

From Command to Discovery: Toward A

Unified Theory of Teaching

(Part I)

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During the last two decades there has been a vigorous surge of interest in the teaching phenomenon. Intensified research efforts have produced numerous observation tools, lists of teaching skills, scattered models of teaching, classroom management techniques, proposals for staff development, and so on.

These contributions share one or more common characteristics:

- The "Versus" - often, each model or idea is presented versus all others. (Group instruction vs. individualized instruction, Affective vs. Cognition, Rote vs. Discovery, Direct vs. Indirect teaching).
- Fragmentation - Models and studies that deal with only a part of the teaching phenomenon without showing the relationship(s) to others. (Feedback, discipline, thinking skills, class management).
- Subject Matter Idiosyncracies - Proposals that confine their models to a particular subject area (Math, Social Studies, Sport, etc). At times, these are further confined to specific grade level (Elementary, Secondary, etc.)
- Individual Idiosyncracies - Often, the contributions reflect the idiosyncracies of a teacher, a researcher or members of pressure groups.
- Cultural Idiosyncracies - At times, they reflect the idiosyncracies of a given educational philosophy which is in vogue or a political preference of the time.
- Reductionism - Proposals that reduce the teaching phenomenon to a few general principles, observable and

measurable behaviors (time on task, rules for management, etc.)

These characteristics produce obvious assets and liabilities for the individual teacher, supervisor, researcher and the profession at large.

What has not emerged from this massive attempt is a theory of teaching that defines the universal structure of this human phenomenon. Such a theory will evolve from a single, universal, underlying process which defines teaching and at the same time explains the structure, the function, and the consequences of the options available in this ubiquitous phenomenon. The identification of the relationships - not the disparity - among these options will, indeed, produce a UNIFIED THEORY OF TEACHING.

The discovery of a unified theory of teaching will drastically reduce the liabilities and will realign the assets. It will open up new horizons for the theoretician, the researcher and the practitioner.

About twenty years ago, Mosston (1966) proposed a framework called "The Spectrum of Teaching Styles" which sparked the notion of such a theory. Further investigations of the theory and application of the "Spectrum" (Mosston 1972, 1981) have been conducted in schools in collaboration with Sara Ashworth. (This work was partially supported by title IV-C grants in N.J., 1972-1980).

Basic Features of the Spectrum

1. The Spectrum is an integrated structure of teaching that define the structure and function of each style and identifies its place in the Spectrum.
2. Each Teaching Style on the Spectrum defines a particular

inextricable relationship among the teaching behavior, the learning behavior and the outcomes in a given episode. Understanding this T-L-O bond for each style increases the probability of a rational selection of a style which can reach the expected learning outcomes both in the subject matter and the conduct of the learner.

3. All the styles on the Spectrum are "equal" in value, representing the non-versus basis of the Spectrum.
4. Each style has its own "rules" of interaction, verbal behavior, feedback procedures, etc.
5. Each style with its specific T-L-O has particular implications to the growth of the learner in the physical, social, emotional, cognitive and moral domains. Therefore, no one style can contribute to full development of the learner. Only mobility along the Spectrum can approach the goal (perhaps utopian) of reaching toward total attainment of one's potential.

The following diagram of the Spectrum is comprised of four sequential concepts. Each represents a universal statement which exists in the reality of all teaching.

The Theoretical Structure of the Spectrum *

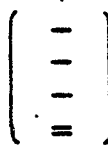
(An Overview)

1. The AXIOM:

TEACHING BEHAVIOR IS A CHAIN OF DECISION MAKING

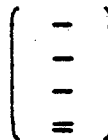
2. The ANATOMY of a STYLE:

PRE-IMPACT

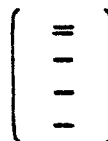


sets of decisions that must be made

IMPACT



POST-IMPACT



TEACHER:

MAX

MIN

3.

who makes the decisions

LEARNER:

MIN

MAX

4. The SPECTRUM:

A | B | C | D | E | F | G | H | I | J | ?

* Muska Mosston and Sara Ashworth, The Science and Art of Teaching: From Command to Discovery (A book soon to be published)

The following is a brief description of each concept:

1. The first is the AXIOM that states: teaching behavior is a chain of decision making. This is the concept from which stems the entire structure of the Spectrum. Every DELIBERATE act of teaching is a result of a decision previously made.
2. The second concept derived from the Axiom is the ANATOMY OF ANY STYLE. This anatomy is composed of all the "conceivable" categories of decisions that must be made in any teaching-learning transaction. The three sets within the Anatomy (Pre-Impact, Impact, and Post-Impact) are organizers of the identified decision-categories.

The Pre-Impact set includes all the decisions that must be made prior to the transaction; the Impact-set includes decisions about "doing," and the Post-Impact set identifies decisions concerning evaluation of the performance during the Impact set. Thus the Anatomy is a statement about WHAT decisions must be made.

3. The next concept identifies WHO makes the decisions. Both Teacher and Learner can make decisions, from minimum to maximum, about the categories delineated in the Anatomy.
4. By applying this "limits" idea to the Anatomy, it becomes possible to identify and differentiate among specific styles (A-J). The Spectrum identifies these "Landmark" styles and alternatives in between.

