

Teaching Spectrum-Style—Part 1

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This article is the first of a series of three articles on the Spectrum of Teaching Styles (the Spectrum). The primary purpose of this series is to help you expand your tool box of instructional strategies to include Spectrum teaching styles in order to meet the diverse needs of your students and the multiple outcomes associated with teaching physical education.

In Part 1, I introduce the Spectrum and then present Styles A and B. In Part 2, I will present Styles C, D and E, and in Part 3, Styles F, G and H, in addition to providing a summary of the Spectrum. Each Spectrum teaching style is presented through an example scenario that includes practical suggestions for implementation. In addition, I discuss how the Alberta K-12 physical education learning outcomes (Alberta Learning 2000) align with each Spectrum style.

About the Spectrum

The Spectrum of Teaching Styles is widely known and used by physical education teachers as an instructional framework for teaching K-12 physical education (Cothran et al 2005; Jaakkola and Watt 2011; Kulinna and Cothran 2003; Syrmpas, Digelidis and Watt 2016). The Spectrum, formally introduced by Muska Mosston in 1966 and further refined over the next half-century by Mosston and Sara Ashworth, has been used by physical educators as a paradigm to organize their instructional practices (Mosston 1966, 1981; Mosston and Ashworth 1986, 1994, 2002, 2008).

Those of you reading this article may have some familiarity with the Spectrum that dates back to your days as an undergraduate student. I was introduced to the Spectrum in the late 1970s, when I was studying to be a physical education teacher at the University of Victoria. In the 1980s, I used the Spectrum to guide me in constructing lessons for my junior high students in physical education classes. Since the late 1980s, I have used the Spectrum for two other reasons: to organize and design a series of courses for our physical education teacher

education (PETE) students at the University of Wyoming, and to drive my own Spectrum research program. In a nutshell, for me, the Spectrum has served as a compass to direct me in delivering physical education lessons to K-12 students, in designing an undergraduate teacher preparation program (Byra 2000) and in conducting research specific to the Spectrum (Byra and Jenkins 1999; Byra and Marks 1993; Kirby et al 2015; Sanchez, Byra and Wallhead 2012).

So, what is the Spectrum? The Spectrum is a series of 11 interconnected teaching styles, each of which reflects a unique pattern of teacher and learner decision making (Mosston and Ashworth 2008). The continuum of teaching styles runs from Style A to Style K. In Style A (Command), all decisions are made by the teacher; in Style K (Self-Teaching), all decisions are made by the learner. Between Styles A and K are nine teaching styles that differ according to the systematic shifting of decisions between the teacher and the learner (see Figure 1).

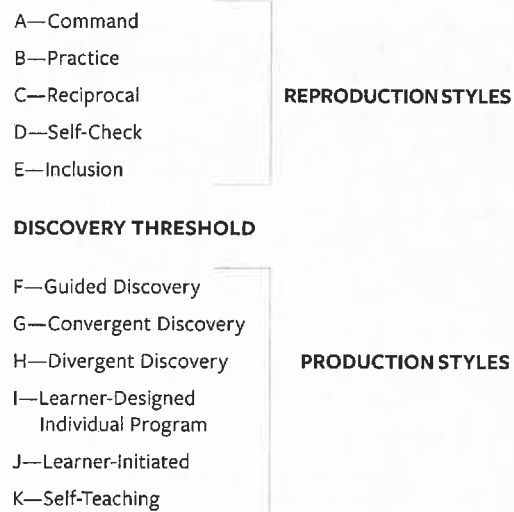


FIGURE 1. The Spectrum of Teaching Styles (A-K).

The Spectrum is a series of 11 interconnected teaching styles, each of which reflects a unique pattern of teacher and learner decision making.

According to Mosston and Ashworth (2008), different learning objectives are met based on the arrangement of decisions made by the teacher and the learner. These sets of learning objectives, in turn, differentiate one teaching style from another. Mosston and Ashworth emphasize that no one teaching style is better than another; rather, each teaching style should be used based on the particular learning objectives you want students to achieve.

