CHAPTER VI

MODELS OF TEACHING

In Chapters I through V, several views of teaching have been presented. This review of the literature demonstrates that there is more to teaching than just a set of behaviors. Furthermore, there is currently no one theory of learning or teaching that encompasses all the factors that need to be considered about teaching. Even the eclectic instructional systems development approach does not deal with all aspects of teaching. It does not focus on implementation, for instance. Furthermore, it is only a sequence of specific techniques for handling content, and this limits its scope and flexibility. However, other approaches to teaching are limited in other ways. To view teaching as a process of human interaction is to ignore aspects considered important by instructional systems development. What is needed is an approach to analyzing teaching which draws all these points of view together into one model.

Currently, there are some trends which represent attempts to move in this direction. There are a number of models of teaching, each representing one approach to teaching (see

Appendix). No one has suggested a model to be used for teacher certification, although one approach to the analysis of teaching is being widely considered for a basis for teacher certification. This approach rests on the assumption that teaching consists of, and can be analyzed in terms of, a set of competencies. There are a number of different ways in which people define competencies, however. Some educators attempt to define competencies in terms of precise behavioral skills. Other educators believe this approach is too mechanistic. They see competencies as patterns, or processes. Taking this view are two important models of education: 1) the Integrated Day Program (open education), and 2) the ANISA Model. Both of these models of education have implications for teaching.

Teaching as a Set of Competencies

There is much talk about developing "Competency-Based-Teacher-Certification." Currently, most states are reviewing the concept.

In June of 1972 the first newsletter designed to provide information about a Competency-Based Certification project in New York was published and to date twelve trial projects have been established in the state.

At the same time, Florida

> ...is conducting one of the strongest performance movements in the nation. The Florida Center For Teacher Training Materials is cataloging and reviewing training

materials that promote the development of teacher competencies. The Florida Project, consisting of a consortium of teacher education institutions throughout the state, is collecting and reviewing Protocol materials that are being developed nationally. The Catalog of Competencies Project is developing an open-ended, comprehensive catalog of teaching competencies under the direction of Florida State University. Several orientation and several training sessions are being conducted throughout the state.

Utilizing an approved program approach to performance-based teacher certification, Florida is in the process of adopting state program approval standards which require the establishment of performance criteria within individual programs (Roth, 1972, p. 2).

The states which reported no activity in investigation of competency based instruction are: Alaska, Colorado, Kansas, Missouri, Nebraska, New Hampshire, New Mexico, North Dakota, Oklahoma, and Wyoming. However, work is being conducted on developing technologies of teaching in both Kansas and New Hampshire. In effect, this means that only eight states haven't begun formally to consider competency-based certification. This indicates the interest in identifying teaching competencies that can be used for training of teachers and certification. Furthermore, interest has spread to countries outside the United States to such a degree that UNESCO has felt it justifiable to set the identification of teaching competencies as a top priority in the work of its organization.

One major definition of competency is "The capability of a teacher to perform a given task (New Jersey State Department of Education, 1971)."

The New Jersey Performance Evaluation Project lists its evaluation objectives as:

1. To identify the minimum level of teaching performance required for initial regular certification. This includes:
   A. Identification of minimum performance criteria necessary to teach a given subject and/or age group
   B. Identification of those minimum performance criteria, if any, which are common to all subject areas or grade levels.
2. To develop a method for measuring the degree of competence of applicants seeking initial regular certification.
3. To teach educators involved in evaluating applicants for initial certification the proper use and interpretation of the methods that have been developed for evaluating performance (Ibid.).

The project's approach has been to establish task forces to investigate 16 areas, as follows:

1. Art Education
2. Business Education
3. Elementary Education
4. English
5. Exceptional Children
6. Foreign Languages
7. Health Education
8. Home Economics
9. Industrial Arts
10. Mathematics
11. Music Education
12. Nursery School
13. Physical Education
14. Science Education
15. Social Studies
16. Vocational Subjects (Ibid.)

