

FROM COMMAND TO DISCOVERY:

THE SCIENCE AND ART OF TEACHING

MUSKA MOSSTON

SARA ASHWORTH

copyright © 1987 by Mosston/Ashworth

## Chapter 1

THE PREMISEI. What is Teaching?

This book is about teaching. It is about the relationships between teacher and learner; relationships that are, at the same time, ubiquitous and uniquely personal. It is a book about the mastery of this pervasive human behavior.

When teaching takes place a special human connection evolves, connection of many dimensions that simultaneously affect the learner and the teacher. Both are subjected to a tacit agreement to share information, to deliver and receive accumulated knowledge, to replicate and reproduce portions of the past, to acquire and discover new information, and to construct and create pathways for the yet unknown. This connection, inevitably, invites feelings for one another - feelings of cooperation or discord, acceptance or rejection, anger or joy. This connection invites both the teacher and the learner to participate in a unique social context, with its special hierarchies, rules, and network of responsibilities. This connection inspires aesthetic sensations and seeks to expand the very boundaries of the self.

This connection triggers the brain, stimulates the emotions and at its best uplifts the human spirit. It is an inescapable process that is at the very core of human

development. All cultures provide for it, all humans participate in it.

How, then, does a teacher translate these educational processes and goals - lofty as some may sound - into daily procedures, daily activities, daily behaviors? What are the practical issues and questions that face every teacher, every day? The following are some categorical questions that persist in the mind of every teacher - novice or veteran - when preparing to enter the classroom:

1. What do I want my students to accomplish? What are the objectives of the lesson?
2. What methodology will I choose in order to reach the objectives? What will be my teaching behavior?
3. What is the sequence of the lesson? How do I arrange the materials?
4. How do I organize the class for optional learning? - groups? - pairs? - individual activity?
5. How do I motivate my class? How do I offer appropriate feedback?
6. How do I create a climate conducive to thinking, social interaction, good feelings?
7. How do I know that my students and I have reached the objectives? All of them? Some?
8. How will I know that the "action" that took place during the lesson was congruent with my pre-lesson "intent"?

INTENT  $\cong$  ACTION

In the course of answering these questions - and, indeed, many others - the teacher must make decisions (choices). There are many different ways to answer these questions and there are many ways of teaching. However, the many options in teaching and the many idiosyncratic variations all stem from several universal patterns that reflect the decisions that are made by the teacher and by the learner during any given episode. Teaching and learning episodes differ from one another because of the decision-patterns that take place in the given episode. The decisions made by the teacher define his/her teaching behavior and the decisions made by the learner define the learning behavior. The teaching-learning process is a continuous interaction between the behavior of the teacher and the behavior of the learner.

T.B.  
↓  
L.B.

This book describes the options that are available in the interaction between Teaching Behavior and Learning

Behavior. This book offers some answers to the categorical questions suggested above by:

- a. Identifying the various decision-patterns.
- b. Identifying the specific decisions within each pattern.
- c. Describing a framework that shows the relationships among the various patterns.

The decision-patterns are called Teaching Styles, and the framework that holds them together is called The Spectrum of Teaching Styles. \*The Spectrum identifies the structure of each style by delineating the decisions that are made by the teacher and those made by the learner. It describes how to shift appropriate decisions from the teacher to the learner as both move from style to style. It describes the influence of each style on the learner in the cognitive, affective, social, physical, and moral domains.

What is teaching? It is the ability to be aware of, and utilize the possible connections with the learner - in all domains.

---

\* a. The term "Spectrum of Teaching Styles" was coined in the mid 60's to designate this particular framework for teaching. (Mosston, 1966)

- b. The term teaching style was selected to differentiate the descriptions of specific teaching behavior from contemporary terms of that time. Terms like methods, approaches, models and strategies were used and are still being used in many different ways by different writers. Recently, the term style has been used by others in reference to personal style. In this book, as in recent publications by the authors (Mosston and Ashworth, 1986) the term teaching style refers to a structure that is independent of one's idiosyncracies.

It is the ability to behave, in a deliberate manner, using a style that is most appropriate for reaching the objectives of a given episode. Skillful teaching is the ability to move deliberately from style to style as the objectives change from one teaching episode to another.

