

Tug-O-War, No More: Meeting Teaching-Learning Objectives Using the Spectrum of Teaching Styles

It is gratifying to realize that after years of development, experimentation, failures, and successes, the Spectrum of Teaching Styles has reached its twenty-fifth anniversary. For a quarter of a century I have delighted in teaching the styles to thousands of teachers and students.

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Recently, during one of my visits to an elementary school to work with a fourth grade teacher, I saw one of the children sitting on the floor with my book on his lap. "Good morning, Bobby," I said to him. "What are you doing?" "I was curious about one of the details in the Reciprocal style, so I am reading about it," he replied.

I have pondered this episode ever since. Clearly, this child was fully immersed in learning; this child understood the concept of the styles. Clearly, he was benefitting from the contribution of the styles. It did not happen automatically or by chance. The teacher must have done something right. And, indeed, this teacher took time to explain the structure and the meaning of the styles, and took time to experiment with the implementation of the styles. This was a wonderful example of the powerful impact of teaching behavior on learning behavior.

Over the years, I have seen many such examples in different classes, different subject areas, different activities, different cultures, and different languages. The Spectrum has been recognized as a universal para-



digm that is available to those who wish to study it, integrate it with their own concept of teaching, and use it in their relationship with developing students.

Why a Spectrum?

There are at least four compelling reasons for developing and using the Spectrum of Teaching Styles: personal; the diversity of the student population; the multiple objectives of education; and the need for a coherent, comprehensive, and an integrated framework for teaching

Personal. Every one of us, sooner or later, evolves a favorite way of teaching, our personal style that has been successful for us in our teaching behavior. Our personal style re-

flects a unique combination of who we are, how we do things, and what we believe about the relationship with students. One might call this unique amalgamation our "idiosyncratic style." With this personal style, each teacher travels through the vicissitudes of his or her career, succeeding in some lessons, failing in others, but generally staying within the parameters of the personal style.

This realization often evokes two points of view: one is that this is what teaching is about—"I teach my way." The other suggests that being anchored in one's idiosyncrasies (successful as they may be) limits the teacher's options and potential contributions to the students' learning. This point of view raises the question, Is there more to teaching beyond my own experience, my values, my successes?

The birth and development of the Spectrum was motivated by this question. If you have asked yourself this question, then you may add a few more: How many styles do I use in my teaching? Where am I on the Spectrum? Do I know the impact of each style on my students? Am I anchored in a particular style? Am I willing to expand?

Diversity of the student population. Students are unique individuals. They learn in different ways and have different needs and aspirations. They come from diverse cultural backgrounds. Our classes are the mirror of this diversity of humanity. In fact, this diversity is the hallmark of our schools. We know it and experience it. We acknowledge it, and, at times, we honor it.

Where, then, is the point of entry in teaching diverse students? Assuming for a moment the predominance of personal styles, how can a teacher connect with and reach students who do not "fall" within his or her personal style? Is it possible that this condition invites exclusion of some students? In our teaching is it possible to create conditions that foster inclusion? Any teacher who wishes to reach more students must learn additional points of entry, and to do so, the teacher must learn additional options in teaching styles.

Multiple objectives. School curricula are rich in goals and objectives, objectives that span a wide range of human abilities. Physical education encompasses objectives that range from uniformity and synchronization of performance in rowing, from precise replication of models in gymnastics, to individualized forms in freestyle swimming and in modern dance performance. Objectives range from aesthetics in springboard diving to appreciation of nature during hiking; from individual skills and tactics in fencing to group cooperation and strategy in team ball games.

This wide range of objectives requires a range of teaching styles, each with its own structure of teaching behavior that invites a particular learning behavior. When the two successfully interact, the specific objective (or set of objectives) can be reached. Teachers who are willing to expand their teaching repertoire beyond their personal styles and wish to reach more objectives and more students are ready to learn additional teaching styles, experiment with them, and then integrate them with their own.

Need for an integrated framework.

