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EPISODIC TEACHING - A SPECTRUM OF TEACHING BEHAVIORS

The approaches used during the last thirty years for expanding knowledge about teaching and healing the ills of teaching are presently being re-examined by the educational community. The late 60's and 70's initiated the beginning of the "research on teaching" approach to educational reform. Attempts were made to identify a series of variables that existed in the classroom (Goodlad et al.; Good, Biddle & Brophy; Gage; Anderson, Evertson & Brophy). This became the standard procedure for measuring teaching behavior in the effective classroom. The results from this approach lead to the examination of classroom teacher behaviors in order to pinpoint and then link specific teacher behaviors to skills and outcomes. Time-on-task; use of praise; expectations; wait time; group alerting; transitions, question, etc., were purported to be variables that made a difference in classroom teaching. Mager, Kounin, Berliner, Good & Grouws, Huitt & Segars and others forged and contributed to this approach. The research focus of the 80's attempted to identify a possible generic approach to teaching. A generic approach was attempted by producing teaching behavior systems that would change and improve the image of the classroom (Joyce & Weil; Johnson et al.; Rosenshine). Many state departments of education within the U.S.A. created and endorsed their own "generic" teacher training programs. During each of the above mentioned decades, educators generally presented their new results by attacking the previous contributions. And so, the educational pendulum swung from one panacea to another; from one educational leader to the next. Today, the concern for educational change is marked by an urgency that has never before been so articulated: Education, in the last thirty years, has not significantly improved in spite of a multitude of programs, an abundance of money, and an enormous amount of research. The profession stands poised with its goals and mission statements, but humbled by its failures. Significant change is critical. And change <u>within</u> the educational establishment is a pressing issue (McCormick; Wolk; National Commission on Excellence in Education). Perhaps, for the first time, educators are realizing that they may lose the opportunity to shape and lead the future of their profession. This is evidenced by the gain in power of national, state and local governments in determining educational policy. This change in the balance of power has shifted the focus of many educational policies and practices. Presently, the hierarchy and elitist approach to solving the ills of education is fading. The notion of change coming from a single leader, or a temporary panaceas, evidenced by the previous decades, is vanishing. In the 90's the educational profession began to welcome with open arms <u>anyone</u> within its ranks who could offer workable solutions. Teachers, as well as parents, have

been invited to assist in solving the deficiencies of the profession (Hart; Amundson; Troen & Boles). Solutions from business leaders and independent groups are sought. Educators are more willing to share their power with these and other groups in attempts to demonstrate improvement.

Education, like other bureaucratic institutions, is confronted by a "wave" change. In his now prophetic book, The Third Wave, Toffler (1980) identifies the process of change that transpires during the transitional stages from one wave to the next. He suggests that during this transition period the time is ripe for entrepreneurs and charlatans. In education the urgency for improvement, has resulted in a flooding of new theories, innovations and workshops. The slogans of these programs sound promising, but often the content offers little substance. It is becoming increasing difficult to distinguish legitimate and workable ideas from those that are only slick, well promoted packages.

Perhaps this dire scenario is extreme. Or perhaps this educationally bleak period has created a time that is ripe for the re-examination of essential beliefs about teaching. I suggest, that the concept of developing a theory about teaching from observing existing teaching behaviors in the classroom, is not the most reliable technique a profession can devise for creating it's professional guidelines. A teaching theory that encompasses the full range of psychological and educational tenants is needed. A theory independent of any particular teacher, yet applicable to all teachers, is required. If a paradigm shift about teaching is to emerge, a restructuring of out-of-date conceptions about teaching must occur. The fragmented and scattered approach to understanding teaching has created an overwhelming amount of information. The magnitude of this research information has camouflaged the basic truths of teaching.

The following is an attempt to unveil, in simplistic terms, the basic tenants about teaching and to show their relationship to the Structure of Teaching. Four questions are examined in order to identify the tenants upon which education is based and to identify the Four Dimensions of Teaching that are inherit within the Structure of Teaching

1. What is the goal of teaching?
2. What content is worth transmitting?
3. What knowledge about teaching is common to all teaching behaviors? (For brevity, the word Behavior will be used. This word is a synonym for: method, strategy, style, technique etc.)
4. What are the alternative teaching behaviors?