The Spectrum is also framed around the belief that learners have the capacity to reproduce (replicate) and produce (discover or create) movements and knowledge (Mosston and Ashworth 2008). In Styles A–E (the reproduction cluster), learners are asked to reproduce known knowledge (for example, reproducing a movement or information demonstrated by the teacher); in Styles F–K (the production cluster), they are asked to produce new knowledge (for example, producing a movement or information that is unfamiliar to them through a question or problem presented by the teacher). In the literature, the term *direct instruction* is commonly used to describe the instructional options found in the reproduction cluster of teaching styles, whereas the term *indirect instruction* is used to describe the instructional options found in the production cluster of teaching styles (Metzler 2000; Rink 2014). Research clearly indicates that teachers use styles from the reproduction cluster more frequently than styles from the production cluster when teaching physical education (Cothran et al 2005; Jaakkola and Watt 2011; Kulinna and Cothran 2003; Sympas, Digelidis and Watt 2016).

The decisions teachers and learners make in any teaching style can be organized into three decision sets, based on the purpose they serve (Mosston and Ashworth 2008). First, there are preimpact decisions, which define the intent of an episode. These are the planning and decisions made prior to any teacher–learner interaction. Second, there are impact decisions, which define the initial actions of an episode. This involves the implementation of the

preimpact decisions—decisions related to task performance made during the initial stages of an episode (what, how, when and where). Third, there are postimpact decisions, which define the level of student performance during practice time. This involves decisions about offering feedback and assessing what was learned during the episode. These three decision sets constitute the anatomy of any teaching style (Mosston and Ashworth 2008).

When implementing a new instructional strategy, such as a Style C episode, remember the phrase “repetition, repetition, repetition.” Your level of success with the Style C episode will likely be marginal during the first few attempts, because it is new to you and likely new to your students. With additional practice, however, the rate of successfully implementing the new teaching style will increase dramatically. Joyce, Weil and Showers (1992) report that teachers continue to feel a certain level of discomfort with a new teaching strategy until they have tried it 10 or more times. Just as it takes a Grade 3 student many repetitions to execute an overhand throw at the utilization level of skill proficiency (Graham, Holt/Hale and Parker 2013), it will take you (and your students) repeated Style C episodes to reach the level of success you want to achieve. Keep this in mind!

In the rest of this article, I present example scenarios for Styles A and B and include practical suggestions for implementation. For more information about all aspects of the Spectrum, I direct you to the Spectrum of Teaching Styles website at www.spectrumofteachingstyles.org.

Style A—Command

In Style A, students learn to perform a task accurately and quickly when and as presented by the teacher (Mosston and Ashworth 2008). There is but one standard of performance to be met—that which is being demonstrated. In this style, the teacher provides the command signal for the movement, and the learners move according to the signal or cue provided. Students “follow the leader.” All decisions in Style A are made by the teacher.

Following is a Style A scenario that includes two episodes (warm-up exercises and overhand throw against a wall). An episode is defined as the time period in which the learner and teacher are engaged in the same teaching style for a given task (Mosston and Ashworth 2008).

Style A Scenario

Episode 1

Ms Novak's Grade 2 students enter the gymnasium and immediately proceed to their designated spots to start their physical education lesson. Following the leader (Ms Novak), the students begin their warm-up exercises. Situated at the front of the class, where all students can clearly see her, Ms Novak says, "Ready? Begin!" As the teacher performs three sets of 10 trials of each muscular endurance exercise (for example, modified push-ups, resistance exercises using bands, medicine ball exercises), the students follow her lead in completing each exercise as modelled and at the pace she sets.

While performing each exercise, Ms Novak calls out the critical skill cues that she wants the students to attend to (for example, in a modified push-up, "back straight, elbows 90 degrees, straighten arms"). During the 10-second rest time between sets of trials, Ms Novak provides encouraging statements to the students about how hard they are working, to positively reinforce their efforts. Most of this interaction is directed at the class, not at individual students. Following eight minutes of moderate to vigorous physical activity, Ms Novak calls the students over to where class skill demonstrations are presented.

Episode 2

"Today, we will start class by reviewing the critical skill cues we practised last class when throwing overhand. I will be using the follow-the-leader teaching style for this task, just like we did during our exercises at the beginning of class. Mary, what do you need to do in follow-the-leader?"