Teaching styles in the Spectrum represent two basic human capacities: the capacity for reproduction of ideas, movements, previous models, and the capacity for production of new knowledge, the discovery of new movements, and the creation of new models. All humans—in varying degrees of depth and speed—possess these capacities. All subject matter areas emanate and develop from these capacities, and all activities reflect them.

Every activity, every sport, every subject contains aspects that can, and sometimes should, be taught by styles that invite reproduction (replication), and aspects that can and should be taught by styles that invite production (discovery and creativity). The fundamental issue in teaching is not which style is better or best, but rather which style is appro-

The structure of the Spectrum is based on the existence of two clusters of styles: one contains the styles that can be used for reproduction (replication), and the other contains the styles that invite production (discovery or creativity).

priate for reaching the objectives of a given episode. Every style has a place in the multiple realities of teaching and learning!

For example, when teaching basketball skills, the styles in the reproduction part of the Spectrum are most appropriate. If the episodes focus on developing the psychomotor skills of dribbling, passing, shooting, the Command and Practice

styles are most appropriate. Practice, repetition, and replication of the correct form of the skills in addition to frequent feedback from the teacher will improve and sharpen the performance. If the social skill of cooperating with a partner is added as an objective of learning, the Reciprocal style is most appropriate. When self-learning is to be enhanced, then episodes in the Self-check style will be introduced. When a task can be designed by the principle of the "slanting rope" (a range of degree of difficulty within the same task), then inclusion of all participants becomes the objective.

In physical education tasks, many of the objectives in the physical domain can be reached (by many students, but not all) by implementing the first two styles on the Spectrum (Command and Practice). However, when other domains and other educational objectives enter the picture, by definition, these two styles cannot accomplish them. The other styles on the reproduction side of the Spectrum need to be called upon. The same is true when teaching all activities (e.g., other ball games, gymnastics, swimming, skiing, scuba).

Every activity, on the other hand, provides opportunities for discovering the unknown. There is always a possibility of designing a new strategy in ball games, discovering a new combination of movements in gymnastics, creating new dances. When these learning behaviors become the objectives of an episode, the teaching styles on the production side of the Spectrum must be recruited. The teacher who aspires to reach the objectives of "reproduction" and "production" will inevitably learn and experiment with the array of styles and will become mobile along the Spectrum—and thus, will greatly enrich the experiences of the students. This enrichment includes a wide variety of cognitive involvements that are not possible when only the reproduction styles are activated. The discovery and the creative processes require special conditions that are only possible when the production styles are employed in episodes specifically de-

signed for these objectives. Moreover, specific episodes must be designed for specific cognitive operation such as comparing, contrasting, extrapolating, solving problems, and designing.

The structure of the Spectrum is based on the existence of two clusters of styles: one contains the styles that can be used for reproduction (replication), and the other contains the styles that invite production (discovery or creativity). Each style in each cluster has a specific purpose. Each style has an active part in the rich variety of teaching-learning objectives; hence, a nonversus view of classroom realities is created, in which no one style is better or best. Each style is best for the objectives it can reach. Teachers no longer have to struggle with the "tug-o-war" when selecting the teaching style best suited for their needs, and the needs of the students.

Our role in using the Spectrum is to understand the structure of each style; learn how to incorporate it into our repertoire of teaching behaviors; experiment with it when teaching different students and different tasks; and refine its operation. It takes time to learn and internalize a new style. It is awkward in the beginning. When trying anything new, one must persist, try several times, identify the discrepancies, correct them, and try it again. There is presently enough evidence that attests to the value of each style, and therefore, the main challenge is to learn how to use each style for its own unique purpose.