The profession of education/teaching is founded in the tenants of these four questions.

1. WHAT IS THE GOAL OF EDUCATION/TEACHING?

The literature is filled with goal and mission statements. The most frequently purported goals of education are to provide the opportunity: to reach one's full potential; to prepare good citizens who can adopt and adapt to a changing society and work force; to develop life skills; to create an independent person; to develop character; to develop a strong self-concept, self-sufficient and secure individual - the list is extensive. When these purported goals are categorized, the objectives of education focus on the development of human traits; not any singular subject matter, but emotional and social adaptability. The premise of this dimension is that all people should have the opportunity to develop, from minimum towards maximum, emotionally, socially, physically, cognitively and ethically. Schematically, the broadest goals of education can be depicted as (Mosston & Ashworth, p. 5):

EDUCATION: THE OPPORTUNITY FOR EXPANSION ON THE DEVELOPMENTAL CHANNELS

	Minimum _____ Maximum
Physical	_____
Social	_____
Emotional	_____
Cognitive	_____
Ethical	_____
Other	_____

Within each of these channels, extensive information exists. This vast information should serve as a knowledge-base for each teacher. School districts, as well as individual schools, espouse dedication to the development of each student on each channel. Yet, the research consistently indicates that students are deficient in these Channels of Development. Emotionally, "Mitchell found that 80 percent of children enter 1st grade with high self-esteem. By the time they reach 5th grade, only 20 percent have high self-esteem. By the time they finish high school, the number having a positive self-esteem has dropped to a staggering 5 percent" (Curwin & Mendler; p. 26). American students scored last in mathematics and next to the last in science when compared to students from Korea, four Canadian Provinces, Great Britain and Spain (IAEP). Such comparisons indicate the U.S.A. learners remain towards minimum on the emotional and cognitive channels. On the physical domain more students in the U.S.A. are obese and show symptoms of adult ailments than any other industrialized nation. Such research indicates that

on each of the Channels of Developments discrepancy exists between educations goals and its reality.

2. WHAT CONTENT IS WORTH TRANSMITTING?

This question must be answered in context of the future needs of students who will reach adulthood in the year 2030. This information age will be a period of time dominated by high technology and the quick acquisition of knowledge, facts and information. The specific subject matter content must match societies' needs. The intent here is not to provide the specific curriculum for the 21st century, but to suggest that whatever the specifics of the curriculum are, learners will need to demonstrate a range of skills that span both "Reproduction" and "Production" of information and knowledge (Mosston & Ashworth). Students will need the capacity to produce within the boundaries of known information (reproduction) as well as to create unknown information (production). Both cognitive processes within all content areas are essential for the 21st century (Driscoll; Nickerson et al.). The demands of the new "wave" will require teachers who are more than transmitters of facts. A major difficulty within a changing society is the fact that the existing work force is often unskilled and untrained to function in the new society. Teachers will need to demonstrate the capacity to create activities, within various content areas, that develop proficiency in reproduction and production skills.

In the elementary school, research indicates most teachers follow the teacher's manuals and use published-prepared materials (Ariav; Yinger; Kennedy). Such materials are often fragmented, incomplete, inaccurate, and contain inappropriately designed practice tasks. Publishers "deliver content". Teachers generally "deliver instructions" as they hand-out published-prepared materials. Teachers do not demonstrate a broad or deep content-knowledge base. College preparation programs must begin to teach the STRUCTURE of SUBJECT MATTER. Teaching isolated "topics" or invogue programs are insufficient for content area preparation. Teachers need to know: the structure of reading - not how to make and bind books; the structure of science - not isolated experiments; the structure of math - not cute games to remember the 9 times table. Today's teachers do not demonstrate knowledge in understanding the STRUCTURE OF SUBJECT MATTER which is parallel in importance to understanding the goals of education.