## II. An Overview of the Spectrum of Teaching Styles

The fundamental proposition of the Spectrum is that teaching is governed by a single unifying process: decision making. Every act of deliberate teaching is a consequence of a prior decision. Decision Making is the central behavior (perhaps the "primary behavior") that governs all the behaviors that follow: how we organize students, how we organize the subject matter, how we manage time, space and equipment, how we interact with students, how we choose our verbal behavior, how we construct the social-affective climate in the classroom, and how we create and conduct the cognitive connections with the learners. All these are "secondary behaviors"; all emanate from prior decisions, and all are governed by these decisions.

Identifying these decisions and understanding the possible combination of decisions opens up a wide vista for looking at the teacher-learner relationships. Each option in the teacher-learner relationships has a particular structure; a particular structure of decisions that are made by the teacher and by the learner. The "Spectrum of

Teaching Styles" defines the available options (styles), their decision structures, the specific roles of the teacher and the learner in each style, and the objectives best reached by each style.

The Theoretical Structure of the Spectrum

The following (Figure \_\_\_\_ ) is a schematic overview of the structure of this Spectrum of Teaching Styles.

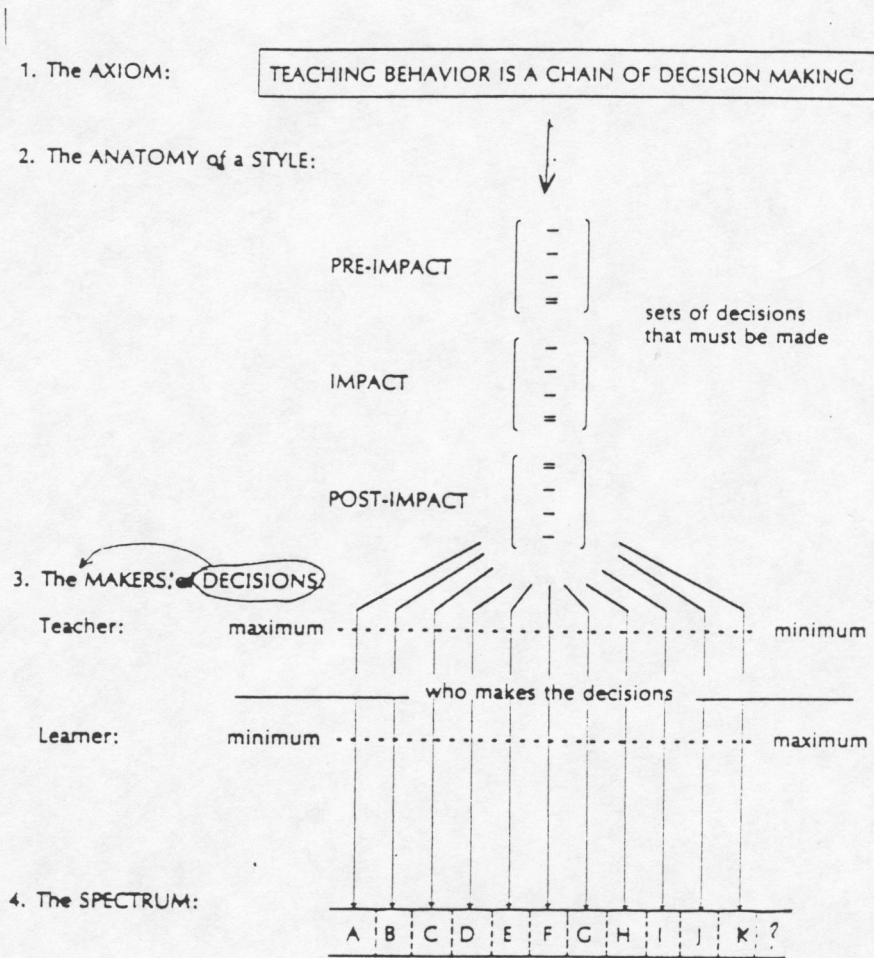


Figure \_\_\_\_

## Six Premises of the Spectrum

### 1. The Axiom.

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

### 2. The Anatomy of a Style.

The anatomy is composed of the conceivable categories of decisions that must be made in any teaching-learning transaction. These categories are grouped into 3 sets: pre-impact set, impact set, and post-impact set. The pre-impact set includes all decisions that must be made prior to the teaching-learning transaction; the impact set includes decisions related to the actual teaching-learning transaction; and the post-impact set identifies decisions concerning evaluation of the teacher-learner transaction. The anatomy is a statement about which decisions must be made in each set.

### 3. The Decision Makers.

Both teacher and learner can make decisions, from minimum to maximum, about the categories delineated in the anatomy.

