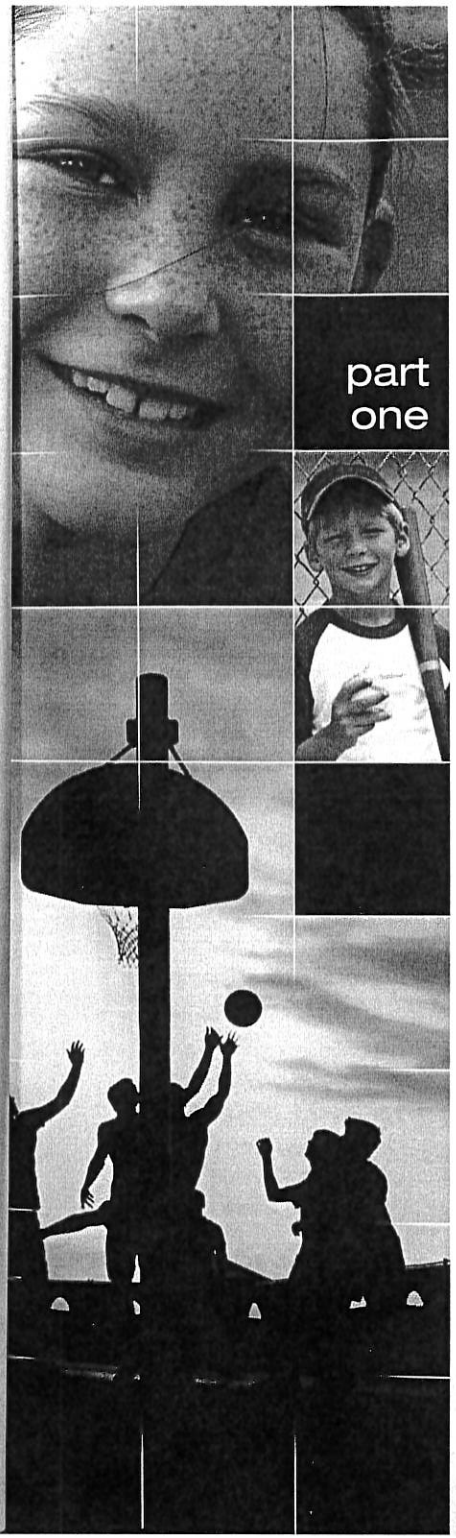
ACKNOWLEDGMENTS

In the Preface I mentioned that I have become more confident that the model-based approach has a real opportunity to effectively align instruction with state and national standards for physical education. Much of that confidence comes from seeing the next generation of teachers—undergraduates in the GSU Health and Physical Education program—using model-based instruction, and often sharing that knowledge with their mentor teachers in schools! For that, I extend my appreciation to my GSU HPE colleagues Barbara Greene, Rachel Gurvitch, Jackie Lund, and Deborah Shapiro for promoting model-based instruction as "best practice" for our preservice teachers. I would also like to thank the many GSU HPE students who have not just "bought into" model-based instruction *because they were told to* but have seen the value for learners in that approach.

I would especially like to thank the GSU students, our former students, and the many teachers across the country who permitted me to include their excellent samples of model-based units on the website that accompanies this edition.

I would like to thank Colette Kelly of Holcomb Hathaway, Publishers for her patience and understanding through the events that caused the long delay in getting this third edition completed. I am also appreciative of her willingness to accept ideas that make *Instructional Models for Physical Education* more than "just" a textbook, such as the creation of the book's website. This site will serve as a "virtual community center" for preservice and inservice teachers who want to learn more about model-based instruction and to share their experiences and sample units for others to see and use.

Many individuals reviewed the third edition at various stages and offered ideas about how to improve the book. My thanks to all of the following people for their constructive comments: Bonnie T. Blankenship, Purdue University; Pam K. Brown, University of North Carolina at Greensboro; Russell Carson, Louisiana State University; Gary E. Clark, The Pennsylvania State University; David Cluphf, Southern Illinois University-Edwardsville; Kathy Davis, East Carolina University; Rachel Gurvitch, Georgia State University; Ken Hansen, California State Polytechnic University, Pomona; Mary L. Henninger, Illinois State University; Jennifer Faison Hodge, Capital University; Rhonda Hovatter, Ohio University; David Lorenzi, Indiana University of Pennsylvania; Kristi Mally, University of Wisconsin, La Crosse; Bryan McCullick, The University of Georgia; Heidi Henschel Pellett, Central Washington University; Lisa A. Pleban, Castleton State College; Brian Storey, Douglas College; Steve Stork, Georgia College & State University; Mary Lou Veal, Middle Tennessee State University; and Alexander Vigo, Towson University.



FOUNDATIONS FOR MODEL-BASED INSTRUCTION IN PHYSICAL EDUCATION

This book is based on two primary assumptions about teaching physical education. First, instruction is most effective when it occurs within a coherent framework known to the teacher and communicated to students. Such frameworks will be called instructional models in this book, with eight models for physical education presented in Part Two. That part of the book will provide you with detailed plans for designing, implementing, and assessing each model. The second assumption is that teachers must understand the foundations for model-based instruction in order to select the best model to meet stated learning goals, match student developmental readiness, and manage the learning environment. Helping teachers gain that understanding is the purpose of Part One of this book.

It would be tempting for some readers to bypass Part One and search through Part Two for one or two "favorite" models selected from personal experience as a student or from one's teaching background. Although the descriptions of each model would give a teacher enough information to begin to use a model, eventually the teacher will be left with important questions: "Why am I teaching this way?" "How do I know my students are really learning according to the model's design?" and "How do I make modifications for my students and teaching situation?" Part One is intended to help teach-

and then give way to another—perhaps as many as three or four in a lesson. Because of that, these concepts lack a larger, more unified perspective from which to view the process of planning, implementing, and assessing instruction in physical education.

Over the past 40 years a fourth movement has arisen in the search for ways to teach physical education and other subjects. Although that movement has taken longer to grow, I would argue that its time has come as the best way to conceptualize how we teach physical activity to all students. Bruce Joyce and Marsha Weil published their first edition of *Models of Teaching* in 1972. In it, they made a case that instruction should comprise "structured, logically consistent, cohesive, and lucidly described *patterns* of teaching" (p. 1). Each distinctive set of those patterns is called a *teaching model,* which ties together theory, planning, classroom management, learning activities, and assessment. The scope of each model's perspective on instruction is much larger, and more holistic than our current notions of method, strategies, styles, and skill. A models approach is meant to address long-term learning outcomes—those intended for entire units and even programs.

We now have many well-articulated and effective instructional models. Most of them have been developed in other subject areas and adapted for physical education, such as Cooperative Learning, Personalized Systems of Instruction (PSI), and Direct Instruction. A few of them have been developed exclusively for teaching students physical activity and related concepts. Sport Education, Tactical Games, and the Teaching Personal and Social Responsibility models presented in this book were developed by physical educators for use in elementary, secondary, and college/adult instruction. What we now have is a group of models that have been developed separately, and which appear in isolated books and journals. What we need is a model-based *perspective* for instructing physical education that will help teachers to learn about, select, and practice these comprehensive patterns of teaching. It is my hope that this book will help to develop such a perspective.

Instructional Models for Physical Education, Third Edition, has two primary goals for its readers. The first is to familiarize readers with the notion of model-based instruction for physical education, including what it is, what they need to know to use it, the components and dimensions that determine a model's *pattern* of teaching, and how to select the "right model for the right job." The second goal is to describe each of eight instructional models from which teachers can choose. Those descriptions will provide the information needed to get up and running with any model selected, ensuring the model can be used with confidence and good results.

I also have a third goal for this book—one that is more ambitious than familiarizing readers with a model-based approach. For preservice teachers, that goal is for them to learn their craft from a model-based perspective, so that it becomes "how they teach." For practicing teachers, I want to change how they teach physical education! I don't want to simply adjust a bit here and there; I want teachers to gain a totally new perspective on the important educational mission carried out every school day. In short, I want readers of this book to go from **method to models** in their approach to teaching physical activity to students of all ages. I made that shift myself several years ago, and now teach physical activity courses with the PSI, Cooperative Learning, Direct Instruction, and Sport Education models. I work with many practicing teachers who have also made that shift. All of the example unit and lesson plans you'll encounter on the book's website (discussed below) were developed by these teachers and represent field-tested models that really work in physical education at the grade levels for which they were designed. It is my hope that readers of this book will become curious and innovative enough to take a model-based perspective, so that as a profession we can more often achieve the varied and diverse goals of contemporary physical education programs.

Since the second edition of *Instructional Models for Physical Education* was published in 2005, I have seen much progress in the use of model-based instruction in our field, and I have continued to see a growing number of excellent examples of units taught with that approach. With each new unit I see in print, or being taught by a teacher, I become more confident that this approach has a real opportunity to effectively align instruction with state and national standards for physical education—allowing more and more students to achieve the major learning outcomes in P–12 and college physical activity instruction programs.

I have provided in Chapter 1 information upon which readers can build that shows the importance and relevance of connecting planning and teaching practices to standards, and the NASPE standards in particular. Further, I have included tables in each of the models chapters (Chapters 8–15) that show the alignment of each model to the NASPE standards to help readers understand, conceptualize, and develop effective lessons that increase students' learning and performance.

Another important new feature of the third edition is the inclusion of a number of physical activity instruction units taught with the eight models; these are presented on the book's website, www.hhpcommunities.com/metzler. These unit plans also include lesson plans and assessments that have been field tested by students at Georgia State University and by inservice teachers who have adopted model-based instruction. These unit plans are available for readers to review and use in their own teaching. I also invite those physical education teachers who develop units for model-based instruction to submit their units to the website for other teachers to use. Guidelines for making those submissions are given on the site.

It is my continued hope that readers of this book will become curious and innovative enough to take a model-based approach in their teaching, just like those who contributed the excellent unit plans that accompany this edition. I believe that more teachers can lead students to the achievement of the varied and diverse goals of contemporary physical education programs through the selection and use of the instructional models presented in this book.

M. W. M.

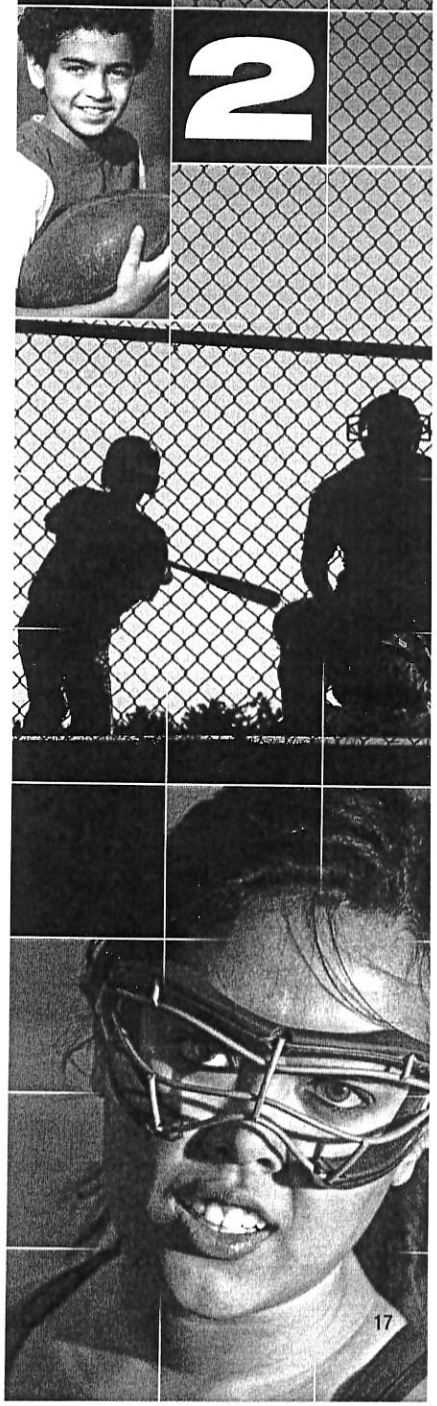
SUGGESTED READINGS

Lund, J., & Tannehill, D. (2010). *Standards-based physical education curriculum development* (2nd ed.). Boston: Jones and Bartlett.

National Association for Sport and Physical Education (2004). *Moving into the future: National standards for physical education* (2nd ed.). Reston, VA: Author.

National Association for Sport and Physical Education (1992). *Outcomes of quality physical education programs.* Reston, VA: Author.

chapter 2



DESCRIBING INSTRUCTIONAL MODELS FOR PHYSICAL EDUCATION

The word *model* has many different meanings, with several that apply to how a teacher might choose to instruct physical education. That word is often used to describe a good example of personal characteristics, such as a *model citizen* or a *model student.* It can have that same meaning for teachers when used to identify professional and pedagogical behavior that others view as highly effective and desirable. The word might also be used when someone demonstrates the way others should act or think—to *be a model* by example. That meaning can apply to teachers who display clear patterns of planning and instructional interaction that others can observe and emulate in their own teaching. *Model* can also be used to describe a scaled-down replica of a large object, like an automobile, airplane, or building. A scaled-down model allows the observer to see more easily, in miniature, what a larger object looks like from many perspectives, without having the real object to view. Instructional models also serve this same purpose for teachers by allowing the teacher to better understand a model's components and features before implementing the full version with students.

INSTRUCTIONAL MODELS AS BLUEPRINTS FOR TEACHING PHYSICAL EDUCATION

For this book, the most important meaning of the word *model* relates to the way a blueprint works as a plan for something to be built or procedures to be followed. The blueprint provides a detailed set of written and drawn plans, including instructions, measurements, locations, and materials that help both the architect and the builder understand what the structure will look like when completed, and it allows for efficient and correct decisions to be made during the building process. The "architect" in this metaphor is the person who has designed a model as a coherent plan to bring about certain types of learning and to achieve one or more program standards (such as the NASPE standards). That person develops the original blueprint that gives a model its defining characteristics and unique ways for teachers to instruct and students to learn. The "builder" in this metaphor is the teacher, who takes the blueprint (a model) and follows it to promote certain standards and other learning outcomes in physical education.