3. WHAT KNOWLEDGE ABOUT TEACHING IS COMMON TO ALL TEACHING BEHAVIORS?

A skillful teacher is one who has options. The more knowledge about teaching, the more chances one has to be flexible, efficient, effective and creative. Knowledge provides the opportunity for deliberate decision making. What is the primary knowledge that all teachers must know about

the act of teaching - independent of any one specific teaching behavior? I am suggesting that there are eleven components that serve as the primary base of knowledge for teaching. Each component is a separate body of knowledge, with its own information, facts, truths and research findings. Yet, all the components are ubiquitous and integrated during the act of teaching. Nine of these components will be described. The eleven are:

Delivery of Subject Matter
Learner Expectations
Teacher Expectations
Percent of "Air time"
Time-on-Task
Teacher's Involvement while the Learners are working on the Task?
Logistics and Parameter
Anticipated Discipline Problems
Feedback
Class Climate
Idiosyncrasies

The delivery of subject matter is the first component. What do you want the learners to do? In the classroom "something" is always being taught. Research and experience indicates that proper delivery of subject matter does make a difference in the acquisition of information. Awareness of and proper planning in the following topics do contribute to effective delivery of subject matter: relevance, sequenced and logical presentation, is of multiple-modes (visual, auditory, kinesthetic, tactile), use of examples and non-examples, specific questioning techniques which employ the reduction of vague multiple questions, identification of specific cognitive operations within each question, separation of information from directions, etc. Effective delivery of subject matter can only be achieved when teachers are aware of these detailed topics that constitute to effective delivery of subject matter. Achieving excellence in delivery of subject matter requires knowledge.

Subject matter is WHAT learners are to do. Learner Expectation is HOW learners are to do what you want them to do! Again, there is an abundance of information about expectations. The more precisely students know the details concerning expected behavior the more apt they are to strive to achieve that behavior. Generalized comments - ("Do page 32." "Work quietly." "Get out your homework." "Listen and take notes.") - do not specifically state HOW learners are to behave. Each teaching behavior has it's "learner expectations" that are independent and free of the specific subject matter topic. The HOW to do corresponds to one or more of the Channels of Development. How we are expected to behave unveils the opportunities for growth that are afforded each student on each of the Channels of Development. Most teachers do not announce expectations (Ashworth). There is

one primary reason for this: throughout the day, teachers do not change "how" they expect students to behave; therefore, stagnation in growth occurs on the Channels of Development. Most students are expected to sit and listen to the teacher, or to occasionally answer factual questions or to sit quietly and do seatwork or to perform the exact activity selected by the teacher. A variety of announced expectations need to be implemented so that students can know, develop, have variety, be motivated, be challenged, and expand various human traits.

Just as there are a variety of possible learner expectations, there are a variety of teacher expectations. These expectations correspond to and complement the learner's expectations, each set of expectations do not overlap. Students need to learn that the teacher is not static and that the relationship between teacher and student can alter.

Percentage of "Air Time" refers to "Who talks the most? Who dominates the time? Who has the floor?" The identification of who is "in charge" has implications to each of the other components and to the overall objectives. Air Time can refer to the actual "talking" time or to "who is doing" the task. This component is intimately intertwined with the next component.

Time-on-task has two important sub-categories: passive and active time-on-task. If the teacher is high in Air Time, then the learner will most probably be high in passive (listening) time-on-task. If one child dominates the Air Time, the other learners will still be high in passive (listening) time-on-task. Active time-on-task must accompany active engagement for each learner. If one learner is active but the others are passive, the majority of the class time-on-task is passive. There are volumes of research detailing time-on-task. In spite of the findings, research indicates there is still a high portion of passive time-on-task in today's classroom. Teachers must have information and base-knowledge awareness of the details within this component in order to effectively design active classroom activities.

