

The Spectrum Applied: Letters From the Trenches

Both authors, early in their teaching, felt a need for something more; an idea or group of ideas that could integrate, on a theoretical and practical level, what they were doing as teachers in the gymnasium. For these teachers, the Spectrum was the answer.

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Some 20 years ago, we had a great number of questions which could be boiled down to one concern: "How could we, as teachers, present content in a way that would ensure a higher level of success for both student and teacher?" The Spectrum seemed to be a possible answer and could be implemented in our schools. We felt that children could understand the basic concept of the Spectrum, which is the idea of shifting decisions between the teacher and learner. Our experience has shown that if children are told what decisions they have to make, they are able to make them, they feel comfortable, and they can deal with any content that is presented. The Spectrum gave us a teaching framework from which our programs could develop.

In the late 1960s, we were elementary physical education teachers in varied and distant school settings when we were exposed to and started using the Spectrum. For one of us, the exposure, which occurred during a one-hour conference presentation, was an event that caused profound fundamental changes in perception. For the other, introduc-

tion to the Spectrum was no less exciting and profound, but the events and circumstances were somewhat unique. While on a Peace Corps furlough from Jamaica, West Indies, this author selected from Kent State University's book store Mosston's book, *Teaching Physical Education*, as a resource to take back to the field. This practical text possibly provided the first Spectrum episodes taught in "patois" (West Indian dialect) in a sugar cane "commons" gymnasium. These Spectrum episodes were self-interpreted field lessons taught literally with text in hand. The self-interpreted Spectrum teaching episodes continued in an inner-city physical education setting back in the United States following the Peace Corps experience.

However, by chance or destiny both of us took a Temple University course entitled, Introduction to the Spectrum, taught in part by Mosston. We prepared formal "classic" Spectrum teaching episodes. Teacher and learner relationships, dialogue, and decisions were explained and presented in detail. It helped to have the episodes reviewed by supportive colleagues who

used a common behavioral language to analyze the content, pupil-teacher relationship, and decisions. Early in our exposure and study of Spectrum theory, we had a feeling of mission: we were knocking down the wall of ignorance and moving educators into the light of understanding. We were zealots! We never wanted to "abort a style" by using a wrong word or action. There was an orthodoxy in our approach. In retrospect, we understand that was a stage of personal development. With study, experience, and an endless exchange of ideas and concepts, the Spectrum has become comfortable, much like a loose-fitting garment that feels good to wear.

During these years of Spectrum learning experiences we made periodic "pilgrimages" to updating and training workshops in Northern New Jersey and Pennsylvania; however, the value of the application of Spectrum teaching is really seen with students in the gymnasium.

At present, the Spectrum is used in every lesson we teach. We have learned, through practical experience and research, that Mosston's concepts hold up. Positive things



Students can assess their form and technique using the Self-check style, such as these students performing a gymnastics lesson.

take place; when teachers use the spectrum, children learn.

Our key to success is a well-planned curriculum. The content must be well-defined. Charts, checklists, criteria for tasks, back-up materials, and equipment of all kinds must be prepared before pupil contact. The styles we use in a lesson are dictated by the content and our intention or objective for that content, whether practicing a physical task, socializing with classmates, following directions, or engaging in problem-solving activities.

A discussion of the styles we use will give readers an idea of what is possible with the Spectrum. Styles A through H are discussed here. (These examples of the uses for teaching styles are not meant to be comprehensive, do not include many uses appropriate for each style, and do not include all the styles. They do illustrate how many of the styles can be used in a school setting.)

Style A (Command style) is, in some ways, overlooked. People are somewhat reluctant to use it because of its complete control over the learner. In some parts of our culture, there is almost a knee-jerk reaction to giving

complete control to any authority. Style A, however, has its place. We use it when there is a question of safety and for efficiency of instruction. For example, for rock climbing in the Adventure Curriculum area the need to know how to tie knots is important. We do not want students to problem solve this because life or death could depend on their tying ability. Therefore, Style A is used to ensure that all learn to tie knots correctly. Later, after all preparatory skills have been learned, the actual

rock climbing is a problem-solving event.

We have used Style A extensively to teach fencing, a very formal activity, much like ballet. The formal aspect dictates the use of the Command style. We have found that children have a somewhat meta-physical experience with fencing under Style A conditions. Learners experience a self-submergence, a giving up of control. When Style A is used in a large group setting, there is a shared social and movement experience that children respond to in a positive way.

The down side of Style A is that it is physically and mentally taxing to exercise total control over a group's every movement and behavior for long periods of time; nevertheless, we recommend that readers use and experience this style.

Style B (Practice style), the teaching strategy we use the most, as most teachers do, has great capabilities and nuances. Teachers could spend their entire teaching career in this style and be creative, innovative, and successful. We use this style extensively to give children massed prac-



Activities such as karate that are taught via the Command style require learners to perform the task accurately and within a short period of time, following all decisions made by the teacher.



