of the question.

The following are summaries of the student teachers' responses regarding their reactions and feelings concerning the significance completing the "classroom indicators" worksheet had regarding their student-teaching experiences. The student teachers' responses indicated that identifying "classroom indicators" was helpful. For example, one student teacher indicated that the exercises helped the student teacher become more aware of his or her values and how the student teacher could relate those values to what was happening in his or her classroom. In a similar manner, another student teacher stated that the "classroom indicators" gave the student teacher clues as to whether or not the student teacher was achieving the values that he or she had strived for in the classroom. Specifically, the "classroom indicators" helped the student teacher see and understand his or her own behavior, as well as the behavior of the children. As another student teacher put it, "This was really helpful to me. Writing down what I thought would happen and then comparing it to what actually happened was very beneficial. It helped me self-evaluate and I saw evidence of things that had happened (more clearly)."

Another example of how the "classroom indicators" exercises were helpful was stated by two student teachers who had suggested that

the exercises were effective in getting the student teachers to combine their respective philosophies of education with their respective practices in the classroom.

Another student teacher indicated that stating "classroom indicators" helped the student teacher see if he or she had reached his or her objectives and examine the methods the student teacher used to reach them. As another student teacher put it, he or she became more observant in looking for "classroom indicators" in the classroom. Another student teacher suggested that the "classroom indicators" exercise helped the same way the values clarifying instrument did, but that it was more realistic. Lastly, another student teacher indicated that the "classroom indicators" had "great significance" for his or her student-teaching experience because he or she had "reached them".

In sum, an examination of the student teacher data generated by the questionnaire concerning the "classroom indicators" activity indicated that the student teachers felt the exercise was helpful. Furthermore, identifying "classroom indicators" during the period of the internship provided the student teachers an additional opportunity to increase their understanding of their teaching selves. Providing student teachers an opportunity to identify "classroom indicators", in writing, as part of the supervisory process seemed to have facilitated this discovery of their teaching selves. For example, one student teacher listed the following "classroom indicator" for the value "fairness": "Teacher does not show preferential treatment to any particular pupil." However, from descriptive data shared during a supervisory feedback conference, the student teacher became aware of the fact that one pupil had been

singled out to be "teacher's helper" a disproportionate number of times. Thus, the student teacher's classroom behavior was inconsistent with his or her classroom indicator; thereby providing the student teacher the opportunity to re-evaluate his or her teaching self.

The significance of the "classroom indicators" activity from the cooperating teachers' point of view. In addition to receiving feedback from the student teachers, the author requested the cooperating teachers record their reactions and feelings concerning the significance identifying "classroom indicators" had for their respective interns. See appendix I for a sample copy of the question.

An examination of the results of the questionnaire indicated that two of the cooperating teachers viewed the "classroom indicators" activity as having considerable significance (5) for their student teachers. The second highest rating (4) included four of the cooperating teachers. Thus, the combined higher ratings (4 and 5) included six of the cooperating teachers. The middle rating (3) included four of the cooperating teachers. The second lowest rating (2) included one cooperating teacher. Only one cooperating teacher rated the "classroom indicators" activity in the lowest rating (1) as having little significance for his or her student teacher. The cooperating teachers did not choose the option of making personal comments regarding this question.

The data led to the conclusion that the "classroom indicators" activity was rated by at least six of the cooperating teachers as having above average significance or considerable significance for

their student teachers.

Philosophy of Education Data

Analysis of the Philosophy of Education data. The reader will recall that this activity served to identify the student teachers' philosophies of education and seeing how those philosophies were reflected in their respective classrooms. Also, the reader will recall that the author reasoned that student teachers will modify their personal beliefs regarding their respective philosophies of education during the period of the internship.

With the exception of two student teachers, the population of student teachers in this study completed an initial philosophy of education statement at the beginning of their student-teaching internship. Thus, of the total population of student teachers in the study, sixteen student teachers completed an intial "Philosophy of Education" statement; two student teachers did not. The two student teachers who had not completed an initial philosophy of education statement indicated on numerous occasions their intent to do so. However, by the end of the student-teaching internship neither student teacher had completed, in writing, a philosophy of education statement.

This study recognized from an individual point of view that some student teachers might not complete an initial philosophy of education statement. In the case of the two student teachers, both of them were able to verbalize some of their ideas about a philosophy of education statement and actively sought out the author (TEPAM supervisor) to share those ideas on an individual basis, but seemed unable to commit

those ideas to writing. The design model of this study with its emphasis on individualization can accomodate such an eventuality.

At the end of the student-teaching internship the student teachers were asked to complete a second philosophy of education statement. Of the sixteen student teachers who had completed an initial philosophy of education statement, five student teachers modified their initial statements; while eleven student teachers indicated their philosophy of education statements were the same as in the beginning of the student-teaching internship.

Although only five student teachers modified their initial philosophy of education statements, the author was not surprised by the results since the majority of student teachers had made very complete initial statements and felt no need to modify them. See appendix K for two examples of initial philosophies of education statements written by two different student teachers in this study.

Concerning the eleven student teachers who indicated their philosophy of education statements were the same, the majority indicated to the author that, although they had not modified their statements, they had come to understand them in new ways. This feedback suggested that the student teacher's writtten statements had become more than words on a piece of paper and had gained increased relevancy for the student teachers during the process of their supervised internship.

The significance of the philosophy of education statement from the student teachers' point of view. At the completion of the internship, the author requested the student teachers to record their reactions and

feelings concerning the significance their philosophy of education statements had regarding their student-teaching experience. See appendix H for a sample copy of the question.

The following are summaries of the student teachers' responses regarding the experience of writing their respective philosophies of education. The majority of the student teachers indicated that it was a significant experience. Several student teachers indicated that the experience had limited significance.

Several of the student teachers who viewed it as a significant experience indicated that by organizing their thoughts in order to write a philosophy of education statement, it helped them to formulate and confirm their thoughts about teaching. As one student teacher put it, "Prior to attempting to write my philosophy of education, I had ideas, however, they were much less organized. Now that I have written it, I have been able to go on to think about and organize how I would go about running my classroom in relation to my philosophy." As another student teacher put it, his or her "statements have been riding around the inside of my head for a while, and again I've had the chance to check them out with the real world." Several students indicated that completing a philosophy of education statement helped their lessons become more directed toward certain objectives which had originated from one of their statements. From a practical point of view, several student teachers indicated it helped them in answering questions during interviews for teaching positions since it had given them the chance to organize their thoughts, which made it much easier to speak about them. Also, the philosophy of education statement was considered helpful in

filling out job applications.

One student teacher indicated that writing a philosophy of education statement was the most difficult thing the student had to do during the student-teaching semester. The reason given was that the student's philosophy of education changes everyday.

As indicated earlier, several students responded that the philosophy of education activity had limited significance during their student-teaching experience. One reason given by a student teacher was that his or her philosophy of education statement was a very general statement and consequently had little direct influence on the student teacher's classroom experience. Another student teacher indicated that it did not have much significance since the student teacher's values and views were the same as in the beginning of the semester. Lastly, another student teacher indicated that since the student teacher wrote it back early in the semester, he or she could not see that it had much of any significance.

In sum, an examination of the student teacher data from the questionnaire related to the philosophy of education activity indicated that the majority of the student teachers felt that the exercise was a significant activity. Additionally, it was considered a practical experience for helping student teachers get ready for job interviews and filling out job applications. Identifying a philosophy of education statement during the period of the internship may suggest that the student teachers increased their understanding of their teaching selves. Providing student teachers an opportunity to identify, in writing, their respective philosophies of education as part of the supervisory process

seemed to have facilitated this discovery of their teaching selves.

The significance of the philosophy of education statement from the cooperating teachers' point of view. The author requested the cooperating teachers record their reactions and feelings concerning the significance writing philosophy of education statements had for their respective student teachers. See appendix I for a sample copy of the question.

An examination of the results of the questionnaire indicated that three of the cooperating teachers viewed the "Philosophy of Education" statement as having considerable significance (5) for their student teachers. The second highest rating (4) included five of the cooperating teachers. Thus, the combined higher ratings (4 and 5) included eight of the cooperating teachers. The middle rating (3) included one of the cooperating teachers. The second lowest rating (2) included three of the cooperating teachers. None of the cooperating teachers viewed the Philosophy of Education statement as having little significance.