This approach seems representative of a common weakness found in many attempts at specifying competencies. Competencies are often defined in terms of knowledge of subject matter

areas. This results in a fragmentation of efforts. Certainly, it would be more beneficial to define competencies in terms of basic processes common to all teaching rather than in terms of ability to use specific tools which are relevant only to one subject area. Competency based only on technique or knowledge of content rather than on process is inflexible.

Another weak approach to the specification of teaching competency is having professors "behavioralize" the courses they've been teaching. This method of arriving at competencies has several drawbacks. The first, and most basic, lies in the assumption that a behavioralization of all professors' courses will provide everything a future teacher will need to know. No overall framework is utilized for checking to see if there are any gaps. Also, such specification of competencies often results in competencies which are nothing more than abilities needed to repeat back one professor's particular opinions. One result is that individuals don't evaluate and consider various values and standards inherent in what they are learning.

Another common weakness in attempts to specify competencies is that the competencies are too mechanistic. Often, the goal, as far as the student is concerned, becomes to demonstrate that they have mastered the objective. Mastery of objectives becomes the goal rather than master teaching. This raises a serious question about the internalization of meaning. In effect, students are being given packaged answers.

They are not being exposed to all the disagreements in the field.

In addition, another problem with current competency specification is that it is possible for a master teacher to flunk a competency test because he was not familiar with particular jargon, or a particular professor's way of seeing things. This problem is illustrated by two behavioral objectives extracted from the "Weber Individualized Learning Kits (Burke, 1972)." These are two examples (out of six) selected by the Dean of the School of Education at Weber State College for publication. So, they were intended to be examples of good objectives.

> 3. Demonstrate a knowledge of the three levels of comprehension by defining the three levels in writing and giving examples of each (W-34 Reading Comprehension).
>
> 4. (a) Display comprehension of the four functions which aid us in the classification and understanding of the factors which account for motivation, as measured by a teacher-designed examination with a proficiency level of 80 percent (W-13 Motivation and Learning) (Burke, 1972, p. 25).

A master teacher may raise several questions about these objectives. Whose model of comprehension? Whose four functions and what model of motivation? Could Bruner or Piaget answer these questions?

It becomes obvious that anyone who didn't study the program at Weber State College would be considered incompetent.

The concept of Competency-Based training and certification is exciting, but such training needs to be carefully

thought through so that it is comprehensive, flexible, and helps the student form his own framework based on research rather than just memorizing someone else's package. Serious questions can be raised about a student's knowledge who has adopted a professor's integrations without knowing the differentations that were related to make the integration.

These kinds of problems have led educators to analyze competencies in terms of teaching patterns or processes instead of specific behavior or knowledge.

Teaching as a Process

Another way to analyze teaching is to view it as a decision making or problem solving process. A process model could effectively integrate and make sense out of all the diverse research and theory while avoiding the weaknesses of the current competency based attempts just mentioned. The process approach avoids the problem of viewing teaching in mechanistic terms. It also steers away from the non-structuring approach proposed by some idealists.

In describing teaching as a process, Hunkins says,

> Teaching is a decision-making process. To make an intelligent decision, one should trace to some extent the consequences of alternative lines of action. One must visualize possible outcomes that will result from pupil interaction with the curriculum. If the teacher has no idea of possible outcomes nor any idea of objectives and ways to achieve them, then what happens in the classroom is pure accident; he can take no credit for teaching. If learning has taken place, the pupil deserves sole praise. (Hunkins, 1972, p. 19).

So far, the most developed description of teaching as a process is by Schmuck, Chesler, and Lippitt. They describe "...the whole problem-solving sequence, from perception of classroom difficulties through the evaluation of the remedial action taken. (Schmuck, Chesler, Lippitt, 1966, p. iv)." The process

> ...deals with the issues of identifying problems in classroom life, selecting or developing appropriate diagnostic tools to analyze these problems, using diagnostic data and behavioral science resources to develop a plan for improving the learning atmosphere in the classroom, carrying out planned changes in classroom life, and evaluating the changes (Ibid.)

