
Toward a Unified Theory of Teaching

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By following a universal, deliberate theory of teaching, teachers can lead students sequentially from acquiring basic information to advanced, creative problem solving.

During the last two decades there has been a vigorous surge of interest in the phenomenon of teaching. Intensified research efforts have produced numerous observation tools, lists of teaching skills, models of teaching, classroom management techniques, and proposals for staff development. These contributions share one or more common characteristics.

- *"Versus" Basis.* A model or idea is presented versus all others (group instruction vs. individualized instruction, affective vs. cognitive, rote vs. discovery, direct vs. indirect teaching).

- *Fragmentation.* Models and studies deal with only a part of the teaching phenomenon without showing their relationships to others (feedback, discipline, thinking skills, class management).

- *Subject Matter Idiosyncracies.* Proposals confine their models to a particular subject area or sometimes to a specific grade level.

- *Individual Idiosyncracies.* Contributions often reflect the idiosyncracies of a teacher, a researcher, or members of pressure groups.

- *Cultural Idiosyncracies.* Proposals reflect the idiosyncracies of a given educational philosophy that is in vogue or a current political preference.

- *Reductionism.* Proposals reduce teaching to a few general principles or observable and measurable behaviors (time on task, rules for management).

What has not emerged from this massive attempt to describe teaching is a theory that defines the *universal structure* of this human phenomenon. Such a theory will evolve from a single, universal, underlying process that defines teaching while explaining the structure, function, and consequences of the options available. Identifying the relationships—not the disparity—among these options will produce a *unified theory of teaching*.

The Spectrum of Teaching Styles (Mosston, 1966) sparked the notion of such a theory. In recent years we have continued to investigate its application in schools (Mosston 1972, 1981).¹

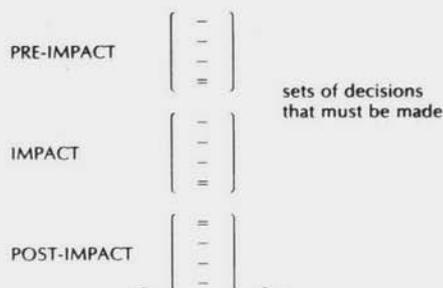
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Figure 1. The Theoretical Structure of the Spectrum.

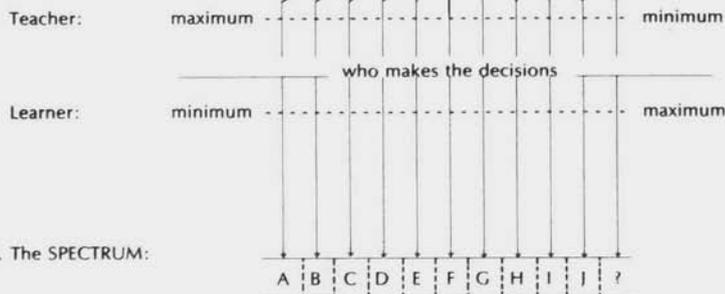
1. The AXIOM:

TEACHING BEHAVIOR IS A CHAIN OF DECISION MAKING

2. The ANATOMY of a STYLE:



3. The MAKERS of DECISIONS:



4. The SPECTRUM:

From Muska Mosston and Sara Ashworth, *The Science and Art of Teaching: From Command to Discovery* (in press).

Basic Features of the Spectrum

1. The Spectrum (Figure 1) is an integrated framework that defines the structure and function of each teaching style and identifies its place in a universal continuum.

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

3. All styles on the Spectrum are considered equal in value.

4. Each style has its own rules of interaction, verbal behavior, feedback procedures, and so on.

5. Each style with its specific T-L-O has particular implications for 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 sequential concepts of the Spectrum can approach the goal of reaching one's absolute potential.

Four Concepts of the Spectrum

1. *The Axiom.* The entire structure stems from the concept that teaching behavior is a chain of decision making. Every *deliberate* act of teaching is a result of a decision previously made.

2. *The Anatomy of a Style.* The anatomy used to analyze the various styles is composed of all the conceivable categories of decisions that must be made in any teaching-learning transaction. These categories are labeled *pre-impact*, *impact*, and *post-impact*. The pre-impact set includes all decisions that must be made prior to the transaction; the impact set includes decisions related to the actual transaction; and the post-impact set identifies decisions concerning evaluation of performance during the impact set. The anatomy is a statement about *what* decisions must be made.