The Command style is used to ensure students from Thomas School in Philadelphia correctly perform the necessary skills to rappel during an Adventure lesson.

tice opportunities. Stations are Style B territory. With well-defined stations and tasks, children can make great strides in learning (Goldberger & Gerney, 1990). Off-task behavior is reduced so that it is almost nonexistent, teachers are free to give individual help to learners, and positive social contact between teacher and learner is fostered. Almost any movement activity can be broken down into tasks and stations that enable teachers to handle many activities at once. Style B is the backbone of our programs.

Teaching Style C (Reciprocal style) offers opportunities for children to engage in peer teaching. It has been our experience that children can observe a partner quite well. The key has been to have clear-cut and observable criteria, not ex-

ceeding three or four things. We have found that children can learn physical skills and interact on a social dimension under Style C conditions (Gerney, 1979; Goldberger, Gerney, & Chamberlain, 1982). Our most extensive use of this style has been to superimpose Style C stations on a Style B multiple-station format. For example, a station can be created where children check each other's overhand throwing form. Almost any task with

observable elements is fertile ground for the use of Style C.

Our experience with Style D (Self-check style) has expanded over the years. We often use this style for end-of-unit evaluation. When children are given a self-evaluation form for physical skills, they consistently have better results than when they are teacher-evaluated. This is probably because students using Style D can test themselves any number of times, thus improving their performance, whereas teacher-testing is often a one-shot deal. In other words, self-evaluation becomes a mode for further skill practice and improvement. We also use Style D stations superimposed on Style B during multiple-station formats.

We have used Style E (Inclusion

style) extensively with tasks that involve throwing accuracy and tasks that can be put on a definable continuum. Examples of this concept are distance from a series of targets and various sizes of targets. A practical application using football throwing accuracy explains how this style includes all learners. The distance from six different targets of the same size ranges from close to far. Children are asked to find the level from which they can hit a target five out of five times, a seemingly straightforward objective. We have found that children need help in making adjustment decisions between the levels. Many will go to the most difficult level, never hit the target and never move to a less difficult level. When a miss occurs, learners are told to move to the next lower level, making it possible for all to benefit from Style E and find the level at which they can perform.

We also employ Style E using a complexity of games in a particular sport. For example, we have developed a series of lead-up games in volleyball, football, basketball, soccer, and other sports that progress from simple to complex. Groups of children can choose the level at which they want to play. The same principle applies here as in the target-throwing example. If a group finds a game too difficult or too easy, they can move to a level that satisfies their needs. We have had great success using Style E both with individual skills and team sports.

We have had limited success using Style F (Guided Discovery style) on a total class level. This style, a Socratic method, works best on a one-to-one or small group level. We use it when questions and answers lend themselves. Examples include activities that involve physical principles: the effect of air on light objects; angle of incidence and angle of deflection; questions regarding position in game play; and reasons why things take place. When opportunities present themselves, we slide into this style for a short episode.

Styles G & H (Convergent Discovery and Divergent Production) have

been implemented in our physical education programs with great success. The Adventure Curriculum and Problem Solving in the Gym are two units in which we use Styles G and H extensively. We have created nearly 70 problems for groups of children (five to seven members) to solve using their physical and mental abilities. The number of problems, coupled with the children's excitement to solve them, creates a situation where tremendous learning, in all domains, takes place. We believe these two units, above all others, give the most pleasure to our students because they "own" the solutions. They can feel the power of their own minds and bodies; they experience the exhilaration of meeting a challenge.

Beyond the application and analysis of the teaching relationship, the Spectrum is basic to our production of teacher-made materials. If we select Style D (Self-check), the parameters of the style are used to develop task sheets, cards, or verbal content to show learners the results of their efforts. Additionally, professional applications of the Spectrum have become very useful in our teaching experiences regarding relationships with professional colleagues.

The Spectrum breakdown of decision making for particular teaching objectives is useful when working with undergraduate student teachers, who need specific analysis of their teaching performance in a direct and objective manner. The analysis can be focused on the relationship of decisions: who was to make the decisions, who finally made the decisions, and consequences of the decisions and their relationship to the stated objectives.

The Spectrum is also useful in colleague-to-colleague communication related to a particular teaching episode; i.e., a peer observation. The "Landmark Spectrum Styles" help us to communicate objectively the relationship of the content and behaviors of the teacher and the learners.

Finally, our understanding of the Spectrum rein-

forces our professional relationship with administrators who evaluate our teaching performance twice a year. First, the Spectrum is applied to the content and relationship objectives. Second, the observation can be discussed in objective terms, not in subjective terms which may vary from administrator to administrator.

We hope that readers will try using the Spectrum. We have found it to be a practical tool that can be used in any setting. It has helped us expand our programs into areas that are exciting and rewarding for both teacher and learner. Issues involving content, how to teach, how to supervise, and how to evaluate can be clarified by applying the Spectrum theory. Muska Mosston has given us a powerful tool to assist us in our quest for understanding.

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Students from Elkins Park (PA) School experiencing a Divergent Production episode in problem solving during a rope-climbing lesson.