"We need to watch and listen to your signals (words), so that we are all throwing at the same time while showing you the skill cues," Mary states.

"Very good, Mary! For the first activity, you will be throwing the foam ball against the wall. On each throw, I want to see the following skill cues demonstrated on each trial: side to target (ready position), elbow back, step to target, follow through across body."

Ms Novak demonstrates the throw against the wall for the students using "ready, elbow back, step, follow through" as the cues to lead them through each throw. After three demonstrations, she asks the students if they have any questions. Then she tells them to go to their designated spots, located approximately 10 feet from the wall, where each student picks up a ball and gets into the ready position to throw (side to target).

On Ms Novak's cues ("ready, elbow back, step, follow through"), all of the students throw their balls against the wall at the same time and then collect their rebounds and set up for the next trial. As soon as all of the students have collected their balls and are ready to execute their second trials, Ms Novak once again says, "Ready, elbow back, step, follow through." This continues for a total of 10 trials. Between trials, Ms Novak provides at least one specific positive or specific corrective feedback statement to the students so that all can hear (for example, "I like how you are all stepping toward the target with your target foot—be sure to follow through across your body"). All feedback is specific to the skill cues identified during the demonstration.

After 10 trials, Ms Novak instructs the students to move to the spot (spot on the floor) located five feet further back from the wall (to increase distance between the wall and them). She then has them throw the ball, each time on her cues ("ready, elbow back, step, follow through") for another 10 trials. At the end of this set of 10 trials, Ms Novak directs the students to return to their designated meeting spots and asks each student to verbally share two of the four skill cues for throwing with the student sitting next to them.

Practical Suggestions for Implementation of Style A

When is a Style A episode useful to employ?

Style A episodes are great to use when introducing a new skill or task or reviewing skills or tasks previously practised. These types of episodes tend to be short in duration, just long enough to determine whether most students have the basic movement pattern being demonstrated (for example, to determine which students

have it and which do not, information to be filed away for later use). Style A is also useful to employ where safety is an issue in the movement environment, which may increase the length of time the students remain within the episode. For example, when teaching archery or striking with a bat, safety is paramount, which may influence your decision to use Style A. Style A is also useful to

employ when teaching content that requires synchronized movement, such as with dance, aerobics, gymnastics, martial arts, or group exercise and calisthenics. These are but a few good examples of when it is most appropriate to employ a Style A episode in your teaching.

How long should a Style A episode last?

When introducing or reviewing a skill, a Style A episode should end once the teacher verifies that most of the students (about 70 per cent or more) are demonstrating the skill cues as modelled. In most cases, this is generally a fairly short period of time (one to four minutes, or after the completion of four or five trials of a task). Student off-task behaviour will result when spending too long a period of time in this type of Style A episode. When Style A is used for purposes of safety or with content that requires synchronization (such as dance or aerobics), an episode can last for a much longer period of time.

What teaching style could you use next in the lesson?

Once your students have shown you that they are meeting the movement objective aligned with the Style A episode (that is, performing the skill cues of the movement as modelled), it's time to move on to the next episode of your lesson. Frequently, physical educators will choose to shift to a Style B episode, where students continue to practise the same task but at their own pace. In Style B, students are given the opportunity to refine the movement through extended practice. I expand on the concept of episodic teaching (shifting from one teaching style to another, and then another) in the Style B scenario.

How does the structure of Style A affect the type of feedback teachers can offer students?

Some factors associated with Style A limit the type of feedback that the teacher can give to the students and when it can be given in a Style A episode. Because the teacher is cueing the students during each skill or task attempt, task-related feedback can be given only after the completion of a trial or, more realistically, after the completion of a set of trials. In addition, because all students are performing the task at the same time, the teacher will tend to scan a group of students and thus direct feedback to a group of students or the class. The logistics of Style A make it very difficult to give students individual feedback.

What about the manner in which you organize the learning environment for practice?

Think carefully about how you organize your students during practice time in Style A. To facilitate an effective

teacher observation point, have the students organized in lines, so that you can stand at the end of one of the lines and observe multiple students attempting a given task trial. This is critical when introducing and reviewing skills because your goal is to determine as quickly as possible who can and who cannot perform the task such that you can move on to the next episode. Knowing who can and who cannot perform the task will help determine who requires more of your attention during the subsequent episode, which could be a Style B episode (see Style B Scenario).