Four or the cooperating teachers made personal comments regarding the "Philosophy of education" statements. These optional comments are listed below:

> Helped them solidify many of their ideas.
>
> Very valuable to know how to do this when applying for position.
>
> This was an absorbing project for my intern.
>
> She found it a very frustrating endeavor and really did not feel equipped philosophically to deal with it.

The data led to the conclusion that the "Philosophy of Education" statement was viewed by at least eight of the cooperating teachers as having above average significance or considerable significance for their student teachers.

Assumptions on How Children Learn Data

Analysis of Assumption on How Children Learn data. The reader will recall that this activity served as a beginning toward identifying the student teacher's assumptions on how children learn and seeing how those assumptions were reflected in his or her classroom teaching. Also, the reader will recall, that the author reasoned that student teachers will modify their personal beliefs regarding their respective assumptions on how children learn during the period of the internship.

The data indicated that twelve of the student teachers completed an initial assumptions on how children learn statement, while six student teachers did not. Of the six student teachers who had not completed an initial assumptions on how children learn statement, two of the student teachers were the same two students who had not written an initial philosophy of education statement. Once again the two student teachers indicated to the author their intent to do so, but by the end of the student-teaching internship had not completed a statement. The remaining four student teachers indicated they had incorporated their assumptions about how children learn as part of their philosophy of education statements.

At the end of the student-teaching internship, the student teachers were asked to write a second statement. Of the twelve student

teachers who had completed an initial statement, ten indicated their assumptions were the same as in the beginning of the semester. Only two student teachers actually modified their initial statements from the beginning of the internship.

The significance of the Assumptions on How Children Learn statement from the student teachers' point of view. At the completion of the internship, the author requested that the student teachers record their reactions and feeling concerning the significance their assumptions on how children learn statements had regarding their student-teaching experience. See appendix H for a sample copy of the question.

The following are summaries of the student teachers' responses regarding their reactions and feelings concerning the significance completing the "Assumptions on How Children Learn" statement had regarding their student-teaching experience. With the exception of two student teachers, all of the students who had responded to the question indicated that the assumptions on how children learn activity was significant for them.

Several student teachers indicated that the activity made them more aware of what "learning" actually is. As one student teacher put it, "I began to really look around at the children for other ways I thought they were learning that I had overlooked before." Another student teacher indicated it gave the student teacher insight as to how much he or she personally assumed about how children learn. Another student indicated that it helped the student teacher to realize that he or she had a variety of assumptions about how children learn and

recognize the fact that we all learn by different methods. Two student teachers indicated the activity helped them evaluate themselves in the classroom. As one of the student teachers put it, "I was better able to ask myself questions like 'Is what I'm asking the kids to do consistent'." Two student teachers found relationships between their philosophies of education statements and their assumptions on how children learn statements. One of the two students indicated his or her statements were similar, and the other student teacher indicated the philosophy and assumptions statements enabled the student to better organize his or her ideas for job interviews. Of the two student teachers who felt the activity was less significant for them, one indicated that this was the case because his or her assumptions had not changed from the beginning of the semester. The other student teacher felt that the activity was difficult to philosophize about because he or she was teaching such young children (kindergarten). Additionally, the student teacher felt the activity was busy work and that the activity was not effective in getting the student teacher to combine theory and practice.

In sum, an examination of the student teacher data from the questionnaire related to the assumptions on how children learn activity indicated that the majority of the student teachers felt that the exercise was a significant activity. Identifying an "Assumptions on How Children Learn" statement during the period of the internship may have helped the student teachers examine these assumptions and this increased their understanding of their teaching selves. Providing student teachers an opportunity to identify in writing their respective "Assumptions

on How Children Learn" statements" as part of the supervisory process seemed to facilitate this discovery of their teaching selves.

The significance of the Assumptions on How Children Learn statement from the cooperating teachers' point of view. The author requested the cooperating teachers record their reactions and feelings concerning the significance stating "Assumptions on How Children Learn" had for their respective student teachers. See appendix I for a sample copy of the question.

An examination of the results of the questionnaire indicated that four of the cooperating teachers viewed the "Assumptions on How Children Learn" statement as having considerable significance (5) for their student teachers. The second highest rating (4) included three of the cooperating teachers. Thus, the combined higher categories (4 and 5) included seven of the cooperating teachers. The middle rating (3) included three of the cooperating teachers. The second lowest rating (2) included two of the cooperating teachers. None of the cooperating teachers viewed the "Assumptions on How Children Learn" statement as having little significance for their student teachers.

Three of the cooperating teachers made personal comments regarding the assumption statements. These optional comments are listed below:

Also gave us a fine point of reference for discussion.

Great significance if it happened to be applied in the classroom.

This activity had relevance.

The data led to the conclusion that the "Assumptions on How

Children Learn" statement was viewed by at least seven of the cooperating teachers as having above average significance or considerable significance for their student teachers.

A Comparison of Supervisory Strategies in Phase III to Supervisory Strategies in Phase V

The reader will recall that the TEPAM program is a multiphase elementary teacher training program with a four semester sequence typically beginning in the intern's first semester junior year.

The student spends Phase III as a full time intern student-teaching in the Mark's Meadow Laboratory School. During this experience, the student teacher is placed under the guidance of a cooperating teacher who is a member of the Mark's Meadow faculty, in conjunction with a TEPAM staff member who serves as the student teacher's university supervisor from the School of Education.

During Phase V, the intern spends a second full semester of student teaching in Mark's Meadow under the supervision of a classroom teacher (cooperating teacher) and a university supervisor (TEPAM staff member). During this time the student teacher assumes increased responsibilities for the entire range of teaching skills.

During Phase III the student teachers experienced an "Intern Checklist" as part of their supervised student-teaching experience. See appendix L for a sample copy of the checklist. The purpose of the forty-three item checklist was to give the intern feedback on their student-teaching. The checklist was divided into four categories, namely "planning", "teaching", "evaluation", and "personal qualities".

A supervisor would observe the intern teaching and collect data on any number of the items in the checklist in any given situation. Whatever the case, a symbol was placed opposite the appropriate item on the checklist concerning the student teacher's performance to indicate one of four possibilities, namely a plus mark representing strength, a check mark representing showing progress, a bracket representing an area to focus on, a NA representing not applicable. This information would be shared with the student teacher during a supervisory feedback conference.

The intern checklist was an integral part of Phase III, but was not emphasized during Phase V when this study took place. Since the cooperating teachers and their respective student teachers had experienced the checklist prior to this study, the author collected data from both the cooperating teachers and student teachers for the purpose of comparing the Phase III supervised experience to the Phase V supervised experience.

In this regard, both groups responded to a questionnaire. The student teachers were asked the following question, "Having experienced the intern checklist during phase three and the strategies we employed in phase five, compare the experience of each to your student-teaching experience." See appendix H.

The student teachers' responses fell into three categories, namely those who felt the "intern checklist" used in Phase III was not helpful, those who felt that the "intern checklist" was helpful, and those who felt that both the "intern checklist" used in Phase III and the supervisory strategies employed in Phase V were helpful. A summary of the student teachers' responses are given in the following section.

Concerning those student teachers who did not find the "intern checklist" helpful, one student teacher indicated that he or she really disliked it. The student teacher thought it was too closed. Just listing and checking weak and strong points was not a big help to the student. As another student put it, "the 'Intern checklist' route left me feeling like a VW undergoing diagnosis on one of those machines." Another student teacher did not find the "intern checklist" very helpful because he or she did not have the opportunity to experience or work on alot of the skills that were listed on the checklist.

Concerning those students who felt the Phase V supervisory strategies were helpful, one student teacher indicated he or she valued the pre and post-conferences which assisted the student teacher in critiquing his or her lessons and planning future ones. The student also valued the frequency of observations. However, as the student teacher put it, "What I valued most (was) learning to evaluate my own teaching. . . ." Another student teacher indicated discussing alternative approaches--ways of teaching the same lesson differently--was helpful. Another student teacher found that he or she could pick up more valuable information with just knowing what the lesson is and concentrating on it as a whole. Another student teacher indicated that he or she found it difficult to come to grips with the objective feedback that was part of Phase V, but found it was very useful. As the student teacher put it, "It was more intense than Phase III, more demanding, both for the supervisor and the intern; but the experiences shared were rewarding."