Six Premises of the Spectrum

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 or primary behavior that governs all the behaviors that follow: how we organize students; how we organize the subject matter; how we manage time, space, equipment; how we interact with students; how we choose our verbal behavior; how

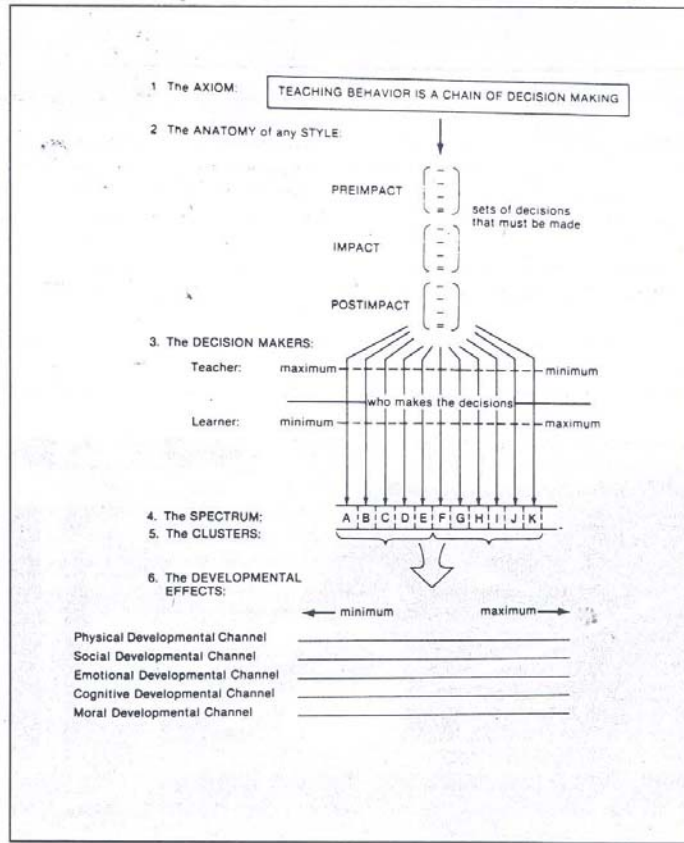


Figure 1. The Spectrum of Teaching Styles

we create and conduct the cognitive connections with students. All these are secondary behaviors, all emanate from prior decisions, and all are governed by those decisions.

Identifying primary decisions and understanding the possible combinations of decisions opens up a wide vista for looking at teacher-learner relationships. Each option in the teacher-learner relationship has a particular structure of decisions that are made by both the teacher and the learner. The Spectrum defines the available options or styles, their decision structures, the specific roles of the teacher and the learner in each style, and the objectives best reached by each style.

Figure 1 presents a schematic overview of the structure of the Spectrum. The structure is based on

the six underlying premises, which follow:

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

The Anatomy of any 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 three sets: preimpact, impact, and postimpact. The preimpact 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 postimpact set identifies decisions concerning evalua-

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tion of the teacher-learner transaction. The anatomy delineates which decisions must be made in each set.

The Decision Makers. Both teacher and learner can make decisions in any of the categories delineated in the anatomy. When most or all of the decisions in a category are the responsibility of one decision maker (e.g., the teacher), that person's decision-making responsibility is at "maximum" and the other's is at "minimum."

The Spectrum. By establishing who makes which decisions, about what and when, it is possible to identify

The Clusters. As mentioned, the structure of the Spectrum reflects two basic human capacities: reproduction and production. All humans have the capacity to reproduce known knowledge, replicate models, and practice skills, and to venture into the new and tap the unknown.

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—that is, knowledge that is new to the learner, new to the teacher, and, at times, new to society.

that the learner makes in the given episodes. When these decisions are made with reasonable authenticity, the purpose (objective) of the episode can be accomplished.

What follows for each style is a description of its purpose and a description of its essence. The "essence" of a style indicates that the implementation of a given style is reasonably flexible—flexible within the boundaries of what each style is supposed to accomplish. The essence of a style provides the picture of that style. Any further reduction will nullify the operation of the style and will not accomplish the intended purpose. Again, a deliberate behavior, a behavior that is authentic to the structure of the given style, will ensure a reasonable accomplishment of the purpose of the teaching-learning episode. When a teacher becomes skilled in using each style, he or she becomes more flexible and able to shift styles and thus, accomplish more objectives and reach more students.

Style A: Command. The purpose of this style is to learn to do the task accurately and within a short period of time, following all decisions made by the teacher. The essence: Immediate response to a stimulus. Performance is accurate and immediate. A previous model is replicated.