Context plays an important role in the design and implementation of all models, whether they are models for teaching or blueprints for building. Before an architect can begin to draw a blueprint, she must ask some important preliminary questions, such as: What will the building be used for? Who will be its primary users or occupants? Where will it be located? What is the construction budget? All those and other questions help to describe the context for the building's design and ultimately determine how functional the building is for those who will use it. Context is just as important for teaching, and must be considered in the selection and implementation of an instructional model for physical education. A teacher must be familiar with an instructional model and know how to change the model to fit a particular school setting, grade level, content, and class. It will be rare that a model can be used exactly as described in this book, so teachers will have to consider their context in selecting and implementing any of the models presented here.

ADVANTAGES OF USING MODEL-BASED INSTRUCTION IN PHYSICAL EDUCATION

There are many benefits pertaining to model-based instruction for physical education. Selecting and using the "right model for the right purpose(s), in the right way" can lead to effective teaching at all times, regardless of content and class contexts. Model-based instruction can offer physical education teachers several important advantages:

1. A model provides an overall plan and coherent approach to teaching and learning. All instructional models describe certain patterns of teacher and student instructional behaviors that effectively promote learning outcomes. Each model is a kind of "master plan" that helps a teacher make and carry out decisions that lead to student learning in a given unit. After a teacher has decided on the major learning outcomes for a unit and has taken the context into consideration, he must then select one or more teaching models that can help students best achieve those outcomes. If you will recall from Chapter 1, today's physical education programs can promote several different standards and types of student learning. Each standard and learning outcome will require a different set of plans and strategies for working toward those goals. Instructional models serve to provide alignment among national standards, learning goals, teaching, and student engagement.

2. A model clarifies learning domain priorities and domain interactions. Physical education programs today can strive for student achievement in any one or a combination of the major learning domains. A *domain* is a large category of related types of learning outcomes. Educators generally recognize three domains. The *cognitive domain* includes the recall of facts, the learning of concepts, and the ability to make decisions. It is usually demonstrated by verbal answers, written answers on tests, and problem-solving exercises. The *psychomotor domain* includes the learning of fine and gross movement patterns. It is usually demonstrated through skilled movement or the solving of generic movement problems. The *affective domain* includes one's feelings, attitudes, social interactions, and perceptions of self. For physical education, the affective domain usually refers to what one learns about self, others, and various forms of physical activity. It can be demonstrated on attitude questionnaires, in personal interviews/conversations, in verbal comments, and through observable personal behaviors and interactions with others in a physical activity setting.

Teachers usually attempt to lead students to learn in one or more of the major domains at all times, but one domain is likely to have a stronger emphasis at a particular moment. If a teacher says, "I want my students to get better at tennis skills," she is prioritizing the psychomotor domain over the others. If another teacher says, "I am not terribly concerned about skills—I want students to explore each new activity and feel good about it," he is emphasizing the affective domain. And finally, if a teacher says, "I really want my students to learn the rules and history of soccer," she is giving the cognitive domain the highest priority. It is also possible, and likely, that a teacher will strive for a balance encompassing all three domains within the same unit. Regardless of whether the domains are prioritized or balanced, the teacher must instruct in the most effective way for learning to take place. Each instructional model presented in this book will clearly state which domain it is primarily designed for or if it is designed for a balance among learning outcomes. Knowing the primary domains for each model, a physical education teacher can more easily select the most effective model(s) for achieving stated outcome(s).

In reality, no activity promotes learning exclusively in a single domain, even when one domain is prioritized over the others. Students will always learn something in the other two domains that are not emphasized at the moment. This is called domain interaction. Just as each model has a domain priority, it will also have domain interactions that further help the teacher decide which model is best for the intended learning goals in a unit. This interaction gives each model another aspect of its identity.

3. A model provides an instructional theme. Each instructional model represents a "big idea" for teaching and learning in a content unit. This idea is the unique way the teacher and students will operate. For instance, the big idea about Cooperative Learning (Chapter 10) is that students are responsible for learning as a team. The theme "Students learning with, by, and for each other" represents the major plan for learning and can be used to help students better understand the way classes will be instructed in that model.

If teachers and students understand that each model will call for different patterns of planning, decision making, responsibility, and learning activities, they will be more receptive to the new ways of teaching and learning described in some of the models. By simplifying these patterns with an instructional theme for each unit, teachers can regularly remind themselves and students that physical education class will be a bit different, and more interesting, than usual.

4. A model allows the teacher and students to understand current and upcoming events. The master plan in each model will be apparent to the teacher and students, providing a good basis for understanding the purpose and sequence of events in the unit. All instructional models allow the teacher to plan ahead and students to know where the learning plan is taking them. This understanding promotes increased student interest, cooperation, and managerial efficiency—all of which can enhance learning.

5. A model furnishes a unified theoretical framework. All teaching models are designed from a unified theoretical framework that begins with assumptions about how learning occurs, the developmental needs of students, the best ways to manage the teaching setting, and the learning activities that will lead to stated learning outcomes. If a teacher remains aware of those assumptions and implements instruction within the model's theoretical framework, the desired learning is much more likely to occur.

6. A model has research support. All the instructional models in this book have some level of research support for their effectiveness. After a model has been developed from a unified theoretical framework, it is common to conduct research on how best to implement the model by using classes of students to test the model's ability to promote the kinds of learning for which it is designed. Before selecting a model, it is important for a teacher to become acquainted with the research that shows how best to use it and, more important, when it should not be used. That background information will help a teacher learn the best ways to apply the model, implement it most effectively, and know its limitations.

7. A model promotes a technical language for teachers. Every instructional model contains unique terminology to describe its theoretical framework, design, and operations. We refer to that terminology as a *technical language,* through which all teachers have a shared meaning for words and terms applied in a model. That shared meaning allows designers, teachers, and students to communicate clearly and efficiently, increasing the potential for stated learning outcomes to occur. Teachers should be aware that some words and terms can have different meanings in different models, so it is important to know the terminology used in each model.

8. A model allows the relationship between instruction and learning to be verified. An instructional model will include a coherent pattern of decision making, managerial plans, instructional strategies, discrete teaching skills, in-class operations, learning activities, and assessment—all of which are designed for the primary purpose of increasing student learning of the stated outcomes. The model's designer, in effect, is saying that if a teacher makes decisions and carries out instruction in a way that is congruent with the model's theoretical framework and design, students are likely to learn what is intended. Since many teacher and student instructional behaviors can be observed and measured, as can many stated learning outcomes, it is then possible to examine this relationship within each model. This examination can become a useful way to test the effectiveness of a model in any given application, and it can become the basis for making systematic revisions for the model's next use.

Those teacher and student operations and *ways to teach and learn* will be called *benchmarks* in this book. Each benchmark indicates a certain operation or in-class process that the teacher and/or students will try to follow in each model so that the model is implemented according to its design, leading to a greater likelihood of increased student achievement.

9. A model allows for more valid assessments of learning. Assessment of student learning in physical education has received increased attention in recent years, and many good new ideas have been developed (Wood, 2003). However, assessment techniques are often developed with no clear directions for when and how a teacher might use it; the technique is simply a "nice idea" that each teacher must figure out how to use in his or her own classes. This decreases the chances that the assessment actually measures the intended learning outcomes in a correct, or valid, way. Every instructional model in this book includes assessment techniques that are designed specifically for that model and serve as valid indicators of how well students learned in that content unit. Instructional models promote improved formative and summative assessments of learning by monitoring student achievement throughout a unit and at its completion. Many models will promote the use of authentic and alternative assessments, reflecting the unique domain interactions within them.

10. A model encourages teacher decision making within a unified framework. Instructional models can help teachers make decisions within the scope of each model. Rather than decide how to teach from a long list of discrete skills, managerial schemes, and learning strategies, the teacher will have a reduced range of choices based on the unit content and the model's framework, design, and context. This reduced range of options can improve the congruence between decisions and actions within the unit, promoting more effective student learning.

None of this implies that a teacher cannot use her own personal and creative options within a model-based instructional unit. In fact, how the teacher makes and carries out decisions within a model's framework will depend greatly on her pedagogical content knowledge and other professional expertise. As you will see in Part Two, each model will specify that certain instructional operations need to be completed within its framework. Yet rarely will the model's design indicate that an operation must be done in just one way. In nearly all cases, it will be the teacher who provides the innovation to implement each operation in the model for maximum effectiveness.

11. A model directly promotes specific standards and learning outcomes. As a set of blueprints for teaching physical education, the instructional models in this book can lead students to high levels of achievement in all six NASPE standards and other learning outcomes stated for today's physical education programs. As discussed in Chapter 1, contemporary programs must strive to promote a wide variety of learning outcomes for students, and no "one best way" to teach will work by itself. Teachers must use a variety of models over a period of time to cover all the kinds of learning outcomes that currently define an effective program of physical education instruction.

FRAMEWORK FOR DESCRIBING THE MODELS

Each instructional model in this book represents a unique way for teachers to make and carry out decisions that lead to student learning in physical education. Although models can differ in many ways, it is possible to describe attributes to show how each model is designed, how it works, how learning occurs in it, and when it might be used most effectively.

In Chapter 1, an instructional model was defined as a comprehensive and coherent plan for teaching that includes descriptions of students' needs and abilities, statements of intended learning outcomes, teacher's content knowledge expertise, developmentally appropriate and sequenced learning activities, expectations for teacher and student behaviors, unique task structures, measures of learning outcomes, and mechanisms for assessing the faithful implementation of the model itself. That definition separates it from smaller, discrete teaching skills and less-complex teaching strategies—both of which are included in every instructional model. Before you learn each of the models in this book, it is important that you understand how each model is designed and how it operates to promote student learning.

Each instructional model described in this book is designed with a combination of foundations, teaching and learning features, and implementation needs that make it a unique way to teach physical education. In order to understand how each model works, it is best to use a common framework to describe each model so that you can see how they all differ. Exhibit 2.1 outlines this framework; each item you see in columns 1–3 will be discussed in presenting each of the eight models in Part Two and will thus help you understand the similarities and differences among the models.

Framework used in this book to describe instructional models by foundations, teaching and learning features, and implementation needs. **EXHIBIT 2.1**

FOUNDATIONS +	TEACHING AND LEARNING FEATURES +	IMPLEMENTATION NEEDS AND MODIFICATIONS ➤	DETERMINE WHICH MODEL TO USE
Theory and rationale	Control	Teacher expertise	Direct Instruction
Assumptions about teaching and learning	Inclusiveness	Key teaching skills	Personalized System for Instruction
A theme	Learning tasks	Contextual requirements	Cooperative Learning
Learning domain priorities and interactions	Engagement patterns	Contextual modifications	Sport Education
Student developmental requirements	Teacher and student roles and responsibilities		Peer Teaching
Validation	Verification of instructional processes		Inquiry Teaching
	Assessment of learning		Tactical Games
			Teaching Personal and Social Responsibility

Foundations

An instructional model is much more than the set of operations and learning activities in it. Each model is based on a design that forms the foundation for all aspects of the model. That design is not always apparent to those who observe a model in action, but it should be fully known to any teacher who selects a particular model for physical education.

Theory and rationale

Each model is based on an articulated learning theory that leads its designer to a rationale for why and when a model should be used and under what conditions it will be the most effective. In effect, it describes a relationship between one or more theories of learning and operations in the model that "make it work" for its intended purpose.

The theory and rationale explain the central design concepts behind the model, often indicated by the model's label (e.g., Cooperative Learning, Peer Teaching, Sport Education). Physical education teachers should clearly understand the "big idea" behind each model they read about and consider using in their classes.

What does the model include? Each model contains a different set of managerial plans, decisions, operations, learning activities, and assessments. A model also describes a set of roles and responsibilities for the teacher and students within it. Teachers need to be certain they know what is expected of them and their students within each model, and they must make sure they can meet those expectations with pedagogical skills, content expertise, student management, and their own personal values for teaching.

What does the model not include? Each model is designed to meet specific types of student learning needs. Therefore, it is important for a teacher not to have unrealistic expectations and not to misuse a model by mismatching the theory, the stated learning outcomes, and the model's capabilities. For instance, a model like Direct Instruction (Chapter 8) is designed to give the teacher a high degree of control over task structure, task progression, and learning activity. It offers limited opportunities for students to make decisions in class. If a teacher wishes for students to participate regularly in interactive decision making in physical education, then Direct Instruction is not an effective model for that learning outcome.

Assumptions about teaching and learning

Little is known conclusively about the relationship between teaching and learning in gymnasiums and classrooms. An instructional model is often based on assumptions made by the model's designer: that is, if a teacher plans and implements instruction in certain ways, it should lead to somewhat predictable learning outcomes for students. Some of those assumptions may be supported by research, but it is the job of the designer to set out those assumptions for teachers—in a sense, putting "the cards on the table" for potential users to make their own decisions about the validity of those assumptions. If a teacher understands most or all of the assumptions behind a particular model, that teacher is more likely to agree with and use the model in her teaching. As you can tell by now, there must be strong agreement between a designer's assumptions and the values held by a teacher who would use that model.

Theory extends one step past assumptions, in that it is based on some preliminary evidence an assumption is valid. Referring to instructional models, this means having some research to indicate that the model has a good theoretical foundation. Typically, that evidence is gathered through research and then applied in the design of a given model. This theory represents an "educated guess" that the model *should* work, but it is far short of demonstrating that it can and does work. Personalized System for Instruction, or PSI (Chapter 9), was developed on a theory based in operant conditioning and behavior modification. Fred Keller (1968) and his students used that theory to design an individualized learning model at the college level, basing the theory on their educated guess that it would be an effective way to promote increased levels of student knowledge in college introductory psychology courses. Their educated guess was correct, and the PSI model developed from that theory.

It is important that teachers understand the assumptions and theories behind each instructional model. This does not mean a theory must be abstract and removed from the realities of teaching physical education to children and youth. Quite the opposite is true, since a good theory must prove itself relevant and practical in a model that can be used in many contexts, in many grade levels, and for many types of movement content. Contrary to the popular view that theory has little to offer teachers in schools, when used as the basis of an instructional model *there is nothing more practical than a good theory.* Think about it!