Several student teachers indicated they liked the combination

of Phase III and Phase V. For example, one student teacher observed that the checklist covered different things about the classroom and was more specific, where in Phase V there was more discussion on a one-to-one basis. Another student teacher indicated he or she liked the combination because the checklist was good the first semester of student-teaching because it made the student teacher more aware of the responsibilities of the teacher. Phase V strategies were better in thinking of more philosophical questions concerning education. Another student teacher indicated that all of the data in both Phase III and Phase V helped the student teacher look at himself or herself and think about what the student teacher could do to improve his or her teaching methods.

Concerning those student teachers who felt the "intern checklist" was helpful, one student teacher indicated the checklist was helpful because he or she was looking for something like that as a Phase III more than as a Phase V. Another student teacher indicated the checklist was very helpful for actually keeping track of what the student teacher was accomplishing or not accomplishing and his or her strengths or weaknesses. Two student teachers indicated they found the "intern checklist" a good and effective way of evaluating lessons. For example, it dealt with more specific issues and covered things we might have not considered covering.

The author generalized from student teacher's responses that the supervisory strategies employed in Phase V, namely the design model of this study, may serve as a viable alternative for supervising student teachers. Additionally, the "intern checklist" also may serve as a useful tool in supervising student teachers.

The cooperating teachers were asked the following question, "What is your view of the strengths and weaknesses of the alternative strategy of supervision employed this semester as compared to utilizing the "intern checklist" in past semesters? See appendix I. A summary of the cooperating teachers' responses is given below.

Most of the cooperating teachers indicated a favorable response to the supervisory strategies employed in Phase V. As one cooperating teacher put it,

> This is far superior--the checklist was very cut and dried for me--gave very little opportunity for meaningful exploration together. I much prefer this alternative strategy which almost forced us to communicate important ideas, feelings, beliefs, critiques.

Another cooperating teacher indicated the strength of the strategies employed in Phase V is "in establishing an attitude toward self-assessment as an ongoing procedure--rather than something static, which, when checked off is a fait accomplis." Other cooperating teachers characterized the supervisory strategies employed in Phase V as "a more thought-provoking procedure"; "more open-ended--allowed for more discussion"; "more flexibility in dealing with on-going problems". One teacher felt that anything was better than a checklist. One cooperating teacher indicated he or she liked having a checklist as a guideline, but the supervision and feedback (in Phase V) were excellent without it. The cooperating teacher went on to suggest that the checklist is probably best used by the individual student teacher.

Two cooperating teachers indicated that there should be made for the cooperating teachers to be present during supervisory feedback sessions. (The cooperating teachers were always welcomed as part of the

feedback conference and a number of teachers did participate, however, it was not always possible for them to be present because of their teaching schedules.)

Two cooperating teachers viewed Phase V supervisory strategies less favorably. One cooperating teacher indicated that it did not focus on reality in classroom--too general. The other cooperating teacher indicated that it was difficult to make a true assessment because he or she had supervised only one student teacher using the alternative strategy. For the cooperating teacher the checklist seemed more realistic.

The author generalized from the cooperating teachers' responses that the supervisory strategies employed in Phase V, namely the design model of this study, may serve as a viable alternative for supervising student teachers.

Runner Studies of Attitude Patterns Data

Analysis of the Runner Studies of Attitude Patterns data. The reader will recall that the RSAP instrument was administered to the population of student teachers at the beginning of the internship as a pre-test and at the completion of the internship as a post-test. Sixteen student teachers took the pre-test. Two student teachers chose not to take the test. Thirteen student teachers took the post-test. Three student teachers indicated their intent to take the post-test but failed to do so.

The first question was to determine whether the thirteen respondent student teachers changed his or her RSAP attitude pattern . The

data were subjected to an analysis of variance. (E. F. Linquist, 1953) The results of this analysis indicated that there was no significant difference between the pre-test and post-test, leading to the conclusion that change of attitude patterns among the four Styles of Life Scales did not occur significantly during the time of the study.

The design of the instrument did not allow a case by case study concerning the fourteen attitude pattern scale regarding the individual student teachers. Therefore, it was not possible to establish trends from the data in a case by case study.

The lack of change from the RSAP instrument may indicate that the instrument is stable and so is the population of student teachers making up this study, or the RSAP instrument is unreliable and could not detect change.

The second question was to determine whether an adventure oriented respondent would react in a similar or differernt manner than a comfort oriented respondent on the student teacher questionnaire. An analysis of the data from the RSAP instrument indicated that eight responsents were adventure oriented and five respondents were comfort oriented. There was no significant difference between how the two different groups responded to the questionnaire. Both groups responded to the questionnaire in a similar manner.

CHAPTER VI

SUMMARY, LIMITATIONS, RESULTS, CONCLUSIONS, RECOMMENDATIONS FOR FURTHER STUDY

Summary

The principal goal of this study was to propose a strategy for supervision of student teachers based on conceptual constructs drawn from the fields of humanistic psychology, cognitive developmental theories based on the work of Jean Piaget, and systems theory (especially as systems theory relates to educational problems and issues). Its purpose was to investigate the use of an approach to supervision which utilized a humanistic, cognitive developmental, systemic orientation. The major problem being addressed in this study is whether such an approach to supervision of student teachers is a feasible model. Additionally, this study attempted to measure change over time in the population of student teachers who made up this study concerning their respective responses to instruments that were employed as part of the supervisory process recommended in this study.

The supervisory process recommended in this study is an individualized, systemic approach to supervising student teachers. This is an approach to supervision in which the supervisor assumes a role of helping student teachers discover their teaching selves--their beliefs, attitudes, values, ideals, and goals as a teacher. Helping student teachers discover their teaching selves assumes a role for the supervisor geared more toward the liberation of a student's own unique teaching

style rather than toward his or her indoctrination into pre-established norms and standards. Thus, fundamentally, the role of the university supervisor, in conjunction with the cooperating teacher, is to provide a climate for growth in which the student teacher is helped to discover his or her own peculiar strengths and grow progressively more confident in using them as the student teacher adapts to the situations he or she is in.

In order to enhance the potential for liberating a student teacher's own unique teaching style, the design model of this study employed various supervisory feedback strategies which were designed to identify the student teacher's perceptions, values, and beliefs about the teaching-learning process. These strategies engaged the student teachers a number of times during the period of the internship.

The strategies the student teachers were engaged in for this study included the following: a supervisory strategy incorporating concepts of "clinical supervision" in which non-normative, non-evaluative data was collected by the supervisor for the purpose of giving the student teachers objective feedback concerning their respective classroom teaching, a "Values in the Classroom" instrument for clarifying the student teachers' respective value priorities, a "Philosophy of Education" statement, and an "Assumptions on How Children Learn" statement.

All of the above strategies were selected because of their capacity to help student teachers discover their teaching selves. Specifically, the strategies placed an emphasis on self-awareness and self-knowledge which provided a vital framework for working with the student

teachers. For example, the activities were intended to generate data--units of self-knowledge regarding the student teachers perceptions of the teaching-learning process. Once the data was obtained, it provided the student teachers the choice to retain or modify their respective perceptions about the teaching-learning process. Thus, providing student teachers an opportunity to discover their teaching selves provides the student teachers, at the same time, the opportunity to assume the responsibility of becoming the teacher he or she aspires to become.

Limitations

This study was designed as a feasibility study addressing the question of whether an individualized, systemic approach to supervision of student teachers is a feasible model. This study does not include a control group characteristic of experimental research. Additionally, the population of student teachers represents a small size, as is appropriate in a feasibility study.

This study took place in a university affiliated laboratory school with a population of student teachers who had chosen the program. The results reported in this study may be idiosyncratic to that particular school setting and population of student teachers and lack generalizability to other school settings, and other student teacher populations.

The author served as the university supervisor in this study. At the same time, the author was the investigator in this study, consequentially collected all the data, and reported on said data.

Results

This study attempted to measure change over time in the population of student teachers concerning their respective responses to the instruments that were employed as part of the supervisory proces recommended in this study. In this regard, the results indicated different degree of change related to the different instruments. The following sections will indicate the degree of change related to each instrument beginning with the data that changed the most, namely the data related to the "Values in the Classroom" instrument and ending with the data that exhibited the least change, namey the Runner Studies of Attitude Patterns data.