Logistics and parameters focus on the myriad of details that must be anticipated and planned in advance. Classroom management is the focus of this component. Classroom management emphasizes advanced planning about procedures and routines. Teachers must anticipate the details that are involved in managing 5 or 45 children in the classroom. Teacher must be cognizant of details ranging from seating to dismissal procedures; from bulletin boards to sequencing lessons; from paper and equipment distribution to lunch count; from bathroom breaks to grading procedures. Desirably, teachers need to design these procedures so that they develop growth on one or more of the Channels of Development. Designing procedures that make students responsible for many of the logistics, free the teacher. Research indicates that teachers are often so tied to maintaining procedures,

discipline (the next component) and organizing logistics that they have little time to "teach" (Anderson, Evertson, Emmer; Anderson, Evertson, Brophy; Berliner; Goodlad & Klein). This encyclopedic-sized component is one of eleven components that either enhance or hinder the successful flow in teaching.

Anticipating potential discipline problems is the next component. The information on discipline is overwhelming. Misbehavior within the classroom is one of the most disturbing aspect of teaching. If teachers knew techniques for clarifying expectations, organizing logistics, shifting routine procedures to students, desisting inappropriate behavior from the beginning, consistency, appropriate reward and reprimand systems, etc., they would be more capable of reducing disruptive behavior before defiant situations develop. Most teachers use "discipline" as their first resort. Discipline in many classrooms is punitive confrontations that require learner's obedience. Such demands for obedience often reduce the self-concept and create exclusion, embarrassment and isolation. Blind obedience, without the opportunity to improve, is demeaning. Maintaining a high self-concept while implementing discipline is not frequently practiced (Curwin & Mendler). Misbehavior generally indicates a deficiency in one or more areas on the Channels of Development. Coping with disruptions is easier when a disciplinary system is known. In spite of the research on discipline, most teachers are unaware of the causes, alternative treatments, emotional impact or developmental possiblities of disruptive behavior.

Feedback is one of the most powerful of all components. Feedback has the capacity to shape one's self-concept. It's purpose is to reinforce and/or change subject matter and/or behavior. Therefore, feedback can be given about any of the above components. Teachers are generally unaware of the impressive and vast amounts of research information on feedback. Research indicates that teachers generally are not aware of the possible feedback forms, the focus of each of these forms, the academic difference from specific and non-specific feedback, the impact of private or public feedback, peer feedback, extended feedback, tone, gestures, etc. (Ashworth). Such omissions of base-knowledge about the impact of feedback create growth deficiencies within the Channels of Development. The amount of base-knowledge and information about feedback is abundant, but seldom used.

Class climate is the "feeling" that permeates the overall classroom. This component is revealed in the way the teacher relates to the students: tone of voice; eye contact; private feedback as opposed to public feedback; eye-level contact as opposed to "hovering" over students; contact with all students not just selected ones; the amount of reprimand comments as opposed to supporting comments; the degree of trust the teacher expresses towards the students; the degree of procedural responsibility allowed without seeking the

teacher's permission; etc. Class climate is defined as the sum total of all the above components and decisions (Mosston & Ashworth). Upon entering the classroom, class climate is felt and observed. This component is concrete and tangible; it is not subjective. This component reveals the integrity of the relationship among the teacher, learner and the set of objectives being reached.

The larger the base information and knowledge teachers have in the eleven components, the greater the chance for manipulation of classroom events to maximize the goals of educations. Perhaps teacher training programs will realize that the eleven components represent the "core" information relevant to all teaching. Knowledge about these ubiquitous components are independent of any particular teaching behavior. Competence in teaching comes first through the understanding of the vast amounts of information within <u>each</u> of the eleven components. Once the components are known, manipulation of the components can occur so that alternative teaching behaviors can be implemented. <u>Judgment</u> about the appropriateness of each component can only occur <u>within</u> the <u>specific teaching behavior</u> in use.

4. WHAT ARE THE ALTERNATIVE TEACHING BEHAVIORS?

The educational community is presently dedicated to the notion that various teaching behaviors exist. Historically, the educational archives are filled with outstanding contributors. Each of these contributor presented a unique notion about the capacity of students. Each contributor's model delineates a set of objectives that develop, within each learner, new skills on one or more Channels of Development (Such growth opportunities indicate that a "warning style" is <u>intrinsic</u> to <u>each teaching behavior).</u> Each contributor's model delineate a different relationship between teacher and learner so that the new set of objectives can be accomplished.