Style A and the Alberta Physical Education K-12 Learning Outcomes

The psychomotor learning domain is of primary emphasis in Style A, while specific elements related to the affective educational learning domain are of secondary emphasis and achieved through involvement in the movement activities that students perform under the conditions of teaching Style A. In terms of the General Outcomes found in Alberta's physical education program of studies (Alberta Learning 2000), General Outcomes A, C and D align with Style A. Style A clearly connects with General Outcome A, which states, "Students will acquire skills through a variety of developmentally appropriate movement activities" (p 6). A critical factor in acquiring motor skills is amount and quality of practice time. A well-designed Style A episode will maximize time allotted to student practice across grade levels (K-12) and in all dimensions of activity (dance, games, types of gymnastics, individual activities, alternative environment activities).

A secondary emphasis of Style A relates to students demonstrating a set of social behaviour skills, specifically those associated with communicating and giving effort. Following a set of decisions that are made by the teacher to help students give maximum effort during practice is at the root of Style A. General Outcome C, which states, "Students will interact positively with others" (p 22), and General Outcome D, which states, "Students will assume a responsibility to lead an active way of life" (p 26), seem to capture the essence of Style A, that being "reproducing a predicted performance on cue" (Mosston and Ashworth 2008, 76).

Style B—Practice

As is the case in teaching Style A, in Style B the students learn to perform a skill or task as presented by the teacher (Mosston and Ashworth 2008). The task demonstration represents the standard of performance to be met by the

students. This is the one and only similarity between Styles A and B. Once the students have observed the task demonstration in Style B, they are given time to practise the demonstrated task independently and privately. Students are allowed to make the following in-class decisions:

- Where to locate in the gymnasium and with whom if the task requires a partner
- At what pace to perform the task
- When to start and stop the task and move on to the next task
- How to posture themselves for the task
- When to ask questions about the task

These decisions are all made within parameters set by the teacher. When these decisions are shifted to the

learner, the students experience the beginnings of independence (responsibility). While the students are practising the task independently and privately (at least, as privately as possible within the open setting), the teacher is free to move from student to student to offer individual feedback about how they are performing. As stated, in Style B, there continues to be one standard of performance (that is, performing the task as modelled). However, the students practise to meet this standard of performance within the context of the decisions they are asked to make.

Following is a Style B scenario that includes two episodes (overhand throw to a partner who is a short distance away and overhand throw to a partner who is further away). I have purposefully created this scenario to serve as a continuation of the Style A scenario.

Style B Scenario

Episode 1

“Students, come on in to our meeting place. Excellent! I like how quickly you all came in and sat down ready to listen! Now that you have shown me that you can perform the four overhand throwing skill cues—side to target, elbow back, step to target, and follow through across body—while following my commands [as Ms Novak is verbalizing the cues, she is also demonstrating the overhand throw against the wall in front of the students], you now need some time to practise the overhand throw without my commands, on your own. For the next five minutes, we are going to be working in practice style. In practice style, you independently work to improve upon a movement task. Here is what you will be doing. Let me demonstrate. Rabab, please be my partner. You need to stand on this line, Rabab. I will stand on this other line [about 15 feet distance between partners]. Rabab, our task is to throw the ball back and forth while attempting to perform the four skill cues on each throw. Rabab, do you have any questions?” No questions are asked. “OK, let’s begin.” Rabab and Ms Novak throw the ball back and forth three times. Before each throw, she starts with her side to target before executing the throw (and makes sure Rabab does, as well). “Students, when you are practising, you are working at your own pace. This means that you are throwing the