Change related to the Values in the Classroom data. The results of the data indicate that the student teachers modified or changed their value priorities a considerable degree during the period of the internship. This was evidenced by the fact that many values had changed at least one rank order position on the value scale for a given student teacher. Also, individual student teachers changed a number of other values as many as four to eleven rank order positions on the value scale.

Change related to the Philosophy of Education data. The results of the data indicate that a limited number of student teachers (five out of eighteen) actually modified in writing their initial philosophies of education statements from the beginning of the student-teaching internship. However, the majority of the student teachers who had not modified their initial philosophies of education statements indicated to

the author that although the words making up the student teachers' original philosophy of education statements may not have changed, their respective understanding of those words did take on additional meaning.

Change related to the Assumptions on How Children Learn data. The results of the data indicate that only two student teachers actually modified in writing their initial "Assumptions on How Children Learn" statements. However, the majority of the student teachers indicated to the author that by testing out their assumptions on how children learn, those assumptions had taken on additional meaning.

Change related to the Runner Studies of Attitude Patterns data. The results of the data indicate that there was no significant difference between the pre and post-tests. Thus, change of attitude patterns among the four Styles of Life scales on the RSAP instrument did not occur significantly for the student teachers during the period of their supervised internship. The lack of change related to the RSAP instrument may indicate that the instrument is stable and so are the people or that the instrument is unreliable and could not detect change.

Significance of results related to the supervisory process. Providing student teachers an opportunity to modify their value priorities during the period of their supervised internship, as well as identifying their respective philosophies of education and assumptions on how children learn seemed to have facilitiated change on the student teachers' part. For example, the value changes may indicate a clarification of the student teachers' own teaching values and this would be part of the

process of finding their teaching selves.

Additionally, identifying a philosophy of education statement as part of the process of supervision seemed to have made the student teachers' statements more meaningful for them. Identifying assumptions on how children learn as part of the supervisory process allowed student teachers an opportunity to examine their assumptions and test them out in their respective student-teaching situations.

Conclusions

As stated in chapter II, Russel L. Ackoff, Professor of Systems Science at the University of Pennsylvania, noted that "Systems Age education should individualize students and preserve their uniqueness by tailoring itself to fit them, not by requiring them to fit it. . . the same input to each student will not, and does not, produce the same output." (p. 78)

Similarly, Fred T. Wilhelms (1970), a former Executive Secretary of the Association for Supervision and Curriculum Development, in a discussion concerning realignments for teacher education, (noted earlier in chapter II) stated that, "Our primary purpose must be to help each candidate as much as we can in his personal/professional becoming." (p. 17) Specifically, noted Wilhelms (1970), the student teacher ". . . needs desperately to learn that he, the unique person, has his own peculiar mix of strengths and qualities, that he does not need to be like any other teacher." (p. 15)

This study has recommended, consistent with Ackoff's and Wilhelms' position, an individualized, systemic approach to supervising

student teachers in which the supervisor assumes a role of helping student teachers discover their teaching selves. In this regard, supervisory strategies were designed to liberate the student teacher's own unique teaching style rather than toward his or her indoctrination into pre-established norms and standards characteristic of conventional supervision. The summary of results in the previous section seem to suggest that the supervisory strategies of the design model of this study facilitated the process of the student teachers discovering their teaching selves.

The major problem addressed in this study was whether an individualized, systemic approach to supervising student teachers is a feasible model. The results of the data suggest some change took place among the student teachers during the process of their supervised internship. Additionally, feedback received from the student teachers who made up the study population and feedback from their respective cooperating teachers indicated a favorable response to the design model of this study.

Implementing an individualized, systemic approach to supervising student teachers indicated that the quantity of time necessary to give supervisory feedback, consistent with the design model ranged between thirty minutes and several hours; with the average feedback conference lasting between one hour and one-and-one-half hours. It is the author's opinion that this is a greater amount of time to give supervisory feedback than in conventional supervision. Therefore, educators interested in implementing an individualized, systemic approach should not underestimate the commitment of time necessary to do justice

to the model.

The above observations suggest that an individualized, systemic approach to supervision is a feasible model which may provide a viable alternative to more conventional approaches.

Recommendations for Further Study

This study was exploratory in nature and the data collected in conjunction with it have limited significance. However, the data do furnish a basis for the further study of an individualized, systemic approach to supervising student teachers. A summary of the recommendations for further research are listed below.

It is recommended that a broader study be conducted to include different populations of student teachers enrolled in different institutions of higher education which offer teacher education programs.

It is recommended that a correlation study be conducted to focus on relationships between the student teachers' behavior in the classroom and their belief systems.

It is recommended that a procedure be investigated to modify the "classroom indicator" worksheet into categories of indicators related to the classroom environment, as well as indicators related to teacher behavior, pupil behavior and their interactions. This recommendation assumes that refining the "classroom indicators" worksheet will further enhance the potential for the student teacher to behave in accordance with his or her beliefs.

It is recommended that a procedure be investigated to modify the "Assumptions on How Children Learn" worksheet into a list of

assumptions related to learning theory. For example, student teachers could agree or disagree on a Likert scale concerning these assumptions. The purpose would be twofold; namely, to help student teachers better identify their assumptions on how children learn and to help future researchers quantify the resultant data generated from this potential instrument.

Further recommendations in terms of the supervisory process are also made. It is recommended that the design model of this study, namely the individualized, systemic approach to supervision of student teachers be implemented by interested educators. Additionally, educators should include variations on the theme to satisfy their particular considerations.

It is recommended that institutions of higher education that offer teacher education programs provide specialized training in supervisory skills for in-service teachers who have accepted the responsibility of supervising student teachers. This training in supervision might be an in-service workshop for a day or more in the cooperating teachers' school, or a course on the university campus.

Appendix A

A Summary of Robert Goldhammer's Model of Clinical Supervision

The prototype of a sequence of clinical supervision consists of five stages.

Stage 1: The Preobservation Conference. This stage is mainly intended to provide a mental framework for the supervisory sequence to follow. Although its functions can be viewed somewhat differently by the teacher and the supervisor, in general, in our practice, it has served the following purposes:

(a) Reestablishing Communication; relaxation: The idea here is simply that it can be useful for Teacher and Supervisor to talk together sometime in the sequence before the supervision conference, if only to renew their habits of communication, their familiarity with one another's intellectual style and expressive rhythms, for both of two reasons: (1) in some measure, to eliminate problems of reestablishing mutual adjustments from the supervision conference (at which the stakes are sometimes rather high), and (2) to reduce anticipatory anxieties as both parties prepare to join again in important collaboration. In homely terms, we seem to find that Supervisor and Teacher can be more relaxed in the following stages of the sequence if they have been able to talk together successfully in the initial stage.

(b) Fluency: Both Teacher and Supervisor require fluency in Teacher's plans for the teaching that will, presumably, be observed. Understanding the teacher's frame of reference is necessary for either of two purposes--for helping him to function successfully in his own terms or for modifying his plans according to concepts existing in the supervisor's frame of reference. The principal means, in this stage, for enhancing both members' fluency, is for the Teacher to present his most polished and updated version of plans whose formulation was begun during the prior sequence of supervision in this cycle. His presentation serves dual purposes: Supervisor learns just what Teacher has in mind, and Teacher is able to test and increase his own fluency by verbalizing his ideas to Supervisor.

(c) Rehearsal: In a rudimentary sense, we can imagine that the simple enunciation of his plans provides Teacher with a degree of rehearsal for his teaching, at least a conceptual rehearsal. Additional opportunities exist in Stage 1 for more thorough rehearsal of instructional behavior.

(d) Revisions: Besides providing Teacher with a chance to rehearse planned episodes of his instruction, Stage 1 creates an opportunity for last-minute revisions in the lesson plan.

(e) Contract: The preobservation conference is a time for Teacher and Supervisor to reach explicit agreements about reasons for supervision to occur in the immediate situation and about how supervision should operate. Among other things, having established what the Teacher is after and how he thinks he feels about the whole business, the question ought to be raised of whether observation and the rest of the sequence should take place at all.

Stage 2: The Observation. The supervisor observes to see what is happening so that he can talk about it with the Teacher afterwards. He generally writes down what he hears and sees as comprehensively as possible. Instead of recording general descriptions, the observer should get the stuff down verbatim; everything everybody says, if that's possible, and as objective an account of nonverbal behavior as he can manage. Why?--because in the supervision to follow, the main job will be to analyze what has taken place in the teaching.