The model's theme

All instructional models are based on one major premise or theme that defines the model and makes it unique. That theme summarizes the most basic idea on which the model is designed. A model's theme comes directly from its rationale and might also describe the major learning processes used in the model. The major theme of Peer Teaching (Chapter 12) is "I teach you; then you teach me." In that model, students assume many key instructional operations to teach their peers. While Peer Teaching does include other ideas and processes, that brief theme captures much of what the model is about.

Learning domain priorities and interactions

Each instructional model places a different emphasis on outcomes in the cognitive, psychomotor, and affective learning domains. That means learning in one domain is more likely to occur than in other domains because of the way the model is designed and the way students interact with the content. It is important not to view a model's domain priorities negatively when you disagree with them—it is simply a fact that each model is designed to emphasize different kinds of learning outcomes and should be selected only when those outcomes match the teacher's instructional goals. If not, then a different model should be selected.

What are the model's domain priorities? It should be mentioned that all the models in this book are designed to promote learning in all three major domains. In physical education it is not possible to exclude any of the domains, but most models are based on a hierarchy of learning domain goals. The Inquiry Teaching model (Chapter 13) places the strongest emphasis on learning in the cognitive domain, followed by the psychomotor and affective domains. That model places primary importance on students learning to "think first; then move." Students should acquire the underlying cognitive knowledge before they attempt to become highly skilled in their movement. Affective learning and psychomotor skills are not ignored, but those outcomes receive much less emphasis than those in the cognitive domain.

A few of the models promote balance among the three domains. As you will see in Chapter 11, the Sport Education model strives for student learning of motor skills, game rules, strategy, traditions, and personal interactions within team affiliation. Students can be in a learning activity that emphasizes one domain at any moment, but over the course of the whole unit, all three domains receive balanced attention.

What are the most likely domain interactions? A domain interaction happens when emphasis is placed directly on one domain but learning still occurs in one or more of the other domains at the same time. Since it is not possible

in physical education to exclude any of the domains in the learning process, teachers must recognize which domain interactions are most likely to occur in each model. In the Inquiry Teaching model (Chapter 13), students learn to develop thinking and problem-solving skills. Therefore, the model works best when the cognitive domain has the highest priority in the unit. However, while students learn in that domain, they are likely to improve their movement skills as they use their bodies to explore possible answers—a result of the interaction between the cognitive and psychomotor domains. At the next level, this interaction will lead to increased personal efficacy and self-esteem—outcomes in the affective domain. The domain interaction for that model will look like this:

Cognitive Learning ⟶ Psychomotor Learning ⟶ Affective Learning

Domain interactions can serve to reduce some of the differences among models used in physical education and allow teachers to pursue several standards and many kinds of student learning in every model. So, while most models will have definite domain priorities, every model will have some interaction that promotes student learning in all three domains.

Student developmental requirements

Students are not passive participants in learning. They play a key role in the selection, implementation, and success of an instructional model. Each model assumes that students have certain physical, cognitive, and affective levels of development that can be increased through the corresponding kind of instruction—prerequisites, in other words. And each model gives students specific roles and responsibilities, so students must be able to meet their responsibilities for the model to succeed. Together, these factors determine student *readiness* for learning within that model. Since each instructional model represents a certain way that teaching and learning will occur in physical education, teachers must realize that each model will appeal to some students more than others. Individual students simply like to learn in some ways more than others, which determines their *receptivity* to a given model.

Student readiness for learning. For instruction to be most effective, it must correspond to students' levels of developmental readiness. Developmental readiness refers to a student's ability to understand and follow directions, behave safely and responsibly, and have a reasonable chance to succeed at learning tasks. Instruction that matches student ability in these areas is called *developmentally appropriate* instruction. If it matches just a little or not at all, it is considered to be *developmentally inappropriate* instruction.

In order for instruction to be developmentally appropriate, it must match student readiness in four areas: (1) comprehension of verbal, written, and modeled information; (2) decision making and responsibility; (3) social/emotional maturity; and (4) prerequisite knowledge and physical ability. Exhibit 2.2 shows some examples of developmentally appropriate and inappropriate practices for physical education.

EXHIBIT 2.2 Developmentally inappropriate and appropriate practices for physical education.

READINESS AREA	DEVELOPMENTALLY INAPPROPRIATE	DEVELOPMENTALLY APPROPRIATE
Comprehension of information	■ Teacher uses words and terms that students do not know ■ Teacher gives extensive written task structure to slow readers ■ Teacher shows students an "adult" version of the task in the task presentation	■ Teacher uses only familiar words and terms when talking to students ■ Task cards are brief, with pictures and drawings on them ■ Teacher asks a peer to demonstrate how the task should be performed by students of their age and ability
Decision making and responsibility	■ Students are expected to pick "fair" teams for games, but cannot do so ■ Students are told to work alone, without teacher supervision, but cannot stay on task ■ Teacher gives incomplete managerial directions and expects students to follow them correctly	■ Teacher selects fair teams before class ■ Teacher regularly monitors for proper engagement ■ Teacher gives simple, complete directions and checks for understanding
Social/emotional maturity	■ Immature students are placed in tasks that provide an opportunity to cheat ■ Unmotivated students work on individual projects with no supervision ■ Students are asked to do peer teaching but are rude to less skilled students	■ Teacher gives students rules to follow and monitors students' progress ■ Teacher provides students with a check sheet to remind them how to complete the project ■ Teacher shows peer teachers how to give constructive and supportive feedback
Prerequisite knowledge and physical ability	■ Teacher goes to advanced tasks before students have mastered basic skills ■ Teacher assumes all students have experience with the content ■ All students do the same task, with the same task difficulty	■ Teacher checks for student mastery before progressing ■ Teacher conducts a needs assessment before the unit begins ■ Teacher uses intra-task variation and "teaching by invitation"

Student receptivity to the model. There has been much discussion in the educational literature about *learning styles,* which describe how each person best receives, assimilates, and acts upon perceptual stimuli in the environment (Dunn, 1996). The concept of learning styles, however, does not attempt to describe the conditions under which an individual student prefers to be engaged in learning, or the student's receptivity. Since each instructional model essentially determines a unique learning environment, the notion of *learning preferences* set forth by Reichmann and Grasha (1974) works well within a

model-based approach to instruction. Reichmann and Grasha identified three bipolar dimensions that determine a student's preferred learning environment: avoidant/participant (student attitudes toward learning); competitive/collaborative (views of teachers and/or peers); and dependent/independent (reactions to classroom procedures). Each dimension includes several pairs of descriptors that lead to a profile of each student's preferred conditions for learning. The design, operations, and types of learning activities within each model will generate a unique environmental profile for that model. The model will be most effective when its environmental profile matches the profile of the majority of students in a class. Exhibit 2.3 shows the dimensions and descriptors in the Reichmann and Grasha profiling scheme.

The attributes on the right side of the continuum should not be interpreted in a negative light—they simply reflect some students' preferences concerning how the learning environment is set up. Jonassen and Grabowski (1993) analyzed the bipolar ends of all three characteristics in the Reichmann and Grasha model to determine the kinds of teaching strategies and settings that would best suit each preference:

1. The *collaborative* student prefers working in small groups and having student-designed activities, group projects, peer assessments, and interaction with the teacher.
2. The *competitive* student prefers direct teaching strategies, opportunities to ask questions in class, and teacher recognition.
3. The *participant* student prefers class discussions, alternative assessments, individual learning activities, teachers who provide opportunities for analysis and synthesis, and enthusiastic task presentations.
4. The *avoidant* student prefers no required tasks in class, little interaction with the teacher and other students, self-assessment, and no tests.
5. The *independent* student prefers self-paced learning, independent study opportunities, student-designed activities, and indirect teaching strategies.
6. The *dependent* student prefers direct teaching strategies, teacher-directed assessments, and clear timelines for class activities and outside assignments.

Validation of the model

A *valid* model is one that has been shown to be effective in promoting certain standards and types of learning in physical education. In other words, the model works to help students learn what it is designed for, in the contexts for which it is an appropriate way to teach. For teachers who have not used a model, the most important question is, "How do I know it can work to help my students learn what I want them to learn?" Validation can come from any or all of three primary sources: research, craft knowledge, and intuitive knowledge.

Research. A large body of research on instructional models exists. Most of it has come from other subject areas, but we also have research evidence for many models as they have been used in physical education. This research describes

Student learning preference dichotomies (adapted from Reichmann & Grasha, 1974). EXHIBIT 2.3

PARTICIPANT	AVOIDANT
has strong motivation to learn course content	has weak motivation to learn course content
likes to assume responsibility for learning	likes to assume little responsibility
participates with others	prefers not to participate with others
does what is required	does what he/she wants
COLLABORATIVE	**COMPETITIVE**
shares	is competitive
is cooperative	is motivated to do better than others
enjoys working with others	enjoys competing
sees PE as a place for learning and interacting with others	sees PE as a competitive situation in which he/she must win
INDEPENDENT	**DEPENDENT**
thinks for him- or herself	relies on teacher as source of information and structure
works on his or her own	needs others to provide direction
will learn what is needed	learns what is required
will listen to others	shows little intellectual curiosity
has strong self-confidence	has less self-confidence

optimal ways to plan and implement a model, or it can demonstrate a model's effectiveness in promoting student achievement. Both kinds of research are important for teachers who will decide which model to use for certain outcomes and in certain contexts. Teachers can become familiar with a model's research base by reading research journals, searching online, taking courses in instructional design, and reading textbooks—like this one—that contain descriptions of models. Some models have entire books that provide written research evidence in support of them.

Each of the chapters in Part Two will report research findings from the eight models presented in this book. Along with research on individual models, some research is now emerging about model-based instruction in general. Gurvitch, Metzler, and Lund (2008) conducted a series of studies to examine the use and perceptions of model-based instruction in physical education with student teachers, cooperating teachers, and P–12 students. Student teachers and cooperating teachers overall supported the use and effectiveness of model-

based instruction, while noting some factors that inhibited those attempts. However, the majority of these teachers found the extra effort to learn and use instructional models to be well worth it. In one of those studies, Metzler and McCullick (2008) surveyed and interviewed a large number of P–12 students who had just taken units of instruction with varying instructional models. The results indicated that students: (1) knew the difference (and liked it!) between being taught with an instructional model and their typical physical education instruction; (2) could clearly identify the major components and learning objectives in each model they experienced; (3) liked the new and different ways of interacting with their teacher and fellow students; and (4) overall thought that they learned more from model-based instruction.

Craft knowledge. Craft knowledge is derived from many teachers' experiences of using an instructional model. It is based on verbal and/or written communication among teachers about "what works" and "what doesn't work" when implementing a model. Although research knowledge is more formal, and sometimes more valid, most teachers actually rely on craft knowledge (their own and others') when deciding if and how to use a particular model. Craft knowledge of teaching decisions and actions that work well for many teachers and in many settings can rise to the level of *best practice* and become the accepted way of doing things within a particular model.

Craft knowledge is valuable because it is based on many teachers' actual experiences with a particular model, content, and context. Through craft knowledge, an individual teacher can benefit from the experience of others and eliminate much of the trial and error that occurs the first few times they use a model. Craft knowledge can come from many sources: one's own experiences, interactions at professional conferences, conversations with teaching colleagues, practitioner journals like the *Journal of Physical Education, Recreation & Dance* and *Strategies*, and physical education–related websites like PE Central (www.pecentral.org) and PELINKS4U (www.pelinks4u.org). The many excellent examples of model-based instruction on the IMPE website represent the very best craft knowledge developed by physical education teachers who have used this approach.

Intuitive knowledge. While research and craft knowledge are much more tangible ways to validate the use of an instructional model, sometimes a teacher selects a model because it appears to be a good way to instruct certain content in certain contexts. It just "makes sense" to instruct that way at a given time, based on the teacher's general knowledge of the model and the learning goals for the content unit. Eventually, this will be replaced either by craft knowledge as the teacher gains experience with the model over time or by research knowledge as the teacher reads more about the model. Basing an initial decision on one's professional intuition is an acceptable way to select a model for the first time, but eventually that intuition should be supported by craft or research knowledge.

Teaching and Learning Features

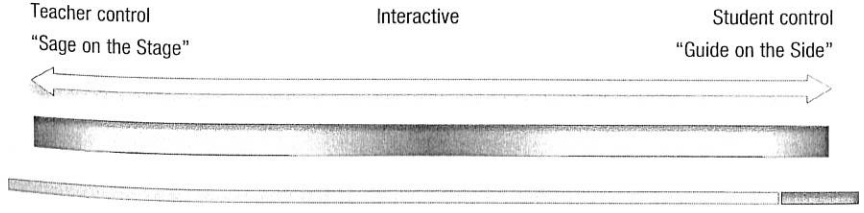
Each instructional model will include several features that give it an identity. These features in large part define what the model looks like for the teacher and students, and they make each model different from the others. These features come directly from the learning theory and assumptions on which each model is based.

Control

Physical education instruction involves two major participants—the teacher and the students. Those participants will have a large number of verbal, nonverbal, and combined interactions in every lesson. The pattern of those interactions is determined largely by the design of the instructional model being used in the unit. One way to describe the pattern used in a particular model is by *control*. The concept of control has two parts. It can describe the origin and type of interactions between a teacher and students during instruction—who says what to whom and who makes what kinds of gestures to whom. It can also describe the nature of decision making and teacher/student control during class. Because all models are based on different assumptions and views of how learning can be most effective, each model will, by design, lead to different degrees of teacher/student control. Models that are strong on the *teacher-control* end of the spectrum (see Exhibit 2.4) give the teacher most or all of the responsibility for making decisions and initiating instructional interactions. Students are given few opportunities to make decisions, and they receive information and directions mostly from the teacher. Models that are strong on the *student-control* end of the spectrum allow students to make many decisions in class, to explore and be creative, and to initiate a lot of questions and other interactions with the teacher. Models that promote high levels of teacher and student *interaction* fall in the middle, with shared decision making, communication, control, and responsibility in physical education classes.