3. *The Maker of Decisions.* Both teacher and learner can make decisions, from minimum to maximum, about the categories delineated in the anatomy.

4. *The Spectrum.* By applying the first three concepts, one can identify and differentiate among specific teaching styles (A-J). The Spectrum identifies these landmark styles and alternatives in between.

Teaching Styles in the Spectrum

The landmark styles are:

Style A—Command. The teacher makes maximum decisions, and the learner's role is to follow and perform. Students learn to reach the objectives of precision, immediate response, adherence to a model, group cohesion, uniformity, conformity, and several others.

Style B—Practice. Specific decisions are *shifted* from teacher to learner. Learners gain individual practice time,

while the teacher has time to offer individual and private feedback. Learners begin the initial steps of decision making.

Style C—Reciprocal. In this style, more decisions are shifted—in this case, specific feedback decisions—to the learners. Learners practice in pairs using criteria (designed by the teacher) and engage 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—Self-Check. Learners practice tasks designated by the teacher and evaluate themselves against established criteria. Accuracy in comparing and contrasting and the development of honesty are the essence of this style.

Style E—Inclusion. Each learner chooses options within the same task. These options are designed by the principles of the degree of difficulty that can be identified for each task. Thus each learner is *included* in the activity during style E episodes. 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. Style A invites students to follow instructions, to emulate a model, to adhere to and maintain tradition. The differentiated styles (B-E) accommodate individual differences in learning, while dealing with the foundations of knowledge within each subject matter area.

Activities in styles A-E invoke and engage learners primarily in cognitive operations such as memory and recall, identifying, sorting, comparing, contrasting, drawing conclusions, and similar operations that deal with past and present knowledge. These include factual data, events, dates, names, computation procedures, rules, use of tools, and performance in music, dance, and sports.

At this point on the Spectrum there is an invisible line of demarcation called the *discovery threshold*. Styles beyond this threshold (F-J) engage the learner in making additional decisions that evoke the processes of discovery and creativity.

Style F—Guided Discovery. Learners engage in the process of converging and discovering a predetermined target. The process invokes a learner's capacities for insights into relationships among entities, following logical sequence, and discovering concepts, principles, and consequences.

Style G—Divergent Thinking. The teacher presents the question, problem, or situation that invites and invokes a learner's capacity to *discover* alternatives. This style produces divergent discoveries in each cognitive operation (comparing, contrasting, categorizing, problem solving, hypothesizing, imagining, and so on).

Style H—Individual Program-Learner's Design. The teacher designates the general subject matter area (a period

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John McNamara





in history, a phase in physics, an aspect of physical education). Learners discover the designs, questions, and problems within the subject matter area, seek solutions, and verify them.

Style I—Learner-Initiated. Within the context of deliberate decision making, learners can initiate this style only when they are knowledgeable and experienced in the other styles. Although learners make all the decisions in the three sets (pre-impact, impact, post-impact), they meet frequently with the teacher to gain information.

Style J—Self-Teaching. Learners make all decisions in all three sets without

the accompaniment, permission, or even the "existence" of a teacher. This type of learning usually takes place outside the school.

Styles F through J invite learners to extrapolate, go beyond the given data, express different ideas and feelings, and design and solve problems. Learners are asked to project, invent, use intuition and imagination, and create.

Preliminary research conducted in Spectrum classrooms (Anderson, 1976; Oxman and Mitchell, 1980, 1981) indicated that:

- Teachers expanded their deliberate use of styles.

- Learners demonstrated decision-making ability.

- Time devoted to learning increased. (Each style has its own academic learning time.)

- Discipline problems decreased significantly.

- Academic achievement increased.

- Teachers demonstrated that their actions were congruent with their intent.

Toward a Unified Theory

The Spectrum 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. And the use of decision making as the universal principle of deliberate teaching helps in the analysis of various programs and models. It also suggests that no teaching act, model, or educational game can be identified as being "outside" the Spectrum.

The time has come for a shift of paradigm—away from an idiosyncratic, fragmented, arbitrary concept of teaching behavior toward a universal, deliberate, and unified theory of teaching. The Spectrum—From Command to Discovery—is an attempt in that direction. □

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