These authors go on to explain that

> Teaching and learning are complementary acts that involve an interpersonal process between at least two people. When this process takes place in a classroom it is complicated and affected by the many relations among the students, and between the students and the teacher. In some cases the learning process is enhanced by peer relations that actively support a productive learning atmosphere; in other cases the learning process is inhibited by peer relations. The teacher's style and the subject matter, the child's own feeling about himself and his academic abilities, and the nature of the social relations in the classroom all are major influences on this teaching-learning process. (Ibid., p. 1)

These authors describe the problem solving style they support as an empirical-rational style. They say,

> ...it combines sensory data with rational or theoretical considerations. This approach can start with the collection of empirical data or the retrieval of prior investigations of a specific problem and proceed to a rational and empirical test of the alternatives for action. The aim is similar to that of behavioral science strategies; it constructs and tests reliable hypotheses derived from observable data collected or retrieved about human problems (Ibid. p. 7)

The authors go on to say that the process is divided into a five phase sequence with each phase making maximum use of the resources of the behavioral sciences. The phases are seen as flowing into one another in the problem-solving sequence.

> The behavioral science resources are seen as (a) the data and conceptual frameworks derived from research that are particularly useful for understanding the complexity of classroom social interactions; (b) diagnostic instruments and observational techniques useful for gathering information on the attitudes and activities of students, and gaining feedback on their reactions to the teacher's methods; and (c) behavioral scientists themselves insofar as they can be used as demonstrators, collaborators, and consultants (Ibid. p. 8).

Briefly, Schmuck, Chesler, and Lippitt describe the five phases as follows:

Phase 1: Identifying Classroom Problems

> The teacher should be clear about his own goals and values, and the learning potentials in his classroom. Secondly, he should be sensitive to the dynamics of student behavior. He watches for signs of student aggression, underlying hostility, and negative attitudes toward academic work. Furthermore, he is attentive to the friendship patterns in the classroom, the cliques that are influencing student behavior, and the feelings of those students who are excluded from these cliques. He is attentive to the influence his personality and teaching style have on his students, as well as to how their behavior influences his.
>
> With this sensitivity to student behavior, the teacher is prepared to make a preliminary and tentative analysis of the problem, using the concepts of the behavioral sciences as an aid... Only after he has made a tentative analysis of the problem and constructed hypotheses can the teacher proceed with more formal diagnostic methods.

Phase 2: Diagnosing Classroom Problems

> In this phase the teacher attempts to probe beneath the surface of classroom activity. He seeks to verify, refute, or refine his initial understanding of it, to locate the sources of disharmony, to find concealed supportive forces that he may work with. He is seeking detailed and sophisticated knowledge of what is happening in his classroom... He will look for specific information and will choose diagnostic tools and techniques that will give him knowledge of specifics. He can use diagnostic instruments and observational techniques developed and tested by researchers and other teachers, or he can develop his own.

Phase 3: Developing a Plan

> The teacher can now begin to make a plan to improve the classroom situation.

Phase 4: Adaptation and Action

> After the teacher has decided on a plan, especially if he has derived it from a colleague or from reading and research, he must take care that he adapts it to his particular situation. Adaptation calls upon the teacher to use creative insight. This is a crucial phase in the problem-solving process for three reasons: (1) each teacher has an unique personality and teaching style: (2) student characteristics such as age, social background, and previous school experiences differ from class to class; (3) classroom peer groups differ in their social structures and norms.

Phase 5: Feedback and Evaluation

> There are two aspects to this final phase. The teacher should try to get continuous feedback from his students as to the effects the new teaching practice has upon them; and he should attempt a long-term objective evaluation as to whether or not the new practice has improved the classroom learning climate. A prerequisite to obtaining feedback is an atmosphere in which free communication can flow from students to teacher and vice versa. However, there are special devices that the teacher can use to open the communications atmosphere and stimulate feedback. Again, as with diagnostic tools, he may use devices developed and tested by educational researchers and other teachers, or he may develop his own. Long term evaluation often

> involves more systematic measurement. The teacher may use instruments and observational techniques similar to those he used in the diagnosis stage in order to make before-and-after comparisons. He may also want to compare the class in which the new practice was used with one in which he used his old methods. (Ibid. pp. 9, 10, 11).