One reason for Supervisor to observe is that, being engaged as he is in the business of teaching, Teacher cannot usually see the same things happening as a disengaged observer can. By adding eyes, the data are increased. Another reason--this also backfires occasionally--is to demonstrate commitment to Teacher, a serious enough commitment to justify paying such close attention to his behavior as the observer must.

Another rationale for Stage 2 is that by putting himself in close proximity to the Teacher and the pupils at the very moments when salient problems of professional practice are being enacted, the supervisor occupies a position from which he can render real assistance to Teacher, in Teacher's terms, and according to specific observational foci (tasks) that Teacher may have defined in Stage 1.

If observational data can be used for developing solutions to problems of practice, then such data can also be employed to authenticate the existence of certain problems, to make sure they are real, and as bases for articulating previously undefined problems.

Stage 3: Analysis and Strategy. Stage 3 is intended for two general purposes: first, in Analysis, to make sense out of the observational data, to make them intelligible and manageable; and second, in Strategy, to plan the management of the supervision conference to follow, that is, what issues to treat, which data to cite, what goals to aim for, how to begin, where to end, and who should do what.

The analytical component of clinical supervision is intended to make it safer--less whimsical, less arbitrary, less superficial--than supervision of the past. And particularly when Teacher is trained to participate in analysis of his own teaching, based on the truest and most comprehensive representations of that teaching that can be created, his chances of experiencing profit from the enterprise are most favorable.

Supervisor's next step, after having performed an analysis of the observational data, is to make decisions about how the supervision conference should be conducted.

The principal rationale for Strategy, like that of instructional planning, is that a planned approach toward specified goals by deliberate processes is more likely to work out than a random one.

In a more general sense, if supervision is intended to result in process outcomes as well as in purely technical ones, that is, if it is intended to affect patterns of behavior and underlying psychological predispositions as well as simply to transmit substantive information, then it is more difficult to prepare for supervision than it would be otherwise. Rather than simply having to prepare one's material, as for a lecture, one must additionally prepare oneself for collaboration intended to benefit one's supervisee; both technical and process outcomes depend very much upon one another.

If Teacher is functioning well in supervision, if he is relaxed, intelligent, committed, professionally creative, and functioning autonomously, than Strategy gives him time to order his priorities and to screen issues for the conference accordingly.

Stage 4: The Supervision Conference. In succinct terms, the supervision conference is intended:

1. To provide a time to plan future teaching in collaboration with another professional educator. Perhaps the best measure of whether a conference has been useful, in Teacher's framework, is whether it has left him with something concret in hand, namely a design for his next sequence of instruction.

2. To provide a time to redefine the supervisory contract: to decide what directions supervision should take and by what methods it should operate (or whether supervision should be temporarily terminated.)

3. To provide a source of adult rewards. In common practice, teachers have few opportunities for their value to be acknowledged by other adults who have professional sophistication and who know their work, that is, Teacher's work, intimately.

4. To review the history of supervision, that is of the problems that Supervisor and Teacher have addressed formerly and to assess progress in mastering technical (or other) competencies upon which Teacher has been working.

5. To define treatable issues in the teaching and to authenticate the existence of issues that have been sensed intuitively.

6. To offer didactic assistance to Teacher, either directly or by referral, in relation to information or theory that Teacher requires and of which Supervisor may have relatively advanced knowledge.

7. To train Teacher in techniques for self-supervision and to develop incentives for professional self-analysis.

8. To deal with an array of factors that may affect Teacher's vocational satisfaction as well as his technical competency. The question of what issues of this kind are appropriate to treat in supervision depends largely upon the participants' inclinations, the supervisor's special skills for such work, pertinent situational variables and the overriding question of how supervision can be therapeutic (small "t") without becoming Therapy (large "t").

Stage 5: The Post-Conference Analysis ("Postmortem"). The postmortem is the time when Supervisor's practice is examined with all of the rigor and for basically the same purposes that Teacher's professional behavior was analyzed theretofore. In both instances our principal rationale is that examined professional behavior is more likely to be usefull--for everyone--than unexamined behavior; that, perhaps, the only truly worthwhile existence is an examined existence.

The postmortem arises from pragmatic, methodological, and historical considerations. First, it represents a basis for assessing whether supervision is working productively, for ascertaining its strengths and weaknesses, and for planning to modify supervisory practices accordingly. In this context, any and all variables are appropriate to review: supervisory technique, implicit and explicit assumptions, predominating values, emotional variables, technical and process goals, and the like. Second, Supervisor can demostrate

skills of self-analysis by familiarizing Teacher with the work he does regularly in postmortem. In other words, if he chooses, for example, to have Teacher witness his verbal enactment of a postmortem in the context of some other teacher's supervision, by this technique Supervisor could turn the PM to didactic advantage in his supervision. Third, Teacher's awareness of Supervisor's regular practice of Post-Conference Analysis should help to offset misgivings that may exist concerning Supervisor's commitment and the historical disparity between his professional vulnerability and the Teacher's.

Goldhammer, Robert. Clinical Supervision. New York: Holt, Rinehart, and Winston, 1969.

Appendix B

UNIVERSITY OF MASSACHUSETTS, SCHOOL OF EDUCATION
PROGRAM SAMPLER 1974-1975 ACADEMIC YEAR

Designs for Effective Learning

Center for Urban Education Teacher Education Program (CUETEP). This program is designed to prepare elementary or secondary teachers who will have, in addition to concepts and skills relating to learning theory, the political sophistication necessary to become effective reform strategists. The program is flexible, having multiple entry and exit points.

Computer Augmented Teacher Training (CATT). This program is designed to develop teaching competency, computer literacy, and social awareness for undergraduate mathematic majors. It is a two semester sequenced program open to juniors and seniors desiring certification for secondary mathematics teaching. (Master's students desiring a concentration in mathematics education at the elementary and/or secondary level will be admitted into the program in the Spring 1975 semester).

Integrated Day--Model Elementary Teacher Education Program (METEP). This is a two semester pre-service, in-service continuum in elementary education. It provides those competencies necessary to function effectively in integrated day classrooms or in any educational setting where active learning is emphasized.

Off Campus Program. This is a three semester program leading to elementary or secondary certification. The initial semester focuses on a microteaching laboratory experience through which teaching competencies will be assessed and related classroom issues will be discussed. The second semester includes student-teaching sites in a variety of locations including California, Colorado, England and Europe. The last semester is primarily individually negotiated and contracted.

Division of Educational Planning and Management

Amherst Elementary Program (AEP). This program is for prospective elementary teachers and offers a wide range of practical alternatives for working in elementary schools. There are various entry and exit points depending on the individual needs of the student.

Cooperative Education. This program is for secondary school teacher

candidates interested in the growing field of cooperative education. In working with high school students who divide their school time between classroom learning and work-learning experiences, participants study the changing relationship between school, society, and work. They consider the contradiction between "schooling" and education, and examine social problems--racism, sexism, alienation, equal job opportunities--as they appear in school and in the world of work.

Secondary Science and Social Studies. This program is designed for those students from other academic departments who wish to prepare for a career as either a secondary science or a social studies teacher.

Division of Humanistic Applications of Social and Behavioral Sciences in Education

Explorations! Explorations! is designed for students wishing to construct an individualized year of learning experiences based on personal/life goals. Students incorporate into their programs formal courses, internship, field experiences, independent study, or seminars/workshops with Explorations! Students seeking certification must complete the courses indicated by the program director.

Humanistic Program. This is a new program presently being designed to train undergraduates in new and effective ways of educating people in institutional settings other than schools, including prisons, mental hospitals, community mental health centers, detention centers, and state agencies. Strong emphasis will be placed on on-site training and experiential learning.

Education Policy Studies

Early Childhood Education. Students may elect one of the following areas of concentration in this program.

Multi-Cultural Emphasis. The Multi-Cultural thrust of the Early Childhood Education program is designed to prepare early childhood teachers for work in particular sub-cultural or international settings. It is a two year program leading to elementary certification.

Anisa Emphasis. The Anisa thrust of the Early Childhood Education program offers prospective early childhood teachers a comprehensive theoretical approach to teaching designed to foster maximum development in children. It is a two year program leading to elementary certification.