ball when you are ready to do so—when you have positioned yourself side to target. Do you have any questions about the task you will be doing—show with your hand up? Yes, Joe, what is your question?” Joe asks, “Do we get to choose a partner?” Ms Novak replies, “I will let you know in a moment, Joe. Other questions? None ... OK. Now, this is what I need you to do. First, stand up. Now, on my signal (hand up) and without any talking, stand back-to-back with who you want to practice with.” Hand up. “Five, four, three, two, one. Excellent, I like how quickly you chose your partner. Remember the rule about choosing your own partner? If you show me that you are able to work responsibly with your partner, you stay with your partner. If not, I will step in to make the decision about who your partner will be. Now, on my signal, one of you needs to position yourself on this line [teacher walks the line to show them] and the other on this line [teacher walks the line to show them] across from one another.” Hand up. “Five, four, three, two, one. Excellent job of choosing your location! Now, on my signal, those of you on this line [points], please go to the ball bin to pick up a ball. Once you have picked up a ball and returned to your line, begin the task as demonstrated. Continue throwing the ball back and forth until I instruct you to stop.”

Style B Scenario

Episode 2

"Freeze! Stay where you are. Malcolm, I really like how you have been throwing back and forth with your partner at a pace that has allowed you to focus on the four skill cues. Brandon, please tell me one of the skill cues. Step to target. Excellent, Brandon! Shawn, another cue? Ready position [shows side to target]. Yes! Raj, another cue? Follow through. Great, Raj! And the fourth cue, the one you need to execute before stepping? Elbow back. Awesome, Austin! Now, on my signal, I need each of you to take one large step back from your line." Hand up. "Excellent, Arthur and Lily! Now, on my signal, throw the ball back and forth to your partner until I tell you to stop." Hand up.

Once the students are throwing their balls back and forth, the teacher moves from pair to pair to provide specific positive or specific corrective feedback. This continues for about two minutes (time to execute 10 to 20 trials). "Freeze! Now, on my signal, I need each of you to take another large step back from your current position. Once you have done so, continue throwing the ball back and forth to your partner." Hand up. For the next two

minutes or so, the students throw the ball back and forth with their partner, while the teacher continues to circulate to provide specific positive and specific corrective feedback to individual students. "Freeze! Please return to your meeting spot. Five, four, three, two, one. Great job students! First, on my signal, turn to your neighbour and tell them as many of the four throwing cues as you can remember." Hand up. After 10 seconds, Ms Novak gets them to return their attention to her. "Excellent, it sounded like most of you remembered at least three of the throwing cues. Also, I really like how you all worked at your own pace today, a pace that allowed you to focus on executing the four throwing cues correctly. Remember, in the practice style, you decide the pace at which to practise. Next lesson, we will continue to practise throwing overhand, but you will be moving to a new spot in the gymnasium after each throw. This means that you will have to pay close attention to your use of self-space in general space. Please stand up. Walk to the door and form your line." Once students complete this task, the teacher opens the gymnasium door for the students to return to their classroom.

Practical Suggestions for Implementation of Style B

When is a Style B episode useful to employ?

Style B episodes are great to use whenever you wish to provide students with practice time to improve upon the quality of task performance, be it an individual motor or sport skill (refinement), a combination of sport skills (extension) or a game tactic (application; Rink 2014). As the saying goes, to improve performance (learn), one needs time to practise. In a well-implemented Style B episode, students spend a considerable amount of time in quality practice.

What does practising at your own pace really mean?

Practising at your own pace means practising at a rate (speed) that allows you to pay close attention to the details (skill cues) of the movement. In each class, you will have some learners who have had a lot of experience, some who will have had some experience and others who will have had little to no experience with the movement task to be performed. Students who have had a lot or even some previous experience at performing a motor task are likely able to practise the task correctly at a

quicker pace or rate than students who have had little experience. Style B is designed to allow students to practise at the pace that best fits their experience or skill level. Hence, in Style B, it is critical that your students understand this concept.

What teaching style could you use next in a lesson?

A Style B episode frequently fits well right after having introduced a task to students in Style A. In Style A, you want the students to learn the general movement pattern of a task quickly. You do so by providing them with the skill cues of the movement while they are performing the movement. Once the students have acquired the general movement pattern for the task, move on to a Style B episode, where you give the students time to practise the task at their own pace. This represents one example of how different styles can be incorporated effectively in the same lesson (that is, episodic teaching). Other teaching style combinations will be presented in the next two articles in this series.

How does the structure of Style B affect the type of feedback teachers can offer students?