In presenting these five phases, Schmuck, Chesler, and Lippitt stress

> Classroom problem solving is an unending activity, for until the teacher can say that his students have an optimal learning environment in his classroom, there will still be problems to solve. After an evaluation of the effects of a new teaching practice has been made, the teacher may find that the old problems still remain, although perhaps in an attenuated form, and that he should develop further plans for working on them. Often the solution of one problem will create a situation in which other problems can be seen more clearly and attended to. Occasionally the solution of a major classroom problem of peer relations may release heretofore buried or inhibited energies of ignored and rejected students; and thus new problems are created... Perpetual problem solving can be taken as a model for teaching (ibid. p. 11).

This concept, presented by Schmuck, Chesler, and Lippitt, of a problem solving process being a basis for a model of teaching is very valuable. From a thorough analysis of such a process teaching competencies could be listed. Then, each listed teaching competency could be tested for its ability to predict its contribution to teaching ability.

Unfortunately, Schmuck, Chesler, and Lippitt present the process in only the narrow scope of solving only social-emotional classroom problems. They do not expand their concept of the process to include other aspects of the learning

process. They describe the process that they spell out only in terms of establishing a climate in which learning can then take place. They don't discuss the learning at all. So, their concept of the process must be expanded if it is to represent a complete model of teaching.

As it is now, their model is not a comprehensive model of teaching because it does not focus on all aspects of learning, nor analyze each phase thoroughly enough, nor even attempt to address all the phases mentioned. They focus mainly on diagnoses and diagnostic tools and on the one technique of role playing. In diagnoses they do not address diagnoses of learning problems, only socio-emotional climates. They really don't attempt to present a method of developing a plan (Phase 3). They say that a teacher needs to develop a plan and they give several examples but don't present a methodology. In addition, their discussion of Phase 4, adaptation and action, does not go beyond what was mentioned in the quote previously given. Teachers need other techniques besides role playing. For instance, the skills needed for improvisation are also needed.

So, whereas the basic concept of teaching being a problem-solving process is an excellent idea, and Schmuck, Chesler, and Lippitt have made a very good beginning in their effort to start outlining it, the concept remains to be expanded, the phases thoroughly analyzed, research and theory integrated, and methodologies, techniques and skills clearly spelled out.

A problem solving or decision making model of teaching can be useful, however, if the process is understood to require a well integrated frame of reference. This framework must be based on data supported by experience and research. It requires a theory broad enough to give meaning to an extensive and varied amount of information. In effect, in order for a decision making model to be useful for teaching, a paradigm representing the elements, and their relationships, involved in teaching is needed. The comprehensiveness of such a paradigm will determine the quality of the decisions. It is the paradigm which will differentiate between a good decision maker who is a teacher and a good decision maker who is an industrial executive. Therefore, while it is necessary to consider the decision making process in an analysis of teaching, more is required in order to have a comprehensive model of teaching. This leads this review to one last source concerned about teaching: models of education.

Models of Education

Today, many models of education are being tried and developed. Inherent in each is a model of teaching. Some models are more comprehensive than others. Some focus only on certain age groups. Some can't be distinguished through

observation from others. However, four models which are distinguishable from other models have been selected for discussion here. These models have applicability across all age brackets (although they may currently focus in only one), and are based upon a theory and philosophy. These models are: the Behavioral Systems model, the Montessori Method, the Open Classroom, and the ANISA Model. The Behavioral Systems model has already been presented. It was used as an integrative framework around which much of the review of the literature was tied. The other models are briefly outlined in the Appendix under A Way of Learning (Neubert, 1972), about the Montessori Method, Characteristics of Open Education: Toward an Operational Definition (Walberg, 1971), about Open Education, and finally, a brief summary outline of the work being conducted in the ANISA model.

The Montessori Model includes a philosophy, a theory of development, and specific guidelines for teaching and curriculum.

The Open Education Model is founded basically in philosophy and theory of Dewey.