The works of Socrates, Dewey, Bloom, Skinner, Taba, Brunner, Joyce, Mosston, Johnson, or the programs like Direct, Indirect Teaching, Open, Traditional Teaching, Cooperative, Whole Group Teaching, Democratic, Authoritarian Teaching, etc., - each emphasize different <u>human goals.</u> Each contribution offers a new teaching "structure" which purports (1) a specific set of objectives; (2) development and expansion on one or more of the Channels of Development; and (3) a specific decision relationship between teacher and learner so that the new objectives can be accomplished. Fidelity to the specificity of each "structure" results in acquisition of the new set of objectives. Therefore, within each teaching behavior their resides an intrinsic relationship between a teaching behavior "structure" and set of objectives (Note: there is a difference between the <u>description</u> of classroom teaching and the "structure" of teaching). This inextricable bond, between objectives,

expectations and outcomes, always exists as a unit. This unit is inescapable and inseparable. Schematically, this pedagogical Unit can be represented by either of the two diagrams:

(1)

	O	objectives
subject matter		behavior
	T	teacher expectation
	L	learner expectation
subject matter		behavior
	O	outcomes

(2)

O

T L

Note: In order for a teaching behavior to be "unique", to be a "landmark" teaching behavior, it must develop a significantly different set of objectives (Mosston & Ashworth). There are many variations and alternative designs within each teaching behavior. Not every activity represents a new teaching behavior.

I have asked teachers to identify how many teaching behaviors they can do. The list is long! Teachers are notorious for saying "I use all of them." "I use so many I can't count them." "I use a different teaching behavior for each learner in my class." But in reality (observed through actual classroom visits and video analysis), teachers are unaware that different "structures" are needed to accomplish new objectives and new relationships between teacher and learner. The "structure" and objectives that exist in most classrooms is the same in spite of the fact that activities do change frequently (Ashworth). What makes one teaching structure fundamentally different from another is the specific decision distribution between the teacher and the learner (Mosston). The shifting of specific decisions creates the opportunities for different sets of objectives to emerge. Presently, incongruity exists between what teachers say they do and what they actually do. Critical thinking, higher cognitive operations, cooperative learning, cooperative learning, guided discovery - - each represents a different decision structure and set of objectives; each requires the components of teaching to be manipulated so that a specific classroom image occurs.

Even though the dimension of alternative teaching behaviors is a propelling force in education, the research states that today's teachers do not demonstrate mobility ability among the existing possible teaching behaviors (Ashworth; Ast). Stagnation and dedication to a singular teaching behavior and singular arrangement of components are most representative of the teaching profession. If this is true, then the intended goals of education can not be reached. No singular teaching behavior has the capacity to

develop all of the human capacities. Therefore, mobility ability among the existing teaching behaviors is a requirement for teachers of the 21st century.

Mobility ability among the existing Repertoire of Teaching Behaviors requires that teachers be knowledgeable of the Goals of Teaching, the Channels of Development, Structure of Subject Matter and Components of Teaching. These Four Dimensions serve at the base-knowledge for the Structure of Teaching. Such base-knowledge provides teachers with the information needed to implement alternative behaviors. Consequently, the term EPISODIC TEACHING was identified (Mosston & Ashworth). Episodic teaching is the only approach to teaching that can accomplish the goals of education. It is the only integrated approach to teaching that maximized multiple objectives and deliberately focuses on the social, emotional, cognitive, physical and ethical development of learners. Episodic teaching promotes the daily use of multiple teaching behaviors. Episodic teaching incorporates the concept of EPISODES. An episode is the "period of time in which the teacher and the learner are in the same style, heading toward the same set of objectives" (Mosston & Ashworth, p. 162). Schematically, an episode is depicted as:

Time

teacher and the learner
are in the same teaching behavior,
heading towards the same set of objectives

Episodes always occur in the classroom. There are always objectives that are reached when teacher and learner interact. There are two possible classroom implementation designs for the concepts of EPISODES. Each illustration represents a teaching day as:

ONE: Repeated Objective Episode Implementation Design:

TIME

Teacher and the Learner

obj x	obj x	obj x	obj x	obj x	obj x	obj x

Same teaching behavior; Same set of Objectives
Different Activities

The learners experience throughout the day, the same teaching behavior and the same set of objectives while the subject matter activities change. This design represents the majority of today's classrooms (Ashworth).