In Style B, teachers are provided with the opportunity to observe students practising a given task (which allows them to gather information about an individual learner's performance) and then offer them individual feedback. Specific feedback, positive and corrective, that is directed at an individual is a powerful variable in the learning process. Student learning is clearly enhanced through the combination of student opportunity to practise and teacher opportunity to offer feedback. This is why physical educators use Style B so frequently in the instructional environment.

What about the manner in which you organize the learning environment for practice?

The learning environment can be organized in many different ways in Style B. The environment can be organized such that students are practising a task by themselves or practising a task with a partner or two who serve in support roles (for example, the person catching the ball in a throwing task). All students can be practising the same task at their own pace during practice time, or could be rotating through a series of stations where they are practising different tasks at different stations at their own pace. These are but a few examples. As you arrange the learning environment, think carefully about the following two questions:

- How can I arrange the environment to maximize opportunity for practice?
- How can I arrange the environment to maximize opportunity to offer individual specific feedback?

What is the impact of giving students the opportunity to make decisions during the impact phase of a Style B episode?

In Style B, students decide where to locate during practice time, at what pace to perform, when to start and stop and move on when asked to perform multiple tasks, how to posture themselves for the task, and when to ask questions about the task. These decisions are all made within the parameters (limitations) set by the teacher. Most students like it when they are asked to make decisions. Inviting students to be decision-makers will allow them to experience the beginning of independence. Understand that it takes time and repetition to become an effective decision-maker, just like it takes time and repetition to perform a motor task competently or proficiently.

Why should you give the teaching style you are using a specific name or title and inform the students of this name?

When you name your teaching style, and make this name public to the students, you will no longer have to explain the style to the students each time you implement that teaching style. For example, once your students have experienced a Style A episode that you name *follow-the-leader*, all you will have to say to them in subsequent Style A episodes is, "We are going to use *follow-the-leader* style in our next task." This name will immediately cue the students as to what their role is (*follow the leader when practising*) and what the teacher's role is (*lead the students in practice*). You will no longer need to use valuable class time to re-explain a teaching style to the students.

Style B and the Alberta Physical Education K-12 Learning Outcomes

The psychomotor learning domain, as is the case for Style A, is of primary emphasis in Style B, while specific elements related to the affective educational learning domain are of secondary emphasis and achieved through involvement in the movement activities that students perform under the conditions of teaching Style B. In terms of the general outcomes found in Alberta's physical education program of studies (Alberta Learning 2000), General Outcomes A and D align well with Style B. Style B clearly connects with General Outcome A (p 6). A critical factor in acquiring motor skills is the amount and quality of practice time. Making decisions that will increase the level of task engagement in physical activity is at the root of Style B (for example, practise at a pace that matches level of experience or skill, move from one task to the next when the student has achieved the goal of the first task). A well-designed Style B episode, where students practise at a pace that matches their level of experience or skill, will maximize time allotted to student practice across grade levels (K-12) and in all dimensions of activity (dance, games, types of gymnastics, individual activities, alternative environment activities).

A secondary emphasis of Style B relates to students having to make decisions for the purpose of developing self-responsibility and independence (Mosston and Ashworth 2008). Empowering students to make decisions in the instructional setting should guide them to become more responsible citizens. General Outcome D, "Students will assume responsibility to lead an active way of life" (Alberta Learning 2000, 30), is at the crux of Style B. Specific outcomes related

to effort, safety, and goal setting or personal challenge can be achieved in Style B episodes.

Summary

In this article, I have introduced you to the general framework of the Spectrum (Mosston and Ashworth 2008) and described two Spectrum styles, Styles A and B, in some detail through scenarios and suggestions for implementation. In addition, I have presented how Alberta's general and specific outcomes of physical education (Alberta Learning 2000) align with Styles A and B. My hope is that I have provided you with enough information to tempt you to incorporate some Style A and B episodes in your daily teaching of physical education. Feel free to direct questions my way regarding your successes (and failures) with these two Spectrum styles (byra@uwoyo.edu). I look forward to hearing from you.

Stay tuned for Teaching Spectrum-Style—Part 2 in the next issue of *Runner*. The Reciprocal (Style C), Self-Check (Style D) and Inclusion (Style E) Spectrum teaching styles will be presented. ❧



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