The ANISA Model is a specific attempt at developing a comprehensive model of education. It includes among other things, aspects of the frameworks provided by the Montessori and Open Education Models. It is founded in the belief that in order to be adequate, a model of education must be based upon a well integrated philosophy, from which are derived theories of development, learning, pedogogy, and curriculum

(see Appendix).

ANISA grew out of the belief that:

> Either we must find a way of translating what we know into a powerful and comprehensive system of educational practice or face the continuation of insignificant results that inevitably comes from piecemeal, short-term, and therefore necessarily superficial program planning.
>
> Such a translation cannot take place unless we can organize knowledge from experience and research into a useable form and this cannot take place without the formulation of a coherent body of theory. But theories themselves, if they are not to be trivial or conflicting must have some means of defining their scope and securing their integrity. Huxley referred to this need as a need for a noetic integrator - "symbolic or conceptual constructions which serve to interpret large fields of reality, to transform experience into attitude and unify factual knowledge and belief." We felt convinced that education would remain ineffective until it finds its noetic integrator. Thus, the ANISA Model was developed (Jordan & Streets, 1973, pp. 2, 3).

ANISA has carefully developed a philosophical base because:

> Without a philosophical base there is no hope of creating an educational system that is consistent, coherent and free of the contradictions that make practice ineffective (Ibid. p. 6).

Briefly, the ANISA philosophy is summarized as follows:

> The chief feature which distinguishes man as organism from man as mechanism is creativity guided by purpose and expressed by the two fundamental capacities of man, namely, his ability to know and his ability to love. All potentialities of man are expressions of these two capacities; their actualization represents man's becoming and his essential reality. Since every actualization constitutes a new basis for further expressions of creativity, the creation of further potential is itself one of man's potentialities. The capacity to perpetually move beyond himself is indicative of man's superiority over all other created things. The ANISA educational system, therefore, views man as the apex of creation, capable of endless expression of an unlimited potential.
>
> From this conception of man's nature we derived a definition of good education as the process of translating potentiality into actuality at an optimum rate. One of the Primary goals of the ANISA Model is to enable each child to become fully conscious of the process and take charge of it, thereby securing the power to shape his own destiny (Ibid. p. 7).

From this philosophy ANISA focuses on the "process of becoming."

> The process of becoming has basically three interrelated characteristics: growth, development, and maturation. Within the discipline of child development, the term growth usually refers to a biological increase in the size of the organism; development means an increase in the complexity of its organization both physiologically and psychologically; and, maturation refers to a genetically determined timetable that influences the extent to which and the rate at which other developmental potentialities become actualized through interaction with the environment. Developmental processes are inextricably bound up with growth and maturational processes; all take place as the organism interacts with its environment. Thus, we have incorporated growth and maturation within our theory of development. The theory broadly defines development as the process of translating potentiality (biological and psychological) into actuality; makes that process synonymous with creativity as the fundamental and inherent dynamic characteristic of the organism; establishes interaction with the environment as the general means by which the process is sustained; provides for a definition and classification of potentialities and environments; explains the nature of essential interactions underlying the release of both biological and psychological potentialities; identifies nutrition as the primary element in the development of the former and learning as the key factor in the development of the latter; and, accounts for the emergence of personal identity - the self-in terms of the structuring of potentialities as they are actualized (Ibid. pp. 9, 10).

The theory of development speaks to the importance of critical periods in the process of becoming. Development has an order,

a rhythm. The "process of becoming" also requires attention to nutrition and learning. In focusing on learning, Jordan and Streets have said:

> The role of educational institutions is to provide a means for the continuous engagement of students in the process of actualizing potential and to enable them to gain conscious control over it. The key factor in the process is learning; being in charge of the process by knowing how to learn is what is meant by learning competence. The ANISA Model thus defines the role of the teacher as a facilitator of the attainment of learning competence rather than as a disseminator of information only (Ibid. p. 12).