### 4. The Spectrum.

By establishing who makes which decisions, about what and when, it is possible to identify the structure



of landmark styles on the Spectrum, and alternatives between them.

In the first style (style A), which has as its overriding objective precise replication, the teacher makes all the decisions; the learner responds by adhering to all of the teacher's decisions. In the second style (style B), several specific decisions are shifted from the teacher to the learner\*, and thus a new set of objectives can be reached. In every subsequent style, specific decisions are systematically shifted from teacher to learner - new objectives are reached - until a Spectrum of Styles is delineated.

#### 5. The Clusters.

The structure of the "Spectrum of Teaching Styles" reflects two basic human capacities: the capacity for reproduction and the capacity for production. All human beings have, in varying degrees, the capacity to reproduce known knowledge, replicate models and practice skills. All human beings have the capacity to produce a range of ideas and a range of things; all have the capacity to venture into the new and tap the yet unknown.

---

\*The categories of decisions that must be made in any episode are described in Chapter 3 - "The Anatomy of any Style".

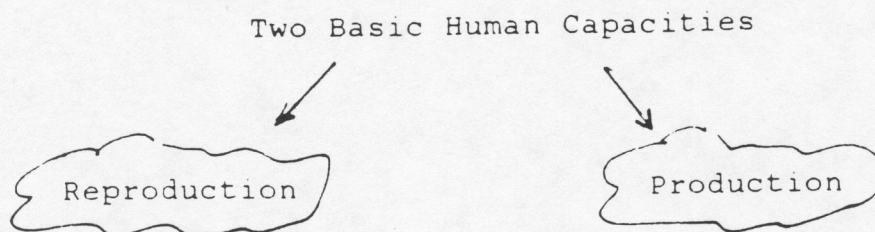


Figure \_\_\_\_\_

The cluster of styles A-E represents the teaching options that foster reproduction of past knowledge; the cluster of styles F-K represents options that invite production of new knowledge, new to the learner, to the teacher, and--at times--to society. The line of demarcation between these two clusters is called the "Discovery Threshold." It identifies the boundaries of each cluster. Styles A-E are designed for the acquisition of "basic" skills, replication of models and procedures, and the maintenance of cultural traditions. Activities in styles A-E engage the learner primarily in cognitive operations such as memory and recall, identifying, sorting - operations that deal with past and present knowledge. This knowledge includes factual data, events, dates, names, computation procedures, rules, use of tools, and performance in music, dance, and sports.

The cluster of styles F and G represents the teaching options that foster the discovery of single correct concepts. The cluster of styles H-K is designed for the development of discovery and creativity of alternatives and new concepts. Styles F-K engage the learner in problem solving, reasoning, inventing; they invite the learner to go beyond the given data.

The clusters and all the styles are integral parts of our humanity. Each style contributes to our development and none seeks, nor merits, supremacy over the others. The Spectrum serves as a guide for selecting the style appropriate for a particular purpose; a guide for the deliberate mobility in behavior for teacher and student alike.

#### 6. The Effects.

Since decisions always influence what happens to people, each style affects the developing learner in unique ways. The Spectrum provides a framework for studying the influence of each style on the "state of the learner" in the cognitive, affective, social, physical, and moral domains.

### III. The T-L-O Relationships

The previous section presents an overview of the Spectrum and offered the "large picture" of the entire structure. This section describes the elements that constitute any given episode.

The interaction between teacher and learner always reflects a particular teaching behavior, a particular learning behavior, and particular sets of objectives to be reached. The bond among teaching behavior (T), learning behavior (L), and objectives (O) is inextricable. The T-L-O always exists as a unit, conceived as the "pedagogical unit". Schematically, this relationship can be expressed in the following manner:

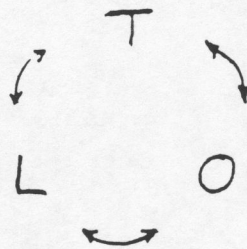


Figure \_\_\_\_\_

Each style is defined by the particular behavior of the teacher (the decisions made by the teacher), the particular behavior of the learner (the decisions made by the learner), and the objectives that this relationship reaches. Hence, each style has its own distinct T-L-O.