Teacher control: "The sage on the stage." Instruction that is strongly controlled by the teacher gives her the authority to make most or all decisions about content and class management. As the managerial authority, the teacher makes and oversees nearly all decisions about how students are organized, when practice

Control continuum. EXHIBIT 2.4



segments start and stop, when learning tasks change, and what class rules apply. As the content authority, the teacher is viewed as the one who has the knowledge that needs to be transmitted to students according to decisions made solely by the teacher. Thus the teacher becomes "the sage on the stage" (King, 1992).

Teacher-controlled instruction is also characterized by communication mostly in one direction—from teacher to student. The teacher makes decisions and then informs the students what they will do or learn next, while controlling the selection and pacing of class events. The students *receive* more than they *initiate* when the teacher is strongly in control. Within some models, teacher control is used effectively to increase the level of student participation and increase the number of repetitions during skill practice.

Student control: "The guide on the side." Student-controlled instruction lies at the opposite end of the continuum. It is characterized by much less teacher control of decisions and class events and more open-ended, student-initiated learning activities. Teachers at this end of the spectrum view themselves not as authorities but as *facilitators* of student learning, placing students, not themselves, at the center of the learning process. For these teachers, the major functions involve arranging the kind of learning environment that gives students some direction and a task to accomplish, then standing aside to monitor while students go about the learning process—thus the "guide on the side" label (King, 1992).

With this kind of instruction the teacher still keeps a degree of decision making and control, the object of those decisions is to find ways to allow students to interact more freely with the content and each other—not necessarily with the teacher. For classroom management, it means that students have input in making class rules and that they take more responsibility for their own behavior. Students get to make more of their own choices about how they will be engaged in learning tasks (e.g., selecting objects to throw or to catch with, choosing the level of challenge they wish to pursue, and deciding when to go on to a new task). This will promote more student thinking and creative movement exploration by posing questions and problems to students, rather than telling (or showing) students how to move in certain ways. This kind of teaching also features in-class or outside assignments in which students have flexibility in managing their own learning processes. The teacher then serves as the main resource person to help students when they "get stuck" or need other assistance.

Interactive teaching. In the middle of the control continuum is interactive teaching, characterized by a balance between teacher- and student-controlled instruction. The teacher and students have approximately equal responsibility for decisions and share many classroom operations. Interactive teaching also involves frequent two-way communication between the teacher and students. Students are encouraged to ask questions, offer suggestions, and have regular input into the functioning of lessons. The teacher will ask for, and act upon, students' suggestions and ideas in class.

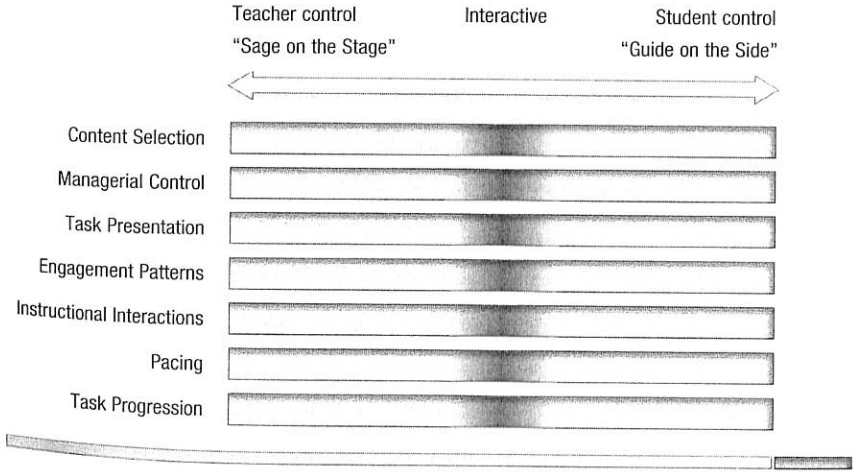
Key operations for determining a model's control profile. A model's designation as teacher controlled, student controlled, or interactive is not determined by a single factor. *Key operations* within the model must be analyzed for their place on the control continuum. Seven key operations will be used in this book to determine the control profile of each model (see Exhibit 2.5).

1. Content selection	Who determines what is taught in the unit?
2. Managerial control	Who is mostly responsible for classroom management?
3. Task presentation	How do students receive task information?
4. Engagement patterns	How are student engagement patterns (involving space, groups, structure) determined?
5. Instructional interactions	Who initiates the communications during learning tasks?
6. Pacing	Who controls the starting and stopping of practice?
7. Task progression	Who decides when to change learning tasks?

Each model will have varying degrees of control in these seven operations, but most of the operations will fall in or near the same general area on the continuum. Therefore, the overall profile for each model will typically be described as teacher controlled, interactive, or student controlled to reflect its *predominant* place on the continuum.

It is tempting to prefer student-controlled and interactive teaching over teacher-controlled teaching. But it is not correct to pit these three ways of

Control profile for key instructional operations. **EXHIBIT 2.5**



teaching against each other. Each way can be successful in developing certain types of learning outcomes, and the wise teacher will choose the model that most effectively promotes his stated outcomes. A teacher may choose to teach one unit with a strongly teacher-controlled model, the next unit with an interactive model, and a third unit with a strongly student-controlled model.

Inclusiveness

Physical education classes reflect the growing student diversity now found in almost every public school in our country. That diversity combines nearly every conceivable gender, race, religion, language, ethnicity, learning ability, and physical ability represented by students in our society. With those differences in student demographics and abilities come differences in the needs, experiences, and preferences students bring with them to physical education class. Today's philosophy of inclusion challenges teachers to select content and instruct in ways that meet the educational needs of all students. Inclusion is legally mandated for girls by Title IX legislation and for many physically disabled or handicapped students by the Individuals with Disabilities Education Act of 1997. But it is not just legislation that should compel physical educators to design inclusive content and instruction; we should strive to meet the educational needs of all children as part of our professional ethic.

The term *inclusive* describes any class that contains students with greatly differing characteristics, needs, and abilities, all trying to learn at the same time. The dilemma for physical education teachers is that by addressing the needs of one or more groups of students in the class, they may reduce the opportunity for other groups of students to learn the content. If a teacher progresses quickly through a unit, it is more likely that only the more skilled students will keep up, while the less skilled students fall further behind. If a teacher must take class time to communicate with a non-English-speaking student through a translator, attention is diverted from perhaps 35 or 40 other children who also need the teacher's time and attention. If a teacher decides to use written task cards at learning stations, how will that affect students who can't read at that level or who have a reading disability?

Each instructional model is based on some prerequisite abilities and experiences that students must be able to apply within the model. Those prerequisites play a large role in determining if the model can meet the educational needs of all students in an inclusive class group. Students' learning preferences also determine how inclusive a model will be with any given group of students. Students whose preferences match the kind of learning environment designed in the model will have a greater chance for success and will like the learning process being used. Students whose preferences do not match those in the model will probably not have that same degree of success and enjoyment. As a potential user of any instructional model, the teacher must be aware of which students can be served well by teaching that way and which students might be overly challenged by that model. Even more importantly, the teacher must ask himself if and how the model can be adapted to meet all students' needs.

Learning tasks

In many models, a teacher's most essential functions are to show students what will be learned, explain how the learning task will be set up, and determine when it is time to change learning tasks. These key operations are called task presentation, task structure, and content progression.

Task presentation. *Task presentation* refers to those processes used to demonstrate skills and learning tasks to students. Through this presentation, students come to see and/or hear how to perform skills to be practiced in upcoming learning activities. This is an important part of every lesson, accomplished in many different ways from model to model. Some models will use just one or two task presentation strategies, while other models will use a large number of them. Chapter 4 describes these strategies for presenting tasks in physical education.

Task structure. Most task presentations will include a description of *task structure* to inform students how the learning task is organized, how they will be grouped, how long it will last, what the performance criteria are, and what the expectations are for student conduct during the task. Refer to Chapter 4 for a more complete explanation of task structure. As with task presentations, each model will use certain kinds of task structures more than others, so a teacher would not necessarily need to be prepared to use a large number of them in a content unit within one model.

Content progression. Every instructional unit in physical education will contain a range of content to be learned and a planned order for learning it. For example, in a soccer unit, the students might learn the basic skills of ball handling, passing, trapping, shooting, marking, goal keeping, offensive patterns, and defensive patterns. Within each of those content areas of soccer, the teacher will use one or more learning tasks to help students acquire that skill and/or knowledge. The order in which those tasks are given to students, along with the ways the teacher decides to change from one task to the next and one content area to the next, are all included in what is called *content progression*. This progression describes how students move through the unit toward the learning outcomes intended by the teacher. Each of the models in this book has a different plan for content progression, as you will see in Part Two.

Engagement patterns for learning

The engagement pattern characterizes the manner in which students interact with the learning content—the way in which they are involved in the learning process. At any given time, the engagement pattern is strongly related to the learning activity and its task structure as planned by the teacher. Engagement patterns can be defined by the degree of student interaction with the content and by the grouping strategy used in the task structure.

Active engagement. The learning process is active when it involves direct personal participation by students. It is characterized by student movement, thinking, questioning, and decision making.

Passive engagement. The learning process is passive when students merely receive the content from other sources (usually the teacher) in the form of information given to them. It is characterized by student listening, watching, and reading. Exhibit 2.6 shows how students can be actively or passively engaged with some examples of content.

Active learning is not necessarily the kind preferred at all times. Sometimes a teacher can use passive learning strategies to get large amounts of information to students quickly and effectively. The key question for the teacher here is, "How do I want students to know this content?" If cognitive knowledge is sufficient, then passive engagement will do fine. However, if the teacher wants students to learn how to think *and* move, then active engagement should be planned.

Individual, small-group, or whole-class engagement. The engagement pattern is partly determined by how students are grouped, if at all, for learning tasks. Some models rely almost entirely on individual participation in learning tasks. Some models are designed for participation in small groups or teams of students—all of whom share the responsibility for team achievement. Still other models are based on the whole class participating in the same activities at all times. Most models will have one or two predominant grouping strategies for student engagement.

Teacher and student roles and responsibilities

Each instructional model will call for teachers and students to take on a unique set of roles and responsibilities within it. It is important that everyone knows

EXHIBIT 2.6 Passive and active engagement in physical education.

LEARNING OUTCOME OR CONTENT	PASSIVE ENGAGEMENT	ACTIVE ENGAGEMENT
Learning game rules	▪ Reading rules in a book ▪ Hearing rules from teacher	▪ Officiating a game ▪ Explaining rules to others
Pitching a softball	▪ Watching a teacher demonstration ▪ Viewing a DVD	▪ Practicing pitching drills ▪ Pitching in a game
Learning dance steps	▪ Listening to the teacher describe step sequences	▪ Following the teacher's lead at "half speed"
Learning self-esteem	▪ Listening to a definition of self-esteem ▪ Defining self-esteem on a test	▪ Achieving success in a game or activity, followed by reflection to develop a sense of self-esteem

those roles and accepts responsibility for carrying them out in the unit. This is often related to the model's control profile, defining who largely controls decision making and instructional operations in class. Sport Education (Chapter 11) and Cooperative Learning (Chapter 10) call for the teacher to assume the role of resource person and facilitator, while students assume a large role in decision making and shared responsibility for their team's learning. In Direct Instruction (Chapter 8) the teacher takes on the roles of instructional leader, the major source of task presentation, and the primary provider of instructional information (e.g., cues and feedback). Students take on a more receptive role, with their major responsibilities being to pay attention, follow directions, and stay engaged as directed by the teacher.

Managerial responsibilities can shift from model to model. In some models the teacher assumes nearly all control over class management decisions and interactions. Those teachers will expend considerable time and energy in "running the class." In other models, students take responsibility for a large portion of class management, allowing the teacher more time to interact with students for learning.

Verification of instructional processes

It is important for a teacher to verify that she is implementing a model in the way it was designed. Each model is a plan of action that should lead to intended learning outcomes for students, so from time to time the teacher must ask herself, "Am I teaching according to the way the model was intended to be used?"

As indicated earlier, each model is designed for unique patterns of teacher and student behavior in class. In essence, those patterns distinguish each model from the others, so a teacher should implement a model with an acceptable degree of adherence to its design plans. A teacher will always have to make some modifications, most often due to context, but those changes should not go against the basic assumptions in the model or cause major operations and features of the model to become unfamiliar.

Each model will have a series of *benchmarks*—patterns of teacher and student operations that should happen while they use that model. Those benchmarks help to remind the teacher of "how to teach" and "how students will go about learning" in that model, and they can be used to verify proper planning and instructional operations. Consider the following ways to monitor teaching and learning benchmarks in model-based instruction.

Systematic analysis of teaching and learning behaviors in class. Once a teacher knows what kinds of instructional patterns a model should foster (i.e., the benchmarks), those patterns can be analyzed by collecting data in live settings or by studying video or audio samples of classes. The behaviors to be analyzed should be those that reflect the model's benchmarks. For instance, the PSI model (Chapter 9) allocates very little class management time to the teacher and much opportunity for the teacher to provide feedback to students. It is quite easy to measure the amount of management time and teacher feedback in PSI classes, thereby establishing whether a teacher is implementing the model

according to its design in those areas. Duration recording, event recording, and momentary time sampling can all help monitor certain kinds of teacher and student behaviors in physical education classes. Exhibit 2.7 shows how each technique can be used to verify different aspects of instruction.

Checklists of benchmarks. A list can be made of teacher and student benchmarks and patterns that are indicative of each model, "checking off" each time one of them is observed in class. The checklist can verify that a benchmark occurred, but it cannot distinguish between correct and incorrect instances of the benchmark. Chapters 8–15 provide teacher and student benchmarks for each model, and the IMPE website presents printer-friendly checklists using these benchmarks.

Rating scales for benchmarks. A rating scale resembles a checklist, with the added ability to render an evaluation of observed benchmarks. Each benchmark is followed by a series of evaluative criteria, such as "poor," "fair," "good," and "excellent," or a numeric scale of 1 to 10, with 1 being the lowest rating and 10 being the highest. The observer notes which benchmarks occur in the class and circles the word or number that represents his judgment of the quality with which the benchmark was carried out.