Human Development. The Human Development component of the Early

Childhood Education program is designed to prepare students broadly for work in child-serving professions as well as for teacher certification in Early Childhood Educational Programs (children 2-8). The program emphasizes a strong interdisciplinary social science base, an open education philosophy, and the provision of two student-teaching experiences--one of which is a highly supervised integrated experience of methods curriculum and practicum within our own Laboratory Schools.

Education for Spaceship Earth (ESSE). This program's broad objective is to prepare elementary and secondary teachers to educate their students with skills and values appropriate to a rapidly changing world. Following an introductory course, each student decides on an area of emphasis--either Environmental Education, Internation Education, or Global and Future Studies, or some combination of these areas.

Transdisciplinary Education

Bilingual/Bicultural Education Professions Program. This is an intensive five-semester program designed for the education of students from non-English origins. It features laboratory and clinical experiences in the community and in the classrooms prior to elementary and secondary certification.

Classroom Based Diagnostic/Resource Teachers (CBDRT)--Special Education. This is a two year program designed to prepare students as Classroom Based Diagnostic/Resource Teachers (CBDRT). The CBDRT is a specifically trained special educator with skills in determining the needs and strengths of children perceived as learning and/or behavior problems, in assessing the resources available, and in facilitating optimum utilization of the regular classroom environment to successfully provide positive learning and growth experiences for such children. The program is completely generic in nature and applicants should be certifiable in elementary and secondary education.

Education for Community Service (ECS)/Omnibus. ECS is a graduate, community education program located in Falmouth, Massachusetts. Graduate participants include teachers and other community human service workers, who are engaged in a two-year M.Ed. program of studies and full-time, one year M.Ed. candidates who are appointed as visiting teachers at Falmouth High School. Major features of the program are: complete on-site program of studies, leading to M.Ed. and secondary Massachusetts certification; diversity of participants (age, agency role, experience), small group learning experiences; emphasis on the available learning resources of a given community; juxtaposition internships of in-service participants; access for all participants to a range of field experiences, human service institutions including Falmouth High School; weekly seminars and periodic retreats. The program's

focus is upon building a sense of community among participants and improvement of communication among a variety of human service institutions resulting in responsible institutional reform.

Omnibus is a co-ed, alternative secondary school, located in the Woods Hole section of Falmouth, Massachusetts. Omnibus serves 25-30 Falmouth High School students in an intimate and supportive learning environment. Undergraduate UMass. interns function as staff with support-training/ supervision provided by school and ECS staffs. Program of studies leads to secondary certification. Complementary internships available including practice teaching experience at Falmouth High School.

English. This is a joint program with the English Department in the College of Arts and Sciences. All students desiring secondary certification in English do their student-teaching through the English TEC program in the School of Education. Entrance into the program is based on selection by the English Education Committee, College of Arts and Sciences.

Individual Student Learning in Education (ISLE). This is a teacher education program for master's and doctoral students in the School of Education only. The student, with his advisor, builds the necessary learning experiences into his program. Placement and supervision during interning are arranged for by the student and monitored by his advisor.

Media Specialists Program for the Handicapped. This is a three-year program beginning in the junior year and concluding with a Master's degree. Sponsored by the Training Branch of the Bureau of Education for the Handicapped, U. S. Office of Education, its goal is to train professionals to work with media in a variety of special education settings. Media specialists do not teach, but work closely with students, teachers and administrators, to help handicapped students achieve at the same rate as their non-handicapped peers. They learn to make and use movies, slides, transparencies and video tapes; they study media production, audio-visual administration and photography as well as principles in education of the handicapped, language acquisition and development, and various other aspects of special education. (NOT a teacher certification program).

Perspectives in Interdisciplinary Education. A modified version of Horizons, this program has been designed for academic majors and BDIC students who are interested in interdisciplinary and interpersonal learning. It is open to both undergraduate and graduate students.

Teacher Education Program at Mark's Meadow (TEPAM). This is a five

semester program combining course work with classroom teaching in Mark's Meadow Elementary School. The theory and experience of the "integrated day" model are closely related in this program to prepare elementary school teachers. (See appendix D for further information concerning the TEPAM Program).

Appendix C

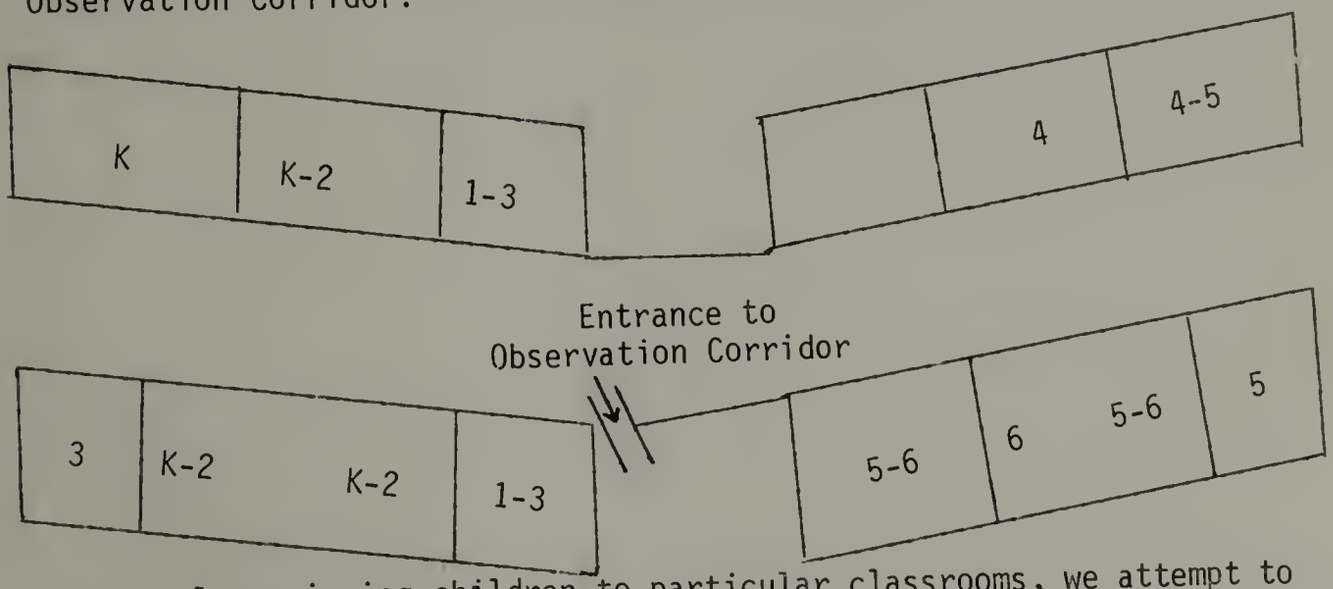
Introduction to Mark's Meadow Laboratory School

We are always delighted to welcome visitors to Mark's Meadow. We hope you find your visit enjoyable and rewarding. All members of our staff stand ready to answer questions and provide additional information. This handout will provide you with basic information about the school to make your visit more profitable.

Organization. Mark's Meadow is a K-6 school. It is one of four public elementary schools in the town of Amherst. It is also the laboratory school for the School of Education of the University of Massachusetts. Under a formal agreement between the University and the Town, the Amherst School Committee has the basic responsibility for the educational program at Mark's Meadow, while the University has the basic responsibility for the physical plant and the capital outlay budget. Classroom teachers at Mark's Meadow are employees of the Amherst School System and also have appointments as Demonstration Teachers on the School of Education faculty.

The 350 children enrolled at Mark's Meadow are assigned to this school on the basis of geographic residence. The school population is a microcosm of the town population in terms of socio-economic background, racial and ethnic composition, and occupation.

Most of the thirteen classrooms at Mark's Meadow are multi-grade classrooms. This map will help you identify classrooms as you use the Observation Corridor.



In assigning children to particular classrooms, we attempt to take into consideration many different factors including learning style, parental preference, maturity, needs and interests. There is, however, no attempt to group children by "ability"; each classroom will include a wide spectrum of skills, interests, and levels of development among its members.

Education Philosophy. Mark's Meadow strives to provide an environment for each child which facilitates the development of:

1. specific skills in the areas of reading, writing, and computation;
2. generalized learning skills, including skills of questioning and inquiry, defining learning objectives, solving problems, formulating hypotheses, generalization, and analysis;
3. feelings of competency and self-worth;
4. expressive skills in a variety of media; including movement, art, music, film and photography;
5. human relationship skills, particularly the skills of cooperative learning;
6. the sense of a learning community in which human diversity and the individual differences can be prized and nourished.