ANISA defines learning competence as:

> ...the ability to differentiate experience, whether internal or external, into separate elements, to integrate them in a new way thereby providing new information, new feelings, new skills, and new perceptions which may or may not become expressed immediately in some form of overt behavior, and to generalize the integration. Through these processes - differentiation, integration, and generalization - potentiality is translated into actuality. Control over them constitutes learning competence.
>
> The processes of differentiation, integration and generalization are neither random nor haphazard. In most instances they are directed by intention or subjective aim, which determines what becomes abstracted, and how the abstracted or differentiated elements are then integrated and generalized (Ibid. p. 17).

Out of the ANISA philosophy and its related theory of development and theory of learning, a theory of curriculum has been developed.

> The theory of curriculum defines curriculum as two interrelated sets of goals and what children do, usually with the help of teachers, to achieve those goals. One set of goals is process-oriented. It rests on the classification of environments and the organization of information one's culture has accumulated about them including the symbolic systems used to convey that information. The two sets of goals, process and content in orientation, are integrated by the over-riding purpose of the model: actualization of the infinitude of potentialities of each child ... (Ibid. p. 18).

ANISA's categories of potentialities are: psycho-motor, perceptual, cognitive, affective, and volitional. These have been analyzed and specified in terms of subprocess (see Appendix). The classification of environments are: the physical environment, the human environment, the environment of unknowns and/or unknowables, and the self environment. So, curriculum goals center around development of the five categories of potentialities and development of knowledge and skills related to the four environments.

The ANISA theory of pedagogy defines how the teacher facilitates the actualization of these goals.

> We have indicated that development is sustained by the human organism's interaction with the environment. It follows then that teaching will take its definition from this premise. Thus, to teach means to arrange environments and guide interactions with them to achieve the goals specified by the theory of curriculum. The theory of pedagogy classifies arrangements and interactions in terms of those goals. Since the main goal is the development or achievement of learning competence and since learning competence means the ability to differentiate, integrate and generalize aspects of experience, environmental arrangements and interactions with them can be classified in terms of the particular aspect of learning competence they facilitate. Some arrangements and some interactions may facilitate differentiation while others may foster integration or generalization, or do all three. Furthermore, since children are differentiating, integrating and generalizing on different developmental levels, the teacher must be able to make this kind of assessment before arranging the environments and guiding interaction. When the teacher can draw upon developmental theory to ascertain the child's level of functioning, her approach is more inclined to be diagnostic

and prescriptive (Street & Jordan, 1973, p. 17). One major task, then, for the ANISA teacher is to arrange environments in order to create opportunities for differentiation, integration, and generalization on the appropriate developmental level. This includes such considerations as: 1) identification of deficiencies in the environment, 2) establishment of proper lighting, temperature, sound, and ventilation, 3) introduction of novelty, and 4) arrangement of appropriate social grouping.

A second task for the ANISA teacher is to guide the child's interaction with the environments. The teacher needs to determine whether active or passive interaction is most preferable, how to gain the most mileage out of activity generated goals as weell as goal generated activity, when to intervene and when not to intervene, how and when to give feedback and reinforcement, how to organize space and time, how to encourage transferability, provide for repetition and practice, determine whether to offer an explanation to a child or lead him into discovery, and determine whether a child has mastered both content and the underlying process.

The ANISA Model also emphasizes that a teacher must be an appropriate model for students. Thus, teachers themselves must be competent learners. In order to be effective, teachers will also have to be well versed in the entire body of theory and the ability to translate the theory into practice. This requires a careful specification of all the aspects of environments, interactions, and how to arrange and

guide them. This has yet to be done. The philosophy, theory of development, theory of learning, and theory of curriculum have provided the broad general outlines. The specific filling in of detail is what remains to be done.

Believing that this framework provided by the ANISA Model is the most comprehensive to date, that it integrates experience and research into a coherent unified structure thereby giving meaning to diverse and previously fragmented data, the intention of part II of this dissertation is to utilize this "noetic integrator" and its articulated "conceptual constructions" to form a comprehensive paradigm of teaching which specifies the elements and their relationships that an integration of research and experience suggests are the basic factors in arranging environments and guiding interactions with them.