EXHIBIT 2.7 Systematic analysis of teaching and learning benchmarks.

OBSERVATIONAL TECHNIQUE	USED TO MEASURE	TEACHER BEHAVIORS	STUDENT BEHAVIORS
Duration recording	The amount of time a defined behavior occurs in class	▪ Management time ▪ Task presentation length ▪ Circulating in class	▪ Management time ▪ Practice time ▪ Academic learning time ▪ On/off task time ▪ Waiting time
Event recording	The frequency of defined events	▪ Use of students' first names ▪ Feedback to students ▪ Cues given to students ▪ Questions ▪ Checks for understanding	▪ Practice trials ▪ Success rate ▪ Feedback received ▪ Questions asked
Momentary time sampling	Occurrence/non-occurrence of behaviors at predetermined times in the lesson	▪ Pedagogical moves ▪ Location in class	▪ Percent of students on task at any moment ▪ Percent of students practicing at any moment ▪ Student success rate ▪ Appropriate task structure

Open-ended questions for written assessments. EXHIBIT 2.8

- How did you feel in your role of team coach? (Sport Education model, Ch. 11)
- What were the two things you learned to do best in this unit? (Any model)
- What motivated you the most to stay on schedule during this unit? (PSI model, Ch. 9)
- Did you often get to figure things out on your own in your field hockey unit? (Inquiry Teaching model, Ch. 13)

Rubrics. A rubric uses a combination of features from checklists and rating scales. Each rubric contains a list of teacher and student behaviors that might be observed in a lesson. But rather than simply rate each item with a numeric scale, a rubric will include several descriptors that indicate what each level of performance should look like. During and after watching the lesson, the teacher and/or other observer considers each descriptor and identifies which one best represents what occurred in the lesson. One of the many benefits of a rubric is that the teacher (and the students, if the teacher shares it with them before the lesson) knows ahead of time what is expected for each level of performance and can plan to meet the highest level possible. A rubric can contain a list of benchmarks for instructional models, along with descriptors that indicate how well each item on the benchmark was carried out by the teacher or students. These descriptors are easier to understand than the numbers on a rating scale because they provide more in-depth information. A rubric to analyze student and teacher benchmarks in each model is available on the IMPE website.

Written student assessments. Teachers can also use the model's unique benchmarks to develop a short list of questions for students. Students' answers can be a good way for teachers to verify they are engaging in preferred instructional patterns. The questions can be open-ended (see Exhibit 2.8), or they can prompt students to circle or check one of a series of possible replies (see Exhibit 2.9).

Scaled questions/items for written assignments. EXHIBIT 2.9

Please circle the response that best describes your opinion.			
The teacher was well organized in this unit. (Direct Instruction model, Ch. 8)	Disagree	Neutral	Agree
I improved my confidence in this unit. (Any model)	Disagree	Neutral	Agree
I really liked working with my team in this unit. (Cooperative Learning model, Ch. 10)	Disagree	Neutral	Agree
I was able to progress at my own pace all of the time. (PSI model, Ch. 9)	Disagree	Neutral	Agree

Assessment of learning

The most significant criterion for determining the value of any instructional model is its effectiveness in promoting student achievement of the intended learning outcomes. Determining the effectiveness of a model is not a simple task, since physical education has several ways to describe and measure learning outcomes. Getting informative and valid assessments of learning takes both time and the ability to ask and answer clear questions within that process.

The assessment of learning in model-based instruction involves asking five key questions that lead to the selection and use of proper assessment techniques in physical education:

1. What standards or learning outcomes will be assessed?
2. When will they be assessed?
3. What assessment techniques are valid for those outcomes?
4. Is the assessment procedure practical?
5. Can the outcomes be assessed with authentic techniques?

Each instructional model focuses on well-defined learning outcomes, so it is relatively easy to implement assessment procedures within model-based instruction. All of the models have clear plans for content progression, which can help a teacher identify the crucial times for assessments. And because each model defines a specific set of learning outcomes, many of the assessment procedures are "built in" to the model's design. Chapter 7 will provide much more detail on the assessment of student learning in model-based instruction, while Part Two will explain specific assessment procedures for each model.

Implementation Needs and Modifications

Each instructional model represents a plan of action that will require certain conditions and resources for effective implementation. Teachers need to be aware of what is required and to consider those requirements when selecting, planning, implementing, and assessing a model for physical education.

Teacher expertise

Both students and teachers must possess certain kinds of knowledge, skills, and abilities for a model to reach its full potential. Knowledge about content is always important, regardless of the model being used. Necessary pedagogical content knowledge—a combination of applied expertise in content, context, learners, and instruction (Shulman, 1987)—will change according to the model selected for each unit and class group.

Since each model will include a unique repertoire of learning strategies and effective teaching skills, a teacher should be proficient in the strategies and skills called for by a given model. The Tactical Games model (Chapter 14) depends on a teacher's knowledge of games as learning settings. In particular, it requires her to know how to sequence increasingly complex tasks from situated drills to modified games to full games. Those who choose the Inquiry Teaching model (Chapter 13) will need to know students' cognitive development and have strong skills in the use of questions as the primary teaching strategy.

Key teaching skills

As you will learn in Chapter 5, many effective teaching skills can be used to instruct physical education. That skill list is long, but the good news is that each instructional model will not require a teacher to use all of the skills. Each model's unique set of operations, managerial functions, task presentation strategies, and task structures will determine which teaching skills are needed most for that model.

Contextual requirements

None of the instructional models in this book will work in all contexts. Student abilities and developmental readiness, teacher knowledge, content, length of the unit, equipment, facilities, and available learning resources must all be considered in selecting a model. At times, that analysis will lead a teacher to decide "I can't teach that way in this situation." Failing to consider contextual needs for a model will cause the instruction to be less effective and perhaps even counterproductive in helping students learn stated goals. In order for a model to succeed, contextual needs must be met in five important areas:

1. Student characteristics
2. Instructional time
3. Facilities
4. Equipment
5. Learning materials

Contextual modifications

Many times a teacher will not be able to implement a model exactly the way it is designed "on paper" or presented in this book. Contextual limitations, experience with using a model, and at times just plain common sense will lead a teacher to make modifications to a model before and during a unit of instruction. However, changes should not be made thoughtlessly. Modifications should be planned systematically with the aid of process and achievement assessment information whenever possible.

Special precautions must be taken not to significantly alter the basic operations that make each model unique or to violate the learning domain priorities of the model. Those two mistakes can lead to ineffective use of the model and to incorrectly thinking that "it doesn't work" when, in fact, the teacher changed too much of the model to allow it to work the way it was designed.

Potential modifications will be suggested for each of the models presented in Part Two. Those modifications will be made from the following list of planning and decision areas a teacher could change before and during a content unit.

1. Managerial plan
2. Content coverage
3. Content progression
4. Instructional materials
5. Time allocation
6. Assessment techniques
7. Task presentation
8. Specific roles and responsibilities for teacher and students
9. Students' developmental stages

Notice that certain parts of a model cannot be modified: underlying theories, assumptions about teaching and learning, domain priorities, and domain interactions. They pertain to the basic foundation of a model, so changing them will cause the model to be something other than what it's designed to be.

To help you understand what some of these modifications might be, each model in Part Two will include suggestions for making that model inclusive for all types of students. As you will see, each model calls for certain ways to get students engaged fully within the model's design. Therefore, most of the modifications will be simple adjustments made by the teacher to ensure that all physical education students have the opportunity to learn according to any chosen model.

Each chapter in Part Two also will include planning tips that show how to apply general planning principles to each model in this book. Just as there is no "one best way to teach" in physical education, there is no "one best way to plan." Although all models share similar planning strategies, they are all different enough to require variations in how teachers should prepare units and lessons for each model.

SELECTING AN INSTRUCTIONAL MODEL

The attributes of instructional models discussed in this chapter will serve only to generally describe how models are designed and how they operate. This is *necessary but not sufficient information* for a teacher who must select a model for an upcoming content unit in physical education. Perhaps the best way to select an appropriate model is to ask a series of questions that will lead to the best choice. Exhibit 2.10 presents a step-by-step process for selecting an instructional model for physical education. As that exhibit notes, sometimes the answers to a teacher's questions will identify more than one effective model for his or her situation. In that case, the teacher should use professional experience, judgment, and personal preferences to make a choice.

Note that the first two questions ask about the match between what the teacher wants students to learn and a potential model's designed learning domain priorities. This match must be carefully considered, so that you do not expect something from an instructional model that it is not designed to do.

Process for selecting an instructional model for physical education. EXHIBIT 2.10

1. WHAT DO I WANT MY STUDENTS TO LEARN ABOUT _____ [CONTENT]?

Example: Team handball: basic skills, strategies, and rules

2. WHAT ARE MY DOMAIN PRIORITIES?

Example:

First:	Skills—psychomotor
Second:	Rules and strategy—cognitive
Third:	Confidence as a player—affective

3. WHICH MODELS HAVE THOSE SAME PRIORITIES?

Example: Direct Instruction
PSI
Tactical Games

4. WHAT ARE THE CONTEXTUAL REQUIREMENTS FOR THOSE MODELS?

Example:

Direct Instruction:	See Chapter 8
PSI:	See Chapter 9
Tactical Games:	See Chapter 14

5. HOW WELL DOES MY CONTEXT MEET THOSE REQUIREMENTS?

Example:

Direct Instruction:	Very well
PSI:	Very well
Tactical Games:	Not well; not enough space for several modified games at one time

(Tactical Games model is therefore not a good choice.)

6. WHAT ARE THE TEACHER AND STUDENT PREREQUISITES FOR THE REMAINING MODELS?

Example:

Direct Instruction:	See Chapter 8
PSI:	See Chapter 9

7. DO I AND MY STUDENTS HAVE ENOUGH OF THOSE PREREQUISITES?

Example:

Direct Instruction:	Yes
PSI:	Yes

8. WHAT MODIFICATIONS WILL I NEED TO MAKE FOR EACH MODEL?

Example: Direct Instruction:

1. Need a lot more handballs (to reduce waiting time)
2. Need a large outdoor space and several goals for stations
3. Need to teach students with a wide range of skill abilities

PSI:

1. None. I have everything I need to use PSI for this unit.

(Select PSI because it needs no modifications.)

SUMMARY

This chapter presented a framework for describing instructional models for physical education. A teacher who wishes to use model-based instruction can examine any of the models in Part Two within that framework and use that information to select one or more models that will give students the best opportunity to learn the stated outcomes in an upcoming content unit. Instructional models are essentially planning and decision-making tools that teachers can use to provide students with the most effective instruction possible in a given context.

LEARNING ACTIVITIES

1. Analyze your own learning preferences according to the Reichmann and Grasha model presented in this chapter. What kind of learning environment suits you best? What kind of learning environment would most challenge you?
2. Individually interview five students from one class group to analyze each one's learning preferences according to the Reichmann and Grasha model. How many students are similar? How many are different, and what are those differences?
3. Reflect for a moment on how you currently teach physical education. Then analyze your teaching according to each of the attributes of model-based instruction presented in this chapter. From that analysis, write a profile of how you teach now.
4. Compare your findings about students' learning preferences in Activity 2 with your description of your own teaching in Activity 3 as it relates to learning preferences. How well do they match? What are the implications for student learning in your classes?

TOPICS FOR REFLECTION & SMALL GROUP DISCUSSION

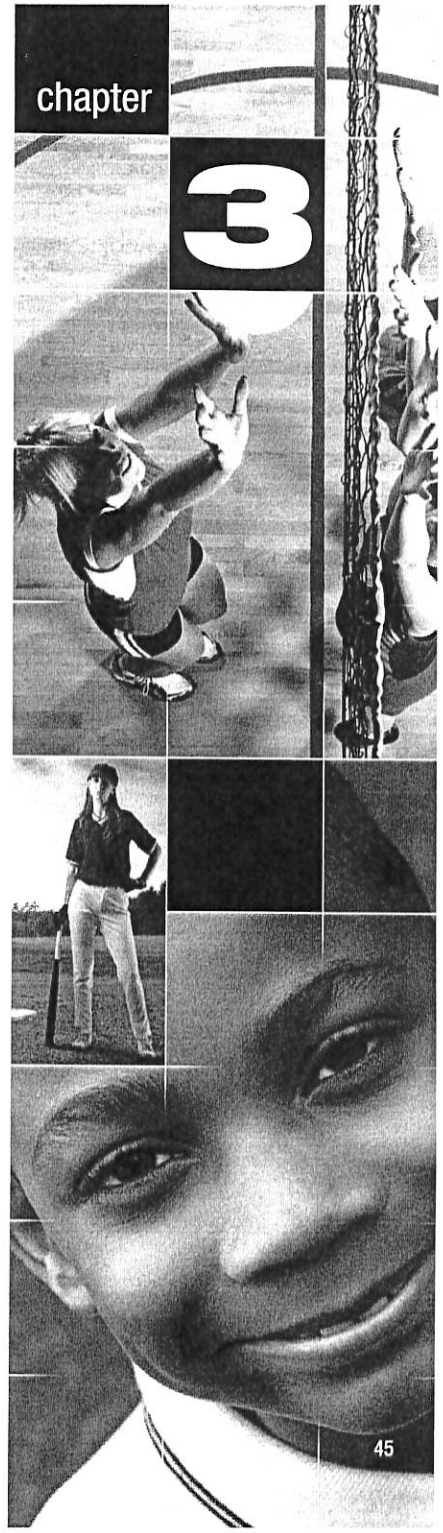
Take a few moments to write down your thoughts, then post your opinion in the Forum section of the IMPE website for others to read. Be sure to check back for replies, and feel free to respond to those replies in the thread for each topic.

1. What are your "early thoughts" about instructional models for physical education? Does the model-based approach look as if it will support or contradict the personal philosophy of teaching that you described at the end of Chapter 1?
2. Why do you think physical education teachers need to know so many things to be effective instructors?