Thus, in Style A (the Command Style) the teacher makes maximum decisions

and the learner's role is to follow and perform. This style teaches learners to reach the objectives of precisions, immediate response, adherence to a model, group cohesion, uniformity, conformity, and several others.

Style B (The Practice Style) is derived by SHIFTING specific decisions from the teacher to the learner. In this style the learner has individual practice time while the teacher has time to offer individual and private feedback. In this style the learners are introduced to the initial steps of making specific decisions.

By a process of systematic shift of decisions, the rest of the Styles of the Spectrum and their operational variations have been identified.

Style C (the Reciprocal Style) is done in pairs. It is derived by SHIFTING more decisions--in this case specific feedback decisions--to the learners. Thus learners practice using criteria (designed by the teacher) and are engaged in the skills of observing and listening, comparing, contrasting, concluding and communicating results to the partner. Immediate feedback and cooperative behavior are the essence of this style.

Style D (the Self-Check Style) offers learners the opportunity to practice tasks as designated by the teacher and do the evaluation against criteria by themselves. Accuracy in comparing, contrasting, and the development of honesty comprise the essence of this style.

Style E (the Inclusion Style) offers the individual learners options within the same task. These options are designed by the principles of the "Degree of Difficulty" which can be identified for each task. Thus each learner is INCLUDED in the activity during Style E episodes. In this style the students learn to make decisions concerning the level of entering the activity.

The structures of Styles A through E create and accommodate conditions for different "kinds" of learning--all necessary for the acquisition of "basic" knowledge and "basic" skills in any subject-matter area. They invoke and engage the learners primarily in cognitive operations such as memory and recall, identifying, sorting, comparing, contrasting, drawing conclusions, and similar operations which deal with past and present knowledge. This includes: factual data, events, dates, names, computation procedures, rules, use of tools, performance in music, dance, and sports. All these are necessary "foundations" for most, if not all, people. Style A invites people to learn to follow instructions, to emulate a model, to adhere and maintain tradition.

The cluster of the differentiated styles (B-E) accommodates the individual differences in learning, while dealing with the "foundations" of knowledge within each subject matter area.

At this point on the Spectrum there is an "invisible" line of demarcation called the Discovery Threshold. The cluster of styles (F-J) beyond this threshold engage the learner in making still additional decisions which evoke the processes of discovery and creativity.

Style F (the Guided Discovery Style) engages the learner in the process of converging and discovering a pre-determined target. It is a process that invokes the learner's capacities for insights into relationships among entities, following logical sequence and discovering consequences, principles, and concepts.

Style G (the Divergent thinking Style) represents the process of divergent thinking and/or divergent expression of feelings. In this style the teacher presents the question, the problem, or the situation that invites and invokes the learner's capacity to DISCOVER alternatives. This

style produces divergent discoveries in each specific cognitive operation such as: comparing, contrasting, categorizing, problem solving, hypothesizing, imagining, etc.

Style H (the Individual Program-Learner's Design Style). In this style the teacher designates the general subject matter area (a particular period in history, a particular phase in physics, a particular aspect of physical education, etc.). The learner discovers the designs, the questions, the problems within the subject matter area and seeks the solutions and verifies them.

Style I (the Learner-Initiated Style). Within the context of deliberate decision making, a learner can initiate this style only when he/she is knowledgeable and experienced in the other styles. In this style the learner makes all the decisions in the three sets (Pre-Impact, Impact, Post-Impact). Frequent information and consultation sessions between the learner and the teacher occur in this style.

Style J (the Self-Teaching Style). In this style the learner makes all the decisions in all three sets without the accompaniment, permission, or even the "existence" of a teacher. This reality mostly exists beyond the parameters of the school.

Styles G through J invite the learner to extrapolate, to go beyond the given data, to express different ideas and feelings, to design and solve problems. They call upon the learner's capacities to project, to invent, to use intuition and imagination, to create.

In Summary

1. The Spectrum - a proposal for a Unified Theory of Teaching -

transcends cultural boundaries and individual idiosyncracies since it is based on the human capacity to make decisions. The structure of the Spectrum is universal. The use of the individual styles varies with personal preferences and cultural conditions.

2. The use of decision making as the universal principle of deliberate teaching, helps in the analysis of various programs and models and suggests their position in the Spectrum. It also suggests that no teaching act, model or educational game can be identified as being "outside" the Spectrum.
3. Preliminary research conducted in Spectrum classrooms (Anderson '76; Oxman and Mitchell '80, '81;) indicated that:

- . Teachers expanded their deliberate use of styles
- . Learners demonstrated ability in making decisions
- . ALT increased. (Each style has its own ALT)
- . Discipline problems were significantly reduced
- . Academic achievement increased
- . Teachers demonstrated that their action was congruent with their intent.

Perhaps the time has come for a shift of paradigm, a shift from idiosyncratic, fragmented, arbitrary concept of teaching behavior to a universal, deliberate and Unified Theory of Teaching. The Spectrum-From Command to Discovery - is one attempt in that direction.

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