In addition, we are committed to certain generally accepted principles of learning:

1. each child has his own distinctive learning style;
2. children become "ready" to learn particular skills and concepts at different times and at different rates;
3. all children have the capacity to becom autonomous, self-directed, and self-disciplined learners.

Curriculum. The curriculum at Mark's Meadow is similar in its goals and purposes to the curriculum in other Amherst Elementary Schools. We share a commitment to stating our learning objectives in performance terms wherever possible. We share a commitment to individualizing our instruction to accommodate the different learning styles and rates that the children have. Our curriculum is non-graded, so it is the child's needs, abilities and interests which determine his learning activities rather than his age or grade level. In so far as possible, basic skill development and the subject areas are integrated into projects and activities that reflect and develop children's interests and curiosity.

The Classroom. As you observe the classrooms at Mark's Meadow you may be struck by certain features which are different from any conventional classrooms.

The classroom environment. Our classrooms attempt to strike a balance between stimulation and order. On the one hand, both the physical arrangement of the classroom and the displays reflect the activities that the children are engaged in and are intended to elicit a lively interaction among people and "things". On the other hand, each child has his own place to keep his work and belongings, and each classroom will provide space for privacy when the child wants to withdraw for a while. The carpeting not only provides more usable space--since many activities take place on the floor--but also serves acoustically to deaden sound.

The variety of activities. At any given time, you are likely to find many different activities occurring simultaneously. While to a visitor the first impression may be one of confusion, both the children and the adults in the classroom have a clear sense of their daily plans. The day is ordinarily not broken up into different time periods for subject areas. Children are expected to take considerable responsibility in planning their own schedules, while the teachers, of course, must monitor the children's progress to make sure that important areas of development are not being neglected. We like to think that our program is highly structured, but structured around the needs and interests of individual children rather than the class as a whole. There is no question that this places a heavy burden upon the teacher in terms of both record-keeping and individual communication with children, but our teachers all feel that the satisfactions to be gained from this approach are worth the exceptional demands it makes.

The number of adults. In addition to the teacher, each classroom will include student teachers who are members of a Teacher Education Program which Mark's Meadow runs. These men and women are undergraduates in the School of Education who have chosen the Mark's Meadow Program from among the over twenty undergraduate teacher education programs the School of Education offers. In addition to other course work in the program, these students spend two full semesters in the classroom. The Mark's Meadow teachers take unusual responsibility for providing their basic training in methods and curriculum as well as supervising their actual student-teaching. Our Kindergarten classrooms also have half-time kindergarten aides so that we may give special attention to the five-year olds during their crucial first year of school.

Special Services. In common with the other Amherst Elementary Schools, Mark's Meadow is staffed to provide special services for children. We have full-time counselor and a full-time reading specialist who also supervises our Learning Disabilities Program. We share the services of a Speech and Hearing Therapist with one other school. The school system provides the services of a school psychologist, a psychometrist, and a consulting psychiatrist. In those rare cases where we feel we are unable to meet a child's needs in the regular classroom, the school system has a professionally-staffed program in another school to which the children can be assigned.

Reporting Student Progress. The core of our reporting system is the parent-teacher conference which is formally scheduled twice a year and more frequently at either parent or teacher request. In January and May we send home formal Progress Reports in the areas of Language Arts and Math. Throughout the year, as the child completes units in science, social studies, health, music, art, physical education, and foreign language, unit reports are sent home to the parents.

Appendix D

Teacher Education Program At Mark's Meadow (TEPAM)

School of Education, University of Massachusetts,
Amherst, Massachusetts, 01002

The Teacher Education Program at Mark's Meadow (TEPAM) is a four-semester sequence preparing students to teach in elementary schools. The total program consists of thirty-six (36) credits, allocated as follows among normal certification areas:

Educational Psychology	- 6 credits
Elementary Methods	- 6 credits
Curriculum Development	- 3 credits
Student Teaching	- 6 credits
Supervised Internship	- 15 credits

(Approximate total clock hours for participation in an elementary school classroom and classroom related activities for an average TEPAM student is 792 hours.)

Sequentially the program is as follows.

Phase II: The Child and His/Her World - 6 credits. Selected topics in educational psychology with particular emphasis upon learning theory and child development. Topics include 1) theories on child development; 2) socialization; 3) self-concept; 4) Integrated Day philosophy and assumptions; 5) racism; 6) authority; 7) cognitive development; 8) psychosexual development; 9) inter-personal relationship theories. Seminars are combined with direct and sustained relationships with two children of different ages and sexes, as well as intensive, directed weekly observations of classrooms, teachers, children and materials in the entire range of elementary classrooms in Mark's Meadow (K-6).

Approximate clock hours in the Phase:	OBSERVATION	- 25 hours
	TEACHING	- 15 hours
	PLANNING	- 10 hours

Phase III: Student Teaching (6 credits), Elementary Methods (6 credits), and Curriculum Development (3 credits). Full-time supervised student-teaching (daily 8:15-3:30) is integrated with methods seminars and workshops which are planned and implemented by Mark's Meadow teachers and other University faculty and staff members, in the following areas: reading and language arts, math, science, humanistic education, aesthetics and social studies. In this arrangement, student teachers have the opportunity to learn methods and curriculum development techniques from practicing classroom teachers as well as University staff, in a setting where they can immediately apply the techniques in a classroom with children, and continuously assess its value and appropriateness. Curriculum development seminars deal with the formulation

and use of performance objectives, individualizing instruction, classroom management and record keeping techniques, development of learning centers, planning (short and long range) and integration of subject areas. Other sessions focusing on practical suggestions from teachers include such topics as establishing parent relationships, report cards, first day of school, discipline techniques, rainy day activities, use of audio-visual equipment, job interviews and writing resumes.

Approximate clock hours in the Phase:

OBSERVATIONS	- 60 hours
TEACHING	- 192 hours
PLANNING	- 50 hours
METHODS SEMINARS	- 60 hours

Phase IV. Students in Phase IV complete their university requirements and take specialized education courses including additional methods courses based upon their needs as determined the previous semester in the classroom. This Phase also encourages and allows time for student reflection and internalization of their teaching experience.

Phase V: Supervised Internship - 15 credits. Student return to the classroom for a final full semester of student teaching and assume increased responsibilities for the entire range of teaching skills under the supervision of the classroom teacher and the TEPAM staff.

Approximate clock hours in this Phase:

OBSERVATION	- 30 hours
TEACHING	- 300 hours
PLANNING	- 50 hours

NOTE: The above summary of the sequential phases of the TEPAM Program describes the minimum program requirements for all students receiving program recommendation, while the attached supplement provides supportive individual course descriptions and learning experiences this student has accumulated in the field of education outside of the Program. (Supplement provided by student).

Appendix E

DATE _____

_____

NAME _____ COOPERATING TEACHER _____

Values in the Classroom*

The following activity is a beginning toward identifying your value priorities and seeing how these priorities are reflected in your classroom.

Objectives:

1. To list in order of importance the personal values that could influence your classroom
2. To examine these priorities in terms of observable classroom behavior
3. To compare your values with observable classroom behavior

Directions:

1. Below are twenty-four values that might be displayed in various ways in a classroom. In your ideal classroom, how would you rank them? Place a 1 next to the quality you value most in your classroom, a 2 next to the second most important, and so on through 24, which will represent the quality you value least.

_____Alienation	_____Fairness	_____Orderliness
_____Chaos	_____Favoritism	_____Passivity
_____Concentration	_____Fear	_____Privacy
_____Creativity	_____Freedom	_____Purposefulness
_____Disorder	_____Independence	_____Quiet
_____Dogmatism	_____Laughter	_____Respect
_____Dominance	_____Love	_____Ridgidity
_____Equality	_____Obedience	_____Self-Direction

2. List your highest three and lowest three in the space provided below.

1. _____	22. _____
2. _____	23. _____
3. _____	24. _____

*The activity described above was exerpted from the following: CURWIN, Richard L., and FUHRMANN, Barbara Schneider, Discovering Your Teaching Self: Humanistic Approaches to Effective Teaching, Prentice-Hall, Inc., Englewood Cliffs, N.J., 1975.