SUGGESTED READING

Gurvitch, R., Metzler, M., & Lund, J. (Eds.) (2008). Model-based instruction in physical education: The adoption of innovation. *Journal of Teaching in Physical Education*, 27, 447–589.

chapter 3



AREAS OF KNOWLEDGE FOR MODEL-BASED INSTRUCTION IN PHYSICAL EDUCATION

Physical educators must have expertise in many areas that directly or indirectly determine how they instruct and how well students will learn in each content unit and lesson. It is an oversimplification to suggest that teachers need to know about their students, physical education content, and instructional models. Effective teachers do need to know these things—but in much more sophisticated and interactive ways. The sophistication comes from having extensive knowledge in many areas of teaching; superficial knowledge is not nearly adequate to attend to the complexities of most physical education teaching settings. The interactive part arises when a teacher must apply several types of knowledge at the same time, often with little opportunity to consider the options or to consult with others.

If you recall, instructional models in this book are described as blueprints for teaching. The breadth of knowledge that contributes to effective model-based instruction can be thought of as the foundation needed to support the structure of the model as it is being built and during its extended use. Teachers without good foundational knowledge might be able to get model-based instruction

The early part of this chapter featured two key concepts about planning. First, the purpose of planning is to promote the most effective instruction possible in any content unit. Second, the idea is not just to plan, but to *be as prepared as possible* for each unit and lesson. If a teacher approaches planning as a series of key questions to ask before each unit and lesson, the answers will help that teacher be prepared most of the time. With experience, those questions, along with their answers, will arise automatically, greatly reducing preparation time and giving the teacher greater confidence as units and lessons begin—and, most important, greater effectiveness in reaching intended learning goals for students.

LEARNING ACTIVITIES

1. Select a class of students at any grade level along with a physical activity content area. Using the printer-friendly version of Exhibit 6.2 on the IMPE website, conduct a complete contextual analysis in anticipation of teaching a 10-lesson instructional unit to that class.
2. Using that same class and content area, complete a content analysis and listing using the printer-friendly version of Exhibit 6.3 on the IMPE website. What will you include in the unit, and why did you choose each part of the content?
3. Now make a complete outline for that unit of instruction.
4. Write an annotated lesson plan using the generic lesson plan available on the IMPE website for the first day of the unit, the fifth day of the unit, and the last day of the unit. Annotating involves making notes on the lesson plans that explain your decisions for each part of the lesson.
5. Share your unit and lesson plans with another physical education teacher, getting her comments and feedback.

TOPICS FOR REFLECTION & SMALL-GROUP DISCUSSION

1. Why can it be said that effective teaching is *not accidental?*
2. What factors might contribute to a teacher's willingness and ability to spend time in unit and lesson planning?
3. How do unit and lesson planning lead to the achievement of the NASPE standards for physical education?
4. How should assessment information from the previous lesson be used to plan the next lesson?

chapter 7

ASSESSING STUDENT LEARNING IN MODEL-BASED INSTRUCTION

As you know by now, quality physical education programs are based on standards of learning or other outcomes determined by a school's teaching staff. But standards alone are not enough. Teachers must be able to document that students are meeting the standards to a satisfactory level. In order to provide that documentation, teachers will need to assess student learning on a regular basis. Teachers also should use assessment to inform their instruction. If the assessment indicates that some or all of the students failed to meet a lesson's objectives, a teacher should modify her instruction accordingly. This chapter will describe the many things to consider in making good assessments in physical education within a model-based instruction approach. Assessment in physical education is done for three important reasons:

1. To describe how much learning has taken place within a given amount of instructional time (a lesson, a unit, a year, or the entire program) and to use that information to plan future lessons and units.
2. To judge or evaluate the quality of that learning (usually for grading).

3. To make decisions for improving instruction when one or more standards are not being met to a satisfactory level.

ALIGNING ASSESSMENT WITH STANDARDS

Assessment provides the crucial link between standards or other defined outcomes for a program and the program's success. As you recall from Chapter 1, the NASPE standards for physical education (NASPE, 2004) are widely accepted as the best and most comprehensive list of the key learning outcomes for contemporary physical education programs. Because standards express "what should be learned," they also provide the best starting point for conducting assessment to answer the next key question: "How can teachers document that the standards have been learned?" If a school, district, or entire state has adopted the NASPE standards, for example, the standards should guide the assessment process from start to finish. Because of the wide acceptance of the NASPE standards, these standards will guide this chapter. When you begin your teaching career, your school or district may have adopted a different set of standards. However, this chapter's example of the NASPE standards will help you understand how standards can be used to guide and assess instruction. This chapter will also give you an abundant set of resources and examples to draw on beyond this book. Many of those resources will be listed at the end of the chapter.

KEY ASSESSMENT CONCEPTS AND TERMS

The first step in learning about assessment in physical education is to become familiar with the various concepts and terms used in that process.

Assessment and Evaluation

Two terms are commonly used to describe the process of documenting what students have learned. Be aware that the terms do have different meanings, but they are often used interchangeably, and this can be confusing. *Assessment* includes those processes used to gather and analyze information to document what students have learned in a lesson, unit, or program. Assessment describes or measures what has been learned and uses that information to plan for future lessons and units. The next—but different—step, *evaluation*, involves a determination of the worth or value of that information. That evaluation is done by the teacher, a student, or some other person who can judge "how good" the learning was. Let me give you a common example to show the difference between these concepts. You are a player on a softball team, and your team scores five runs in the game. "Five runs" is an assessment to *describe* your total for the game. However, it does not tell you if scoring five runs was good enough to win. To evaluate *how well* your team met its goal of winning the game, you must know the other team's score. If it is more than five, your team did not play well enough to win; if it is less than five, your team played well enough to win.

Grading starts with assessment and leads to evaluation. The assessment step includes determining how many correct answers a student gave, how many points she earned, or what percentage score she got. The evaluation step happens when the teacher converts those answers, points, or scores to letters indicating whether a student passed or failed and, if he passed, to what degree (i.e., "D," "C," "B," or "A").

So, if a teacher gathers information about students' knowledge, performance, or behavior related to a standard, that is assessment. If the teacher uses that information to make a judgment about the worth or quality of that knowledge, performance, or behavior, he has taken the next step of evaluation. In reality, most of what is done in physical education today is assessment; most teachers want to know what their students have learned in order to make better decisions for their instruction and their programs. What little evaluation takes place usually measures non-performance criteria such as dressing out, class participation, effort, and behavior. To reduce the potential for confusion, *assessment* will be used as the key operating term in this chapter and the rest of the book.

Timing of Assessments

Assessment information can be gathered according to three time plans in a unit of instruction: (1) continuous, (2) formative, and (3) summative. See Exhibit 7.1 for examples. Each time plan will give the teacher different amounts of information and determine what can be done with that information.

1. *Continuous assessment* occurs automatically during each learning task in the unit. It provides the teacher with "up-to-the-minute" information that can be used to make decisions about task progression—whether to keep students on the present task longer or advance them to the next task. Continuous assessment produces smaller amounts of information, but the timeliness allows the teacher to make changes for the next lesson or even within the current one. One model in Part Two, Personalized System for Instruction (PSI), uses only

Examples of three time plans for assessment. EXHIBIT 7.1

CONTINUOUS	FORMATIVE	SUMMATIVE
Self-check performance tasks each day	Short weekly quizzes	Written final exam
Checking for understanding after task presentation	Partner-checked tasks after each skill component	Skills test at the end of the unit
Checking for target heart rate several times in class	Weekly log of fitness activity	Fitness testing at the end of the unit

continuous assessment techniques to provide information about every student in every lesson.

2. *Formative assessments* are conducted periodically during the unit of instruction, perhaps every second or third lesson. They provide the teacher with "midstream" feedback on student learning, so that changes can be made during the unit—before it is too late. Formative assessments can be of short or medium duration, giving the teacher enough information to make changes without forcing him to sacrifice instructional time.

3. *Summative assessments* are conducted at the end of the unit and allow the teacher to determine how much learning occurred during the entire time of instruction. They usually generate larger amounts of information because they cover most or all of the intended learning outcomes. Summative assessments typically require more student preparation time (e.g., studying for tests) and more teacher organization time. Although summative assessments provide more information than continuous or formative techniques, they come at the end of the unit, so the teacher cannot use that information until the next time she teaches that unit.

Norm-Based and Criterion-Based Assessments

All assessments generate a score or other indicator of student performance, and all scores need some level of interpretation by the teacher to be understood. How that interpretation is made will depend on whether the assessment technique used was norm-based or criterion-based.

Norm-based assessments require the collection of a large number of scores on standardized tests, such as fitness tests or skills tests. Scores are then compiled into subgroups according to some common factors of test takers, usually age and gender (e.g., 10-year-old boys, 14-year-old girls). The large number of scores for each group will generate a *normal distribution* of scores that allows any one student's score to be compared with the scores of other students of the same age and gender. Raw scores can be determined and reported, but normed test scores are usually reported as a percentage of students who scored above and below each individual student. For example, being in the 85th percentile of 10-year-old boys means that 84 percent of all other similar test takers scored lower and 15 percent of all other similar test takers scored the same or higher. If a teacher uses a norm-based test, she can then compare her students' performance to all other similar students who have taken the test. Some normed tests can help determine if a student is developing at or near the expected maturation rate in areas like motor skills, fitness, and social development.

Criterion-based assessments compare a student's performance to standards (the criteria) deemed appropriate for mastery in a particular area. Scores from these assessments usually offer a number, or percentage, for the amount of material each student has mastered. The performance standards are determined by the person who uses the assessment technique and reflect one's professional judgment about the quality of each score. A teacher who makes her own tests and sets the passing grade for a written test on volleyball rules at 75 percent, or who determines that students must score 45 out of 50 possible points to get an A on a tennis skills test, is using criterion-based assessment. The value of criterion-based tests is that they can be written to include only what the teacher wants covered in them, thus reflecting the specific kinds of outcomes most sought by the teacher.

Organizational Plans for Assessment

All assessment techniques require the teacher to make an organizational plan to implement them. Assessment doesn't just happen; it must be thought out in advance and implemented in a way that matches the amount and complexity of needed information.

Informal assessments are those that require little advance planning and little class time. Many informal assessments can actually happen in the regular flow of class in a way that is almost undetectable by students and outside observers. Of course, the teacher is well aware of the assessments and controls when and how they occur. The teacher can use many informal techniques on the spot to make decisions about task progression or to gauge student enjoyment of the current activity. One effective informal assessment strategy called *checking for understanding* is used to determine how much information students have retained during a short period of class time, such as a task presentation or explanation of game rules. The teacher simply asks students to recall what was just said or shown to them, which lets the teacher know if they are ready to go on from there.

Formal assessments require more planning and implementation time both for the teacher and the students. Students are typically given advance notice of these assessments and often extra time to prepare for them. Formal assessments include fitness tests, skills tests, or group projects. Formal assessments often count in students' grades or other performance reports. Exhibit 7.2 lists some examples of formal and informal assessments.

Examples of informal and formal assessment plans. EXHIBIT 7.2

INFORMAL	FORMAL
Checking for understanding after a task presentation	Giving a written quiz on key elements of a skill
Asking for a show of hands of those who were able to make five shots on goal in this drill	Giving a skills test on soccer shooting, with the teacher counting makes and misses
Asking students, "How many of you feel your heart pounding hard right now?"	Directing students to take their pulse and calculate to see if they were in their target zone
Asking students, "How many of you like skateboarding?"	Asking students to write five things they like about skateboarding

TRADITIONAL ASSESSMENTS IN PHYSICAL EDUCATION

There are many techniques for assessing learning in physical education, regardless of whether they are designed to be formative or summative, norm-based or criterion-based, formal or informal. Assessments can be divided into two broad categories: traditional and alternative. Traditional assessments have been used in physical education for many years, as their label indicates. Alternative assessments have been recently developed to provide information about learning that is quite different from that provided by traditional techniques. Keep in mind that neither type of assessment is inherently better than the other—they simply produce different kinds of information about learning. It is up to the teacher to decide the best type of assessment to use in individual situations.

Traditional assessments in physical education follow three primary principles, derived from the subdiscipline of measurement and evaluation (Wood, 1996):

1. Establish (and formally state) appropriate instructional objectives.
2. Use appropriate (validated and reliable) tests to measure characteristics related to the instructional objectives.
3. Develop an evaluation (grading) scheme that reflects attainment of instructional objectives. (pp. 202–203)

This traditional assessment process involves an approach that resembles data collection and analysis for research purposes. It typically involves rigorous standards in all parts of the process, to ensure that the data can be used with confidence. As will be discussed below, this kind of rigor can make for a "double-edged sword" for teachers who wish to use these traditional assessments.

Some of the most common forms of traditional assessment used in physical education are:

1. *Informal teacher observation.* Probably the most common type of assessment in physical education occurs when the teacher observes students as they practice skills, play games, and answer questions in class. When asked how they know when their students have learned to throw a Frisbee, the majority of teachers will respond by saying that they saw or heard evidence of that learning in class. This is not truly assessment, but it does provide the teacher with some level of confidence that learning has occurred.

2. *Standardized skills tests.* Many sports in the physical education curriculum have standardized skills tests that assess student performance abilities (Strand & Wilson, 1993). Most of these involve static tests that measure a limited range of skills needed to play each sport. A static test uses a mostly artificial display of skills that determine the student's ability to perform in nongame situations. The front-wall volley tests in racquetball (Hensley, East, & Stillwell, 1979) and any test that calls for the student to hit a ball into a fixed target (such as tennis-serving accuracy tests) are static. Standardized skills tests are not necessarily invalid, but teachers who use them must understand the tests' limitations for assessment purposes. That is, these tests measure only a small portion of the skills needed to play a game well, and those skills are measured in a nongame situation.

3. *Fitness tests.* Our field has a long history of testing children and youth on several parameters of physical fitness. Over the years, we have developed many standardized test batteries for school programs. The most prominent tests used today are the *Fitnessgram* protocol developed at The Cooper Institute for Aerobic Research and the *President's Challenge* test from the President's Council on Physical Fitness and Sports. With proper administration, these tests can provide students with results that help them determine their level of fitness relative to other students of the same gender and age (Safrit, 1995).