TWO: Multiple Objectives Episode Implementation Design:
TIME

Teacher and the Learner

obj F	obj C	obj A	obj B	obj D	obj B	obj A

Different teaching behaviors; Different sets of Objectives
Different activities

The learners experience throughout the day, a variety of teaching behaviors and a variety of different sets of objectives while the subject matter activities change. In the second design, deliberate variety occurs so that learners can develop and accomplish the goals of education. Each specific teaching behavior, with its intrinsic set of objectives, requires the manipulation of the subject matter and components described in this paper. This image of teaching behavior in the classroom must be pervasive if education is to accomplish its intended Goals and Mission. The identification of episodic teaching impacts: teacher training programs; teacher observations/evaluations; educational publications and research.

Teacher training programs must become cognizant of The Structure of Teaching comprised of The Four Dimensions of Teaching (The Channels of Development, The Structure of Subject Matter, The Components of Teaching, A Repertoire of Teaching Behaviors). Graduates entering the work force must demonstrate proficiency, upon entry level, in this base-knowledge. Re-training of teachers in "Beginner Teacher Training Programs", conducted by state and local officials, will need to be re-examined. From which institution should acquisition of knowledge and skill about teaching come?

Evaluation and observation tools must be re-structured so that the focus becomes the specific outcomes of the implemented teaching behavior. All evaluations must determine the degree of competence each teacher demonstrates in their "component of teaching" base-knowledge. It is the integration and manipulation of the components that results in behaviors which depict a superb teacher. Evaluation tools that select scattered bits of facts from a vast selection of information within a component and then calls it "competence in teaching" must be re-examined. Teachers need to be required to teach episodes which represent alternative teaching behaviors. Each evaluation summary will then correspond to the particular teaching behavior objectives and outcomes.

Publishers, who produce teacher's manuals, will need to incorporate alternative teaching behaviors within their designed lessons. Presently, most published-prepared materials represent one teaching behavior. Publishing companies perpetuate the teaching stagnation and fixation by

companies perpetuate the teaching stagnation and fixation by designing lessons which represent only one teaching behavior.

Research, too, contributes to the fragmentation and frustration in teaching. Singular components are heralded as "The" variable that makes "The" difference. Time-on-task, classroom management, cognition - each has been promoted as THE factor from which all teaching emerges. The concept is that: No one component is teaching! All components comprise the essential base-knowledge which contributes to effective teaching.

The educational community frequently uses the term paradigm shift to promote change in the 90's. But the thinking that accompanies many of the proposals remains the same. The intent of this paper is to offer an alternative way of thinking about the Structure of Teaching. It is the new thought patterns about teacher behavior that will produce a paradigm shift that is necessary to accommodate and to accomplish the Goals of Educations.

REFERENCES

1. Amundson, K. (November, 1988). First teacher: parental involvement in the public school. National School Boards Association.

2. Anderson, L., Evertson, C. & Brophy, J. (1979). An experimental study of effective teaching in first grade reading froups. Elementary School Journal, 79: 193-223.

3. Anderson, L., Evertson, C. & Emmer, E.(1980). Dimensions in classroom management derived from recent research. Journal of Curriculum Studies. 12: 343-356.

4. Ariav, T. (April, 1988). Growth in teachers' curriculum knowledge through the process of curriculum analysis. A paper presented at the annual meeting of the American Education Research Association, New Orleans, CA.

5. Ashworth, S. (1983). The differences of feedback behavior between teachers trained by the spectrum and those not so trained. Unpublished doctoral dissertation, Temple University, Philadelphia.