3. In the space provided below list the values you ranked in the top three positions. For each value, list three classroom indicators that would demonstrate the presence of that value in your classroom. Then list the qualities you put in the bottom three value positions and list for each one three classroom indicators that would reflect their presence in a classroom.

Qualities Valued Most Highly	Qualities Least Valued
1. _____	22. _____
a.	a.
b.	b.
c.	c.
2. _____	23. _____
a.	a.
b.	b.
c.	c.
3. _____	24. _____
a.	a.
b.	b.
c.	c.

Follow Up

Give an observer your worksheet containing the indicators. Have the person observe you in the classroom in order to collect data on the priority list. Examine the data collected by the observer and compare it with indicators on your worksheet. Discuss the comparison with the observer.

Appendix F

DATE _____

NAME _____ # _____

The following activity is a beginning toward identifying your philosophy of education and seeing how it is reflected in your classroom.

Appendix G

DATE _____

NAME _____ # _____

The following activity is a beginning toward identifying your assumptions about how children learn and seeing how they are reflected in your classroom.

Appendix H

MEMORANDUM

FROM: Bob Fitzmaurice

TO: Phase Five Interns

RE: Intern Reactions To Alternative Strategy of Supervision

Now that we have completed a full semester of an alternative approach to supervision, I would greatly value your taking the time to record your reactions and feelings to the questions listed below:

Please respond in the space provided below, but feel free to use the back side of the page if necessary.

1. Having completed the value clarifying instrument several time during the semester, what significance did this have regarding your student-teaching experience?

2. Having stated your philosophy of education one or more times during the semester, what significance did this have regarding your student-teaching experience?

3. Having stated your assumptions of how children learn one or more times during the semester, what significance did this have on your student-teaching experience?

4. Having identified "classroom indicators" several times during the semester, what significance did this have on your student-teaching experience?

5. Having experienced the intern checklist during phase three and the strategies we employed in phase five, compare the experience of each to your student-teaching experience.

Appendix I

MEMORANDUM

FROM: Bob Fitzmaurice

TO: Cooperating Teachers

RE: Faculty Reactions to Alternative Strategy of Supervision

Now that we have completed a full semester of an alternative approach to supervision, I would greatly value your taking the time to record your reactions and feelings to the questions listed below:

1. What significance, from your point of view, did completing the Values Clarifying Instrument have for your student teacher this semester?

1	2	3	4	5
Little Significance				Considerable Significance

Optional Comments:

2. What significance, from your point of view, did identifying "classroom indicators" related to the Values Clarifying Instrument have for your student teacher this semester?

1	2	3	4	5
Little				Considerable Significance

Optional Comments:

3. What significance, from your point of view, did writing a philosophy of education statement have for your student teacher this semester?

1	2	3	4	5
Little Significance				Considerable Significance

Optional Comments:

4. What significance, from your point of view, did stating Assumptions About How Children Learn have for your student teacher this semester?

1	2	3	4	5
Little Significance				Considerable Significance

Optional Comments:

5. What is your view of the strengths and weaknesses of the alternative strategy of supervision employed this semester as compared to utilizing the "intern checklist" in past semesters?

Appendix J

Qualities Valued Most Highly

1. Love

   a. Children working together, helping each other.

   b. Presence of affection, touching between children and children and teacher.

   c. Treating each other as equals, caring.

2. Respect

   a. Allowing each other to voice his or her opinion.

   b. Caring for one another's personal belongings, work, projects.

   c. Praising each other.

3. Independence

   a. Children pursuing their own interests.

   b. Children working individually.

   c. Children who are able to speak for themselves, who are not afraid of what their peers will say.

Qualities Least Valued

22. Alienation

   a. A teacher who does not join in with children, merely gives orders and directions.

   b. A teacher who constantly separates one child from the class because of what she suspects may happen.

   c. Children who are alienated or separated from each other in thoughts, physical affection, and actual learning.

23. Passivity

   a. Children who carry out assignments with little enthusiasm.

   b. Children who do not voice their feelings, who merely let things happen.

   c. Little smiling and laughter.

24. Fear

   a. Children who are afraid to speak out for fear of being wrong.

   b. Children who are hesitant when it comes to approaching the teacher.

   c. Children who are hesitant when it comes to approaching each other.

Appendix K

Student G - Philosophy of Education Statement

I feel that education should become more individualized with children learning at their own pace. The teacher should be more of a resource person, planner, and guide and allow the children to initiate their own projects, pursue their own interests, and become more responsible for their work and completion of assignments.

Not all children benefit from individualized instruction. Through my experiences, I have found that some children need more structure and cannot always take full responsibility for their work. For those children who are responsible, individualized instruction is extremely effective.

Also, children should be encouraged to learn from each other as well as from the teacher. These will be some of my objectives which I plan to implement in my classroom.

Student R - Philosophy of Education Statement

My philosophy of education is concerned with the relationship between the environment of the classroom and the role played by the teacher and student, within this environment.

I perceive my role to be a facilitator to the student. This could be developed through interaction between the student and teacher in the manner of a helping relationship.

One way in which I have chosen to develop this relationship is to provide an environment to stimulate the interests of individual children. I recognize that the child comes to us with natural curiosity about his environment and it is my task to find ways to build on that curiosity, thereby enhancing the child's potential for learning.

Specifically, I would structure the environment to include learning centers. In this kind of setting students would be able to pursue many of their personal interests and curiosities. By allowing individual choices within the classroom learning centers the students can increase their influence over their own learning.

I am confident that this is one type of teaching strategy in which I coud be effective and beneficial to the student in enriching his or her individual growth.

Appendix L

INTERN CHECKLIST

Intern_____ Form completed by_____
Cooperating Teacher_____

KEY: + = strength
✓ = showing progress
() = area to focus on
NA = not applicable

Date of Observation	
	PLANNING: Daily preparation
	Brainstorming and flowcharting (integrating and extending activities).
	Short range planning (lesson planning including writing lesson plans).
	Long range planning (unit planning including writing unit plans).
	Skill in specifying objectives (including written objectives).
	Skill in recognizing what decisions have to be made before, during and after a learning experience.
	Ability to plan for individual needs.
	Resourcefulness in planning activities/lessons (both in locating materials and resource people, and in locating ideas).
	Ability to make/create games, materials, worksheets whenever necessary to supplement existing materials (not necessarily original ideas).
	Ability to uncover and use kids' interests as a source of curriculum.
	Ability to plan with the whole class (i.e. a class trip, making class decisions, etc.)
	Ability to plan for the whole class for at least a day.
	Ability to plan with a small group or with individual children.
	Ability to establish realistic expectations for children.
	Ability to diagnose specific strengths and needs of children and to develop appropriate learning alternatives to meet them.
	TEACHING: Can apply learning theory in relation to his/her own teaching.
	Ability to ask appropriate questions.

INTERN CHECKLIST, P. 2

Date of Observation	
	Skill in focusing observation techniques.
	Use of appropriate instructional resource materials.
	Skill in promoting pupil participation.
	Ability to facilitate and improve classroom interaction (communication between different people in room).
	Skill in facilitating and encouraging decision-making on the part of students while teaching.
	Ability to be in tune with the overall atmosphere in the classroom ("antennaes up"); to be sensitive to needs of children other than those in your immediate group.
	Awareness of one's own non-verbal behavior.
	Voice control.
	Effectiveness of verbal communication.
	Ability to construct activity cards or activities to correspond to performance objectives.
	Skill at handling classroom crises.
	Ability to maintain class order.
	Ability to change teaching approach "on the spot" when necessary and be responsive to kids and the situation.
	Skill in coordinating several activities at one time.
	EVALUATION: Ability to evaluate/assess children's work appropriately.
	Ability to evaluate a learning process as well as a learning product.
	Ability to design/devise informal evaluation/diagnostic tools when necessary (check-lists, observation sheets,etc.)
	Ability to use published standardized, formal tests required by the school system.
	Skill in recording pupil progress in a variety of ways.
	Skill in recognizing children with special needs.
	Ability to display children's work attractively.
	Ability to design or help children design displays.
	Ability to assess own strengths and needs.
	Sensitivity to system expectations (school system policies, regularity of attendance, confidentiality, etc.)
	PERSONAL QUALITIES: Ability to demonstrate a sensitivity towards assuming responsibility in the classroom.
	Responsiveness to assignments, suggestions, requests made by cooperating teacher or supervisor.
	OTHER OBSERVATIONS:

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