4. *Written tests.* Many teachers use written tests to assess students' cognitive knowledge in physical education. Nearly all of these tests are developed by individual teachers who use them in their own programs; we do not have standardized written tests in physical education like those developed nationally for subjects such as math, science, and reading. Written tests can include questions and problems in several formats: multiple-choice, short-answer, fill-in-the-blank, matching, diagramming, and open-ended. Each type of question or problem will prompt students to demonstrate their knowledge in a different way and to provide different types of assessment information to the teacher.

Advantages of Traditional Assessments

Within certain limits, skills tests, fitness tests, and written tests can provide useful assessment information. They usually measure learning in ways that are sufficiently objective, use accepted measuring techniques and instruments, and can be carried out with strong consistency. Standardized skills and fitness tests have met rigorous standards in their development and have been field-tested on many subjects who are similar in age, gender, and ability to those for whom the test is designed.

Most skills tests and fitness tests are normative, meaning that they have been used to measure many people in different age, gender, and ability groups, providing a large database for the test. Having that database allows a teacher to compare her students' results with those from similar test takers in other schools, states, and regions across the nation.

Traditional assessments also have the advantage of including content, procedures, and scoring developed by trained experts, so the teacher does not have to take the time to design, validate, field-test, and determine how to score the assessment. Many such tests today include software and data-entry procedures that simplify the tasks of scoring and reporting results to students. In addition, these types of assessments usually produce large amounts of numeric data that can undergo statistical treatment to generate many kinds of informative analyses, ranging from simple measures of central tendency to sophisticated tests of learning effects.

Disadvantages of Traditional Assessments

On the other hand, traditional assessments present some distinct disadvantages that have limited their use in school physical education programs. Some of the issues focus on the true validity of test design, relative to typical outcomes in physical education. For instance, does the serving accuracy test for tennis (AAHPERD, 1989) measure one's ability to play the game (a typical program outcome) or one's proficiency in a limited, controlled, and static aspect of tennis skill performance? Are health-related fitness tests good predictors of one's health risks or continued involvement in physical activity in later years, or are they one-time "snapshots" of a child's present condition with little relationship to the future? Most likely, the second answer is correct in both examples.

For a large number of teachers, the disadvantages of traditional assessments center on problems of practicality when they are used in large classes and with limited class time (Wood, 2003). The rigor with which most standardized tests generate data comes with a price; many of them must be administered by the teacher to individual students, taking time away from learning itself. This fact forces the teacher into a real trade-off—taking the extra time needed for the assessment away from instructional time—which in turn may result in lower performance scores on the assessment! Because of the time and effort needed to complete them, traditional assessments often limit the types of information they provide for the teacher and students; they tend to focus on a small portion of the intended learning outcomes, leaving many unanswered questions about student achievement.

In addition, traditional assessments often require that the data be transformed in ways that are difficult for teachers and students to understand. Statistical treatment can sometimes produce information that requires special expertise to interpret and communicate to learners. The final disadvantage of traditional assessments is that they tend to focus on identifying discrepancies between what was learned and what should have been learned, with little information for teachers and students about how to improve knowledge, performance, or fitness levels. A written test results in a score, or a percentage of items answered correctly. It does not help students improve their knowledge. Fitness tests and skills tests give students normative results, letting them know how they compare with others of the same age and gender, but there is nothing in those tests that teaches a student how to improve personal fitness levels for the next test or how to increase activity levels in daily life.

ALTERNATIVE ASSESSMENTS IN PHYSICAL EDUCATION

Educational assessment has undergone much reform in recent years. Some of that reform has been driven by professionals who believe that the disadvantages of traditional assessment outweigh its advantages. A second factor has been the expanded scope and variety of new learning outcomes in physical education that cannot be assessed with traditional techniques (Lambert, 2007). This growing movement is called *alternative assessment*, to indicate that it was developed, in large part, as a direct contrast with traditional assessment in physical education. So, in the most simplistic sense, *alternative* means "something other" than the traditional assessments just discussed. But it really is much more than just an opposition movement. Proponents of alternative assessment techniques point out that these methods have a sound theoretical foundation and sufficiently rigorous procedures. They represent logical ways to assess students on the diverse types of learning pursued in many contemporary physical education programs—such as the types of learning included in the NASPE (2004) K–12 physical education standards discussed in Chapter 1.

Alternative assessments are based on four principles:

1. Knowledge can be demonstrated in a variety of ways, all of which can be valid indicators of student learning.
2. The process of learning is as important to assess as the outcomes themselves.
3. Diverse types of learning goals require diverse types of assessment.
4. Higher-order learning, particularly in the cognitive domain, requires inventive assessment that is not possible with traditional techniques.

Many kinds of alternative assessments have been developed for physical education. Because these assessments are designed by teachers, and not test-making experts, they are customized to allow each teacher to assess learning outcomes specific to his own instruction. Some common types of alternative assessment used in physical education include:

1. *Group projects.* Students are placed into learning teams of three to five members and given an assignment to complete. That assignment could ask them to develop a report, make a photo collage to represent a certain theme or event, or complete an extended motor skill "problem" (e.g., learn how to use a zone defense in ultimate Frisbee).

2. *Multimedia presentations.* Individual students or learning teams make a presentation to the class that incorporates two or more types of media, or students could be asked to make a video to show other students how to play a position such as goalie in field hockey.

3. *Activity logs.* Students keep a log of all physical activity they do for a week to monitor their levels of fitness-promoting activity. The log would include all the activities, the amount of time spent in each one, and the level of exertion needed for each.

4. *Personal journals.* Students keep a record of how they felt and what they thought during physical education class or some other physical activity event in which they participated.

5. *Role-playing.* Students assume a nonplaying role for an extended period of time to learn the decisions, responsibilities, and knowledge needed for that role. Some examples are coaching, officiating, or serving on a league board of directors.

6. *Oral examinations.* Students receive questions that require a high level of knowledge and are expected to give and explain their answers. Example questions could be: "What are the advantages and disadvantages of playing zone defenses in football?" or "Why is it important to drink fluids before, during, and after exercise?"

7. *"Show and tell" presentations.* Students do some research or practice outside of class and then present what they have learned to the class.

8. *Interviews.* Students interview other students, family members, or community members about what physical education was like when they were in school.

9. *Teacher, peer, and self-observations with performance checklists.* A set of correct performance cues is taught to students and listed on a checklist. The teacher or a classmate observes a student practicing and "checks off" those parts that were performed correctly. Or a student can be recorded while practicing and then watch the video to check herself.

10. *Portfolios.* Students collect and organize various kinds of artifacts (photographs, videos, drawings, newspaper articles, and the like) that demonstrate their knowledge of a certain topic or concept (e.g., the Olympics, Title IX). The process of identifying an organizing theme for the portfolio and gathering artifacts becomes just as important as the final contents of the portfolio itself.

Rubrics

The cornerstone of alternative assessment is the scoring *rubric,* which is used to determine the quality of the learning demonstrated by students (Lund, 2000). Rubrics inform students of the performance criteria on the assessment ahead of time and serve as the basis of the teacher's review of the completed work. The rubric translates the quality of the demonstrated learning into a descriptor (e.g., "novice," "intermediate," "advanced," or "incomplete," "almost complete," "complete") or a numeric/value rating (e.g., 1/poor, 2/fair, 3/good, 4/excellent) based on criteria stated in advance.

Goodrich (1996–97) highlights seven steps in the process of creating good rubrics:

1. *Look at models.* Show students examples of good and not-so-good work from previous assessments.
2. *List and discuss criteria.* Use the models to help students make a list of what counts as quality work.
3. *Articulate gradations of quality.* Present and discuss what separates each level of quality from the others.
4. *Practice on models.* Have the students use the rubric on the models.
5. *Use self- and peer assessments.* Allow for periodic assessments as the task is being completed. Provide students with formative feedback.

6. *Revise.* Allow students time to make revisions based on the feedback given in step 5.
7. *Use teacher assessment.* Apply the rubric in the same way that students have learned it.

Exhibits 7.3–7.5 present three examples of alternative assessment tasks in physical education and the scoring rubric for each one.

Example of alternative assessment and rubric for Newcomb rules lesson. **EXHIBIT 7.3**

Grade levels: 3–4 (at the end of a 4-week Newcomb unit)

Knowledge assessed: Newcomb rules

Assessment task: Three teams are made at each court. Two of those teams will play, while the third team will watch the action from the sideline and record the results and score after each volley. Teams rotate after every 10 volleys, regardless of the score. The teacher also keeps a score sheet for assessing students' answers when the teams change (this constitutes the rubric for assessing students' accuracy).

	POINT SCORED BY TEAM A OR B?	HOW?*	WHAT IS THE SCORE NOW?	DOES ANYONE ROTATE?**
Volley #1 (A serves)	A	5	1–0	N
Volley #2	A	3	2–0	N
Volley #3	B	1	2–1	Y
Volley #4	B	4	2–2	N
Volley #5	B	5	2–3	N
Volley #6	B	3	2–4	N
Volley #7	A	1	3–4	Y
Volley #8	A	3	4–4	N
Volley #9	B	1	4–5	Y
Volley #10	B	4	4–6	N

* How?

1. Foot fault
2. Net serve
3. Out of bounds
4. Ball touched too many players' hands
5. Other team did not return the ball over the net

** Does anyone rotate?

Y = YES

N = NO

Developed by Donna Hicks, physical education teacher at Hickory Flat Elementary School, McDonough, GA. Used with permission.

EXHIBIT 7.4 Example of alternative assessment and scoring rubric for Olympic Oath and Spirit lesson.

Grade levels: Middle school

Knowledge assessed: The Olympic Oath and Spirit

Assessment task: Following a unit on Summer Olympic sports, make a multimedia collage that shows athletes competing and displaying the "Olympic Spirit."

Time allowed: Out of class, due in one week

Scoring rubric:

MEDAL LEVEL	ASSESSMENT CRITERIA
Gold medal	1. Your collage uses three or more types of media. 2. Your collage shows at least five different sports. 3. Your collage shows many types of sports, athletes, and five countries. 4. Your collage shows athletes displaying the Olympic spirit in many ways.
Silver medal	1. Your collage uses two types of media. 2. Your collage shows three or four different sports. 3. Your collage shows a few types of sports, athletes, and countries. 4. Your collage shows just a few examples of the Olympic spirit.
Bronze medal	1. One type of media is used. 2. One or two sports are displayed. 3. Only competition is shown.
Future Olympian	1. Collage includes non-Olympic examples. 2. Collage does not fill up the poster you selected. 3. Incorrect examples of the Olympic spirit are included.

Advantages of Alternative Assessments

Just as with traditional techniques, alternative assessments have advantages that teachers need to understand. Perhaps the greatest advantage of alternative assessments is their ability to be designed to monitor the specific learning standards or outcomes planned by the teacher. The teacher can feel more confident that the assessment targets what she really wanted her students to learn. Another strong advantage is that alternative assessments allow students to demonstrate their learning in a variety of ways—not just through the recall of information or through skill performance on standardized tests. Because we know that students are engaged in diverse kinds of learning activities, it makes sense that they should be able to demonstrate their knowledge in a way that matches how they actually gained it.

Example of alternative assessment and rubric for golf swing lesson. **EXHIBIT 7.5**

Grade levels: High school

Knowledge assessed: Ability to analyze key elements of the golf swing

Assessment task: Get a partner. One partner will take 10 swings with a "driver" while the other partner observes each trial. The observer will evaluate each key element on the checklist to reflect how well his/her partner performed that component each time. The observer's checks will be compared with those made by the teacher, who will also watch the practicing student. Switch roles after every 10 tries.

KEY ELEMENT	1	2	3	4	5	6	7	8	9	10
1. Stance and alignment										
2. Grip										
3. Back swing										
4. Point of contact										
5. Follow-through										

After each shot, score:
3 if element was fully correct
2 if element was almost fully correct
1 if element was incorrect

Scoring rubric for the observer (1 point for each analysis that matches the teacher's; possible 50 points):

45–50	Teaching professional
40–44	"Scratch" player
35–39	Low handicapper
25–34	High handicapper
24 or lower	Novice

By using a scoring rubric, students know the performance expectations for the assessment task ahead of time. They are then able to make choices and devise strategies for the *process* of completing the assessment as well as the final demonstration of their knowledge. In other words, the rubric fosters the ability to *learn how to learn*. Rubrics provide another advantage. They include a common set of criteria used by the teacher to assess student work. Rubrics lend a sufficient degree of objectivity to the review process and make for more consistent assessments within and among classes.

Finally, alternative assessment, particularly through the rubric, has the ability to provide students with feedback about their learning and to identify ways for them to improve performance.

Disadvantages of Alternative Assessments

Although alternative assessments provide unique, creative, and diverse ways to assess student learning in physical education, they are not without disadvantages. Because they are customized, it takes time for a teacher to design each one for her class. The examples shown earlier can give a teacher some ideas for assessment, but unless those examples are perfect matches, they will need to be adapted or completely redesigned for use by other teachers. The design stage may also require some trial-and-error time to get the assessment just right for its intended use.

Alternative assessments typically take longer for students to complete and for the teacher to review. Many of these tasks require extended time for students to plan their work, conceptualize answers, organize materials, and develop the final product. All these steps contribute to the learning process itself, but they do take time to accomplish. Similarly, the teacher will need some time to review each completed assessment—usually more time than it would take to score written tests and skills tests.

AUTHENTIC ASSESSMENT FOR PHYSICAL EDUCATION

Authentic assessment, sometimes called *performance assessment*, refers to the practice of making assessments that involve, or simulate, the real-life settings in which knowledge taught in school will be applied (Lambert, 2007). Some examples will help to clarify this concept. Health-related fitness tests (e.g., Fitnessgram, President's Council) measure student abilities on several parameters that are *indicators* of present fitness levels. They do not assess health-related *behaviors and choices* made at other times during the school day, after school, and at home that more accurately determine patterns of healthy living. If a stated goal of the physical education program is to promote active and healthy lifestyles, then an authentic assessment of that learning would occur at the times and places that students make health-related choices for their behavior. Student logs that record the foods they eat and the moderate to vigorous activity they engage in would be an appropriate authentic assessment of physical fitness behavior and choices.