6. Ast, H. (November, 1988). Learning styles: Implications for curriculum and instruction. A paper presented at the Alberta Association for Adult Literacy Conference. Calgary, Alberta.

7. Berliner, D.C. (1984). The half-full glass: A review of research on teaching. In P. L. Hosford (Ed.) Using What We Know About Teaching. Alexandria, VA: Association of

8. Berliner, D.C. (1982). Recognizing instructional variables. Introduction to Education, edited by D. E. Orlosky, Columbus, Ohio: Charles E. Merrill, 198-225.

9. Curwin, R. & Mendler, A. (1988). Discipline with Dignity. Association for Supervision and Curriculum Development.

10. Driscoll, M. (January, 1988). Transforming the underachieving math curriculum. ASCD Curriculum Update.

11. Gage, Rinehart. (1977). The Conditions of Learning (3rd ed.). New York: Holt, Rinehart & Winston.

12. Good, T., Biddle, B. & Brophy, J. (1975) Teachers make a difference. New York: Holt, Rinehart, and Winston.

13. Good, T. & Brophy, J. (1987). Looking in Classrooms (4th Ed.). New York: Harper & Row.

14. Good, T. & Grouws, D.A. (1979). The Missouri mathematics effectiveness project: An experimental study in fourth-grade classrooms. Journal of Educational Psychology, 74:355-362.

15. Goodlad, J.I., Klein, M.F. & Associates. (1974). Looking Behind the Classroom Door. Worthington, Ohio: Charles A. Jones.

16. Hart, T. (November, 1988). Involving parents in the education of their children. Oregon School Study Council, 32:3, iii-48.

17. Huitt, W. & Segars, J. (October, 1980). Characteristic of effective classrooms. Research for Better Schools, Inc. PA.

18. International Assessment of Education Progress, (IAEP). (1989). Educational Testing Service, Princeton, N.J.

19. Joyce. B. & Weil, M. (1980). Models of Teaching (2nd ed.) Englewood Cliffs, NJ: Prentice-Hall.

20. Johnson, D., Johnson, R. & Holubec, E.J. (1988). Advanced Cooperative Learning. MN: Interaction.

21. Kennedy, K. (April, 1988). Creating a context for curriculum deliberation by teachers. A paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

22. Kounin, J.S. (1970). Discipline and Group Management in Classrooms. New York: Holt, Reinehart and Winston.

23. McCormick, C. (Summer, 1989). Educator advocates end to

ability grouping. Middle Ground, 3.

24. Mager, R. (1962). Preparing Instructional Objectives. Palo Alto, CA: Fearon.

25. Mosston, M. (1964). Teaching Physical Education. Columbus, OH: Charles E. Merrill.

26. Mosston, M. & Ashworth,S. (1986). Teaching Physical Education (3rd ed.). Columbus, OH: Charles E. Merrill.

27. Mosston, M. & Ashworth, S. (1990). The Spectrum of Teaching Styles: From Command to Discovery. White Plains, NY: Longman.

28. National Commission on Excellence in Education. A Nation at Risk: The Imperative for Educational Reform (1983). Washington, DC: National Institute of Education.

29. Nickerson, R.S., Perkins, D.N. & Smith, E. (1985). The Teaching of Thinking. Hillsdale, NJ: Lawrence Erlbaum Associates.

30. Rosenshine, B. How time is spent in elementary classrooms. In C. Denham & A. Lieberman (Eds.) Time to Learn. Washington, D.C.: The national Institute of Education, U.S. Department of Education.

31. Toffler, A. (1980). The Third Wave. New York: Bantam.

32. Troen, V. & Boles, K. (1988). The teaching project: A model for teacher empowerment. The Edward Devotion school, Brookline, MA.

33. Wolk, R. (Summer, 1989). Navigating the future for education. Report Card, 2;4, 1.

34. Yinger, R.J. (1978). A study of teacher planning: Description and theory development using ethnographic and information processing methods. Unpublished doctoral dissertation, Michigan State University.