Style B: Practice. This style offers the learner time to work individually and privately and provides the teacher with time to offer the learner individual and private feedback. The essence: Time is provided for the learner to do a task individually and privately and time is available for the teacher to give feedback to all learners, individually and privately.

Style C: Reciprocal. In this style learners work with a partner and offer feedback to the partner, based on criteria prepared by the teacher. The essence: Learners work in a partner relationship; receive immediate feedback; follow criteria for performance designed by the teacher; and develop feedback and socialization skills.

Style D: Self-check. The purposes of



The "slanting rope" provides a range of difficulty within the same task.

the structure of 11 landmark styles as well as alternative styles that lie between them on the Spectrum.

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 the teacher's decisions. In the second style (Style B), nine 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—thereby allowing new objectives to be reached—until the full Spectrum of teaching styles is delineated.

The Developmental 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 learner in the cognitive, affective, social, physical, and moral domains.

The Purpose and the Essence of Each Style

Since each style has a particular structure that defines the role of the teacher and the role of the learner, it also identifies the purpose (objective) of this relationship. The roles are defined by the decisions that the teacher makes and the decisions

this style are to learn to do a task and to check one's own work. The essence: Learners do the task individually and privately and provide feedback for themselves by using criteria developed by the teacher.

Style E: Inclusion. The purposes of this style are to learn to select a level of a task one can perform and to offer a challenge to check one's own work. The essence: The same task is designed for different degrees of difficulty. Learners decide their entry point into the task and when to move to another level.

Style F: Guided Discovery. The purpose of this style is to discover a concept by answering a sequence of questions presented by the teacher. The essence: The teacher, by asking a specific sequence of questions, systematically leads the learner to discover a predetermined "target" previously unknown to the learner.

Style G: Convergent Discovery. Here learners discover the solution to a problem, to clarify an issue, and to arrive at a conclusion by employing logical procedures, reasoning, and critical thinking. The essence: Teachers present the question. The intrinsic structure of the task (question) requires a single correct answer. Learners engage in reasoning (or other cognitive operations) and seek to discover the single correct answer/solution.

Style H: Divergent Production. The purpose of this style is to engage in producing (discovering) multiple responses to a single question. The essence: Learners are engaged in producing divergent responses to a single question. The intrinsic structure of the task (question) provides possible multiple responses. The multiple responses are assessed by the Possible-Feasible-Desirable procedures, or by the verification "rules" of the given discipline.

Style I: Learner's Individual Designed Program. The purpose of this style is to design, develop, and perform a series of tasks organized into a personal program with consultation with the teacher. The essence: The learner designs, develops, and performs a series of tasks organized into

a personal program. The learner selects the topic, identifies the questions, collects data, discovers answers, and organizes the information. The teacher selects the general subject matter area.

Style J: Learner-Initiated. The purpose of this style is for the learner to initiate a learning experience, design it, perform it, and evaluate it, together with the teacher based on agreed upon criteria. The essence: The learner initiates the style in which he or she will conduct the episode or a series of episodes. The learner has the option to select any style on the Spectrum. The learner must be familiar with the array of the styles offered by the Spectrum.

Style K: Self-teaching. This style provides the learner the opportunity to make maximum decisions about his or her learning experience—without any direct involvement by the teacher. This style is rarely, if ever, used in school. It is more appropriate for developing a hobby or leisure activity. The very choice of this style is the learner's decision. The essence: The learner initiates his or her learning experience, designs it, performs it, and evaluates it. The learner decides how much teacher involvement to use. The teacher accepts the learner's decisions and provides general conditions for the learner's plans if performed in the school.