The objectives reached by any teacher-learner interaction are always in two sets: Subject Matter objectives and Behavior objectives. The first set contains specific objectives that pertain to the particular content of the episode. (For example: citing the capitals of European countries, using the quadratic equation; translating a speech to another language; dribbling the basketball, writing a poem). The second set contains specific objectives of human behavior (For example: cooperation, accuracy of performance, self-assessment, honesty, replication, creating).

Schematically:

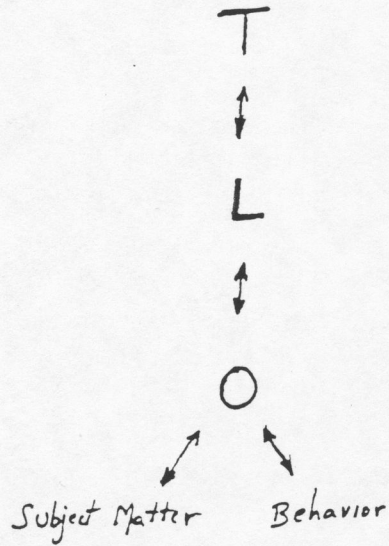


Figure \_\_\_\_\_

Subject Matter objectives and Behavior objectives always exist in teaching. The T-L relationship determines the kind of objectives that can be reached in the "subject matter" and in the "behavior", and conversely the particular objectives (both in "subject matter" and in "behavior") determine which Teaching Behavior and Learning Behavior are more likely to achieve them.

One more aspect needs to be considered in this context. Objectives are an a-priori statement of what is to be achieved in a given episode; at the end of an episode, however, there are always outcomes, outcomes that are also in two sets: "Subject Matter" and "Behavior". The entire process of any episode, therefore, constitute a flow and an interaction of objectives, teaching behavior, learning behavior, and outcomes.

Schematically, it may look like this:

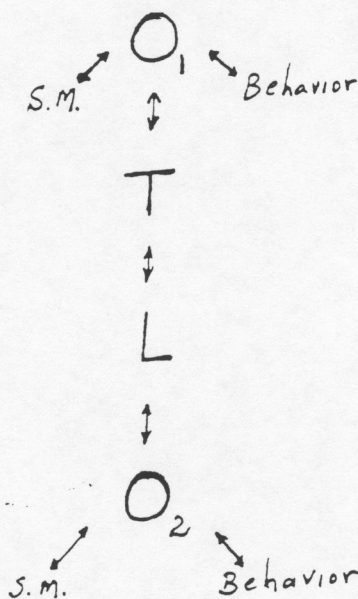
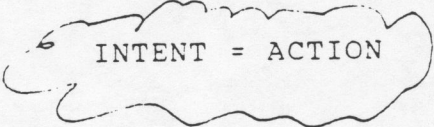


Figure \_\_\_\_\_

The Pedagogical Unit

The objectives of an episode ( $O_1$ ) affect the teaching behavior (T), which in turn influences the interaction with the learning behavior (L). This interaction culminates with the particular outcomes ( $O_2$ ), outcomes in subject matter and in behavior. Logically, then, in a successful teaching-learning episode, the outcomes are congruent with the objectives ( $O_2 = O_1$ ). Stated differently, the intent and the action are congruent.

In a successful episode:



INTENT = ACTION

Figure \_\_\_\_\_

#### IV. Linkage to Chapter 2

The multiple goals of schooling reflect the wish (and the philosophy) to educate the learner in all the domains of development.

It is, indeed, commonly accepted that the educational experiences in schools - in all subject areas - affects the learners' growth and involvement in the physical, affective, social, cognitive, and moral domains.

These domains constantly intertwine and it is quite difficult to claim the dominance of one over the others in any given episode. All human experiences involve some physical activity or dexterity, all experiences evoke or reflect some feelings, all experiences occur within some social context (from isolation to crowds), and all experiences, in one form or another, touch moral standards.

However, these four domains seem to be influenced, guided - if not governed - by the cognitive domain.

"Thinking processes", yet unfathomed and mysterious, seem to control many of our functions and actions (both on the conscious and the unconscious levels); "Thinking" is involved in every task we do, it is omni-present. Until the neurosciences provide us with more "concrete" information about the brain and learning, we have no choice but to continue to generate assumptions and theories about "thinking" and about the teaching of thinking.

Before the details of the "Spectrum of Teaching Styles" are delineated and developed, Chapter 2 presents a formulation of "thinking" that goes hand in hand with the teaching styles described in subsequent chapters.

---

\*The reader who wishes to study the issues and some of the available "thinking" models, see the references at the end of Chapter 2.