If the goal is to teach students how to play the game of softball, then an authentic assessment would take place during an actual game, not with a skills test in a nongame context. In this case, an authentic assessment could be based on students' game statistics or a performance checklist completed as the game is played. The Game Performance Assessment Instrument (GPAI softball version) developed by Griffin, Mitchell, and Oslin (1997) does precisely that by analyzing players' performance in several categories of involvement, skills, strategies, and decision making during game play. The GPAI will be explained in much more detail in Chapter 14.

If the goal is to assess junior high students' dance performance ability, then an authentic assessment could be designed during their participation in a class dance production at the school. Asking students to demonstrate their cognitive knowledge or their appreciation for dance with a multimedia collage would be an alternative assessment technique, but that is not nearly as authentic as performing in a production. I emphasize that authenticity is determined by the *degree* to which the assessment calls for students to demonstrate real-life applications of their knowledge. Rarely is any assessment technique totally non-authentic or entirely authentic.

Physical education teachers need to know that all assessments, traditional or alternative, and at whatever degree of authenticity, are essentially tools used to understand what students have learned from instruction in a content unit or program. The key here is to understand what each assessment tool can do and when it is appropriate to use it. Teachers should not start by saying, "I am going to use an alternative, authentic assessment in this upcoming dance unit." Rather, the teacher should follow a deductive process that starts with "What and how will students learn in this unit?" which leads to "How do I want them to demonstrate that new knowledge for me?" and then "Which assessment technique will provide the best demonstration of their knowledge?" From that, the teacher will select the right assessment tool for the right assessment job.

ASSESSMENT IN MODEL-BASED INSTRUCTION

All of the assessment concepts and techniques described so far in this chapter have been presented as declarative knowledge, key things that all teachers should know *about* assessment. Effective teachers who use instructional models will need to have that kind of knowledge as well as good procedural and conditional knowledge in order to select and carry out the best assessment strategies within the model used for a unit. Exhibit 7.6 shows some assessment strategies for each of the models in Part Two of this book, along with suggested times to implement those strategies. These assessment techniques will be explained in more detail in the assessment section of each model described in Part Two.

Documenting Learning with Assessments

Assessment techniques will provide the teacher with a description of students' current learning, but how can the teacher know *how much* learning has occurred over the course of the unit? Summative assessments give a good picture of what students know and can do at the end of a unit but furnish no information about what students knew or could do when the unit started. Teachers can do two things to document the amount of student learning that occurs in a unit. They can give pre-assessments that cover the major learning outcomes in the unit and then compare the pre-assessments with summative assessments. Learning can then be defined as the difference in those scores, commonly called *gain*. Second, teachers can use continuous assessments to monitor student progress over the course of the unit, placing

EXHIBIT 7.6 Assessment strategies and timing with instructional models.

MODEL	MAJOR LEARNING OUTCOMES	TRADITIONAL ASSESSMENTS	ALTERNATIVE ASSESSMENTS	TIMING
Direct Instruction	1. Motor performance 2. Knowledge of rules 3. Fitness	Skills tests Written tests Fitness tests	Performance checklists	Formative Summative
Personalized System for Instruction	1. Motor performance 2. Knowledge of rules 3. Fitness	Skills "quizzes" Written tests Fitness tests	Performance checklists Logs	Continuous
Cooperative Learning	1. Knowledge of concepts 2. Team participation 3. Social development	Skills "quizzes" Written tests	Group projects Multimedia projects Portfolios Journals	Continuous Formative Summative
Sport Education	1. Game performance and strategy 2. Team participation 3. "Duty role" performance	Written tests	Role-playing checklists Team projects Game performance summaries GPAI Journals	Formative Summative
Peer Teaching	1. Motor performance 2. Cognitive knowledge (to teach) 3. Social development	Skills tests Written tests	Performance checklists Journals	Continuous Formative
Inquiry Teaching	1. Higher-order knowledge, combined with 2. Movement skills	Written tests	Oral examinations Interviews Journals	Continuous Formative Summative
Tactical Games	1. Tactical knowledge, combined with 2. Motor performance	Written tests	GPAI Performance checklists Oral examinations	Continuous Formative Summative
Teaching Responsibility	1. Social development 2. Motor performance	Skills tests	Performance checklists Journals	Continuous Formative Summative

students' performance scores in the many assessments on a chart to show the amount and the rate of learning.

Teachers can use individual or grouped information to document how much learning has occurred. Since each student will have her own set of scores over time, the teacher can examine those scores to determine if progress is being made. Teachers can group assessment data by calculating mean scores for subgroups of students (e.g., boys and girls, less skilled and more skilled) to note if any group shows a different amount of learning. If one group is found to be learning less, the teacher can change instructional strategies to help that group catch up. Assessment data can also be grouped for all students in the class by calculating a mean class score. Although class mean scores give the teacher an overall description of learning, they can often hide differences among individual students in the class.

Using Assessment for Planning and Teaching

Formative assessments can be used to monitor student learning as a unit progresses and to help teachers make informed decisions about changes that could be needed right away to increase the amount and rate of student learning. A performance assessment taken at the end of one day's lesson can provide a teacher with important information about whether students have learned the content well enough to move ahead in the sequence of learning activities, or whether students need more time and practice before moving on to new content, to more advanced content, or to playing competitive games. For example, if most students in a class score very low on a test of speedball rules and etiquette, it would not be a good decision to advance them to actual game play in the next lesson—even if the schedule calls for that to happen. This should clue teachers that further review of the rules and etiquette are needed and that they should conduct that review and a follow-up assessment in the next lesson, before students move on to game play.

Making Assessment Practical

Assessments give teachers valuable information about what students have learned in physical education. Teachers really need to know what students have learned, how much they have learned, and how well students have achieved stated standards and outcomes. As noted earlier, however, good assessments take time for teachers to prepare, for students to complete, and for teachers to review. And there is a catch—the time it takes a teacher to gather assessment information can take time away from student engagement with the content, actually reducing the amount of time available for learning.

Physical education teachers can use several strategies for gathering assessment information in a practical manner:

1. Do not attempt to assess all the potential learning outcomes in a unit. Identify the three or four most important outcomes, and assess only those.

2. Use assessments that have been successful for other teachers. Good examples of assessments can be found in many places, including the suggested readings listed at the end of this chapter.

3. Teach students to do self- and peer assessments when possible. Sometimes the teacher's main task is to watch students perform and count successful tries. Students from the middle grades and up can learn the key elements to look for and how to measure and quantify them; then they can watch and score their peers.

4. Use worksheets and scoring sheets to reduce paperwork. Many scores can be entered on one page rather than one score per page. This will help the teacher to be more organized and also allow for faster scoring of the results later.

5. Use small, continuous assessments as much as possible. Simply asking students to raise their hands if they have performed a learning task to a certain level can supply quick and valuable information.

6. Build assessment into learning tasks whenever possible. Rather than just asking students to practice for five minutes, direct them to count the number of "good" tries they make during those five minutes. Similarly, scoring sheets can be placed at learning stations, with students directed to fill in their scores before they move to the next station.

7. Use technology to gather, store, and analyze assessment information. Many physical education teachers are now using desktop computers, laptops, tablets, and even smartphones to enter assessments and store assessment data. This technology allows for convenient data entry and storage and facilitates generation and distribution of assessment reports to students, parents, and school administrators.

SUMMARY

Good physical education programs today must have standards for student learning, whether they are the NASPE standards or other stated goals and outcomes. Those standards represent the essential kinds of knowledge, skills, behaviors, and dispositions that students will achieve by participating in regular, quality physical education instruction. But having standards is not enough; good programs must be able to document the degree to which students have achieved those standards, based on relevant performance criteria—not just a teacher's opinion that learning has taken place. The key operation in documenting student achievement involves gathering assessment data and other information that can be used to establish a program's success or the need for improvement in certain areas. Because contemporary physical education programs strive for many and different outcomes and also because teachers want to help students to achieve in and out of school, assessment must take many forms and happen in many settings. The most effective teachers and programs are those that link standards, assessment, student learning, and continuous program improvement.

LEARNING ACTIVITIES

1. Go to the website of your state's department of education, and follow the links to its standards or other learning outcomes for physical education. (Your professor may need to assist you with this search.) For each standard/outcome, do two things. First, make a copy of the exact statement of that standard/outcome as it appears on the website. Second, use your own words to express the standard/outcome, as if you were trying to explain it to your students. That is, what would you tell students you are trying to teach that relates to this standard/outcome?
2. Select one standard/outcome in your state's list, and identify a grade level (preschool/lower elementary, upper elementary, middle school, high school). Next, identify a content unit you might teach for that grade level in order to address that standard/outcome (e.g., dance, fitness, team sports, basic throwing and catching). Explain how your content unit can lead students toward achieving that standard/outcome. What is the alignment between that unit and the standard/outcome you wish students to achieve?
3. Following up on the previous learning activity, state and explain three ways that students could demonstrate they have achieved the standard/outcome. One of those ways must occur *outside* the physical education program (e.g., in school, at home, in youth sports). Design an assessment strategy for each of those three ways of demonstrating the standard/outcome. Your strategy must include a description of the assessment task to be given to students, how it will be implemented, and how it will be scored. Finally, explain how you will use that assessment information to determine the degree to which your students have met the standard/outcome.
4. Select another standard/outcome, and repeat Activities 2 and 3.

TOPICS FOR REFLECTION & SMALL-GROUP DISCUSSION

1. Schools in the United States today are being held more accountable for student learning. Why do you think this is happening? What factors are contributing to this?
2. What is the relationship between learning standards (e.g., NASPE standards or your own state's standards) and assessment?
3. What kind of assessments did you have in physical education as a P–12 student? What was assessed, and how was that information used?
4. What are some of the reasons why meaningful assessments are difficult for physical education teachers to complete?
5. Pick any physical education content area that you know well (e.g., dance, team sports, fitness). What do you think is the best way to show that you have *really* learned that content?

SUGGESTED READINGS

Lambert, L. T. (2007). *Standards-based assessment of student learning* (2nd ed.) Reston, VA: National Association for Sport and Physical Education.

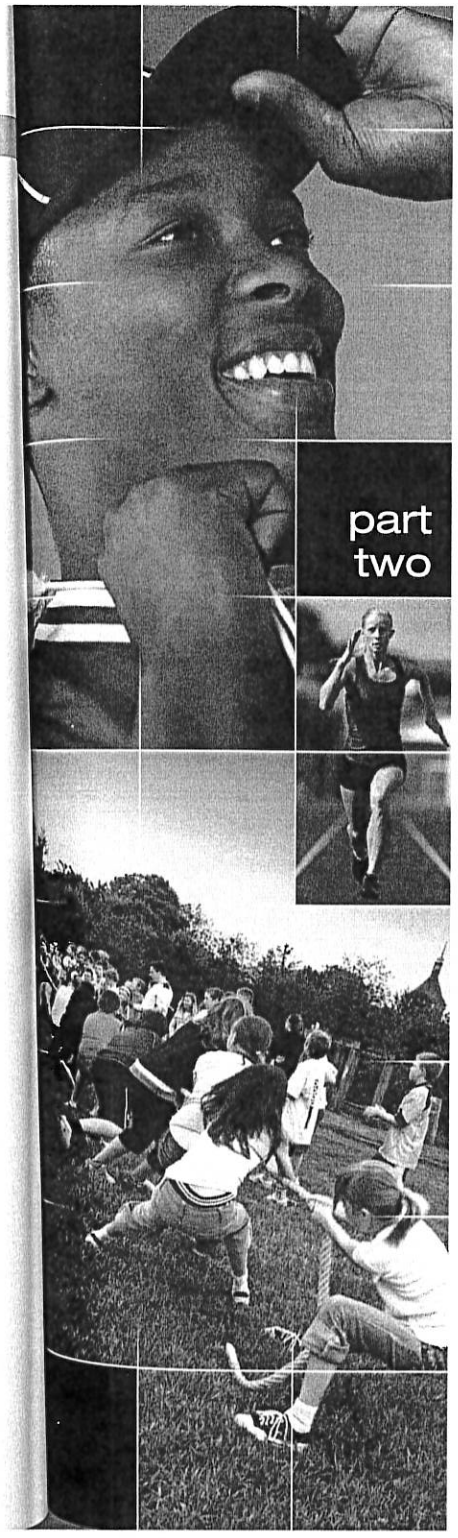
Lund, J. L., & Kirk, M. K. (2010). *Performance-based assessment for middle and high school physical education* (2nd ed.). Champaign, IL: Human Kinetics.

Mitchell, S. A., & Oslin, J. L. (1999). *Assessment in games teaching*. Reston, VA: National Association for Sport and Physical Education.

National Association for Sport and Physical Education. (2004). *Moving into the future: National standards for physical education* (2nd ed.). Reston, VA: Author.

O'Sullivan, M. O., & Henniger, M. (2000). *Assessing student responsibility and teamwork*. Reston, VA: National Association for Sport and Physical Education.

Schiemer, S. (2000). *Assessment strategies for elementary physical education*. Champaign, IL: Human Kinetics.



EIGHT INSTRUCTIONAL MODELS FOR PHYSICAL EDUCATION

By now you should have a good understanding of what an instructional model is and why model-based teaching can promote a wide range of standards and learning outcomes in physical education programs at all grade levels and for all kinds of content units. But you still might not have a good idea of what any one instructional model looks like, how to select a model for a content unit, how to implement a model the way in which it was designed, and how to know if a model is leading to the learning goals you have for your students. Part Two will give you an extensive description of eight models that have been shown to be effective in teaching physical education, along with some examples of how each model can be used for unit and lesson planning. This will take you from the sometimes abstract discussions in Part One to a clear picture of what a model actually looks like and how to use it in your teaching.

You will be reminded many times in Part Two of the two most important things to understand about every instructional model in this book. First, each model is designed to promote certain types of student learning outcomes. No model "does it all." If that were true, we would need only one model! A teacher who wishes to have students become truly "physically educated persons" will have to use more than one model in her program. Second, the effectiveness of a model depends