Designing a Lesson: A Practical Matter

Teachers must make the following practical decisions when selecting a style for a lesson plan:

1. Decide whether to engage students in reproducing specific movements or in producing a variety of movements.
2. Decide whether the task(s) selected is conducive to the reproduction cluster or to the production cluster of styles. At times, certain tasks can be learned by reproduction styles and production styles. Decide which one is best for a given episode.
3. Decide which specific style, within the cluster, to use for the

planned episode. There are several styles (A through E) in the reproduction cluster and several styles (F through J) in the production cluster. Match the objective selected for the episode with the objective of the appropriate style, plan the episode, and teach it. (An episode is defined as a period of time when a given style is used. A lesson, therefore, may consist of one or more episodes, each with its own objective and style. Thus, a lesson can be conceived as a sequence of episodes and a chain of styles.)

This design is possible when the teaching is planned for the entire class as one group. When the planning calls for dividing the class into two or more groups, then several episodes and styles will be concurrent. One group will be engaged in one task (or a series of tasks) learned by one style while the adjacent group will be engaged in another task and another style. Another option will constitute groups engaged in the selected styles, and several individuals engaged in the style designed for individual engagement in learning.

Once a teacher and the students are familiar with several styles, it is possible to introduce combination of styles within the same episode. For example, Styles B and H lend themselves to a very productive series of episodes. Start by teaching a particular task using Style B, and the learned skill becomes the base knowledge for subsequent experiences in Style H (Divergent Production). Immediately after a skill is learned in Style B, the students move on to the discovery of alternatives built on the "original" task.

Combining Styles B and C is useful for perfecting a skill with the aid of immediate feedback by a peer, with additional social dimension which is the core of the Reciprocal style. Styles B and E are also a fruitful combination. The specifics (techniques) of the task are taught and learned by Style B, and then, individualization is developed and increased by Style E, the Inclusion

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Spectrum theory. The Spectrum is not just a theory on paper, but is a theory based on practice.

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style, where the "slanting rope" principle governs task design. The combination H/B is most engaging. Students begin by discovering alternative solutions and possibilities (Style H), and then focus on practicing (Style B) several or all the discovered movements.

The possibilities are many, the experiences rich, and the results gratifying. Over the years, teachers have used the Spectrum in many ways and learned to perfect the specific styles and to discover personal nuances.

The Future of the Spectrum

The beauty of the Spectrum is its universality and its flexibility. As a paradigm, it has been a guide for methods courses in many countries and in many languages. The Spectrum has survived the test of time and the potential danger of rigidity. Some paradigms tend to lock people in and eventually vanish. Because of its open structure, the Spectrum has flourished.

The very structure of the Spectrum, the identification of the axiom, and the delineation of the "anatomy of any style" established its universality and flexibility. The Spectrum has never been a technique, a method, or an approach. These, by definition, are idiosyncratic in nature and perhaps even temporary. The Spectrum was conceived as a universal structure that can be learned and used by any-

one. From its inception the Spectrum offered options. The Spectrum is a framework of options in the relationships between teacher and learner. Each style is a delineation of a particular human interaction between teacher and learner. It is the distribution of decisions between teacher and learner in each style, and the impact of these decisions on the developing learner that render the qualities of universality and flexibility in the Spectrum. All teaching behavior is an overt expression of decisions made by the teacher, and all learning is an overt (and covert) result of decisions made by the learner. There is no teaching and learning devoid of decisions. This is the universality of the Spectrum. The ways of implementation, the preference and choice of styles, and the possibilities of variations and nuances constitute the flexibility of the Spectrum.

When the Spectrum was conceived, some 25 years ago, both the "anatomy of any style" and the Spectrum itself were in their infancy. The anatomy identified only a few categories of decisions, and the Spectrum offered only a few styles. Eventually, as experimentation proceeded, as the theoretical inquiry continued, the anatomy matured and the Spectrum expanded. Additional categories of decisions have been identified and additional styles have been delineated and placed in proper juxtaposition to other styles. One golden rule has guided this expansion and growth: the internal consistency of the "logic" of the Spectrum. The integrity of its structure and process has remained intact.

A new style has been designated as such after analysis and scrutiny of its uniqueness within the Spectrum of styles. And therefore, the Spectrum remains an open structure that welcomes new discoveries in teaching, and delineation of styles and new options in the relationship between teacher and learner. This is the future of the Spectrum—new additions, new refinements, new horizons.

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