Chapter 7

Designing Movement Skill Practice

# Summary

Motor learning specialists agree that practice is the most important factor in learning movement skills and improving one’s performance of those skills; they also agree that practice is enhanced when teachers give learners feedback about their performance (Griffey & Housner, 2007; Young, LaCourse, & Husak, 2000; Coker, 2004; Fairbrother, 2010). The success of practice also improves when the type of feedback reinforces learning, the goal of the skill is clear, and the type of practice matches the goal of the skill. In fact, if physical educators mismatch the skill and the type of practice, they can impede learning. One common mismatch occurs when physical educators have students practice game skills in isolation and then expect them to move right into playing the game! Integrating skills in a game requires practice of skills in a sequence of easier to more complex game contexts. This chapter helps you focus practice sessions on the goal of the skill and match types of skill with types of practice and feedback. The chapter examines three interacting constraints—learner, skill, and environment—that influence change in motor behavior and therefore determine the type of practice and feedback that lead to skill acquisition and improved performance.

# Key Objectives

* Focusing practice sessions on the goal of the skill
* Distinguishing between constant practice, variable practice, and contextual interference
* Describing the relationships between types of practice and closed and open skills
* Distinguishing between knowledge of results (KR) and knowledge of performance (KP) feedback
* Distinguishing between the uses of prescriptive and descriptive feedback
* Distinguishing between intermittent, faded, and delayed timing of feedback
* Describing the relationships between types of skill, types of practice, and types of feedback

# Big Ideas

* The axiom that practice makes perfect holds true only if one practices appropriately. Specificity of practice means that the practice experience engages the learner, the goal of the skill, in a developmentally appropriate performance context.
* Constant practice has no variability and is used when children at the immature-beginner level are acquiring skills, when beginner-level learners are acquiring closed skills, and when intermediate learners are practicing the form-specific closed skills for dance and gymnastics sequences and routines.
* Variable practice involves using different parameters (level, direction, distance, speed, trajectory, relationship to a partner) to perform closed skills in a variety of ways. When variable practice is used with open skills, it involves a range of predictability referred to as contextual interference. Beginners usually practice with blocked contextual interference (more predictability) and intermediate learners with serial to random contextual interference (less predictability).
* The purpose of knowledge of performance (KP) feedback is to reinforce or change the ways in which performers move their bodies and body parts. In giving this feedback, teachers use critical elements and biomechanical principles to describe correct and incorrect movement patterns and parameters and to prescribe changes that will improve the movement performance. KP feedback about movement patterns is used most often to enhance the learning and performance of closed skills. Linking KP feedback about movement patterns and parameters is used most often to enhance the learning and performance of outcome-based closed skills and open skills.
* Knowledge of results (KR) feedback addresses the outcome or end result of a movement performance. Teachers augment students’ perceptions of obvious results (e.g., ball going into basket) with specific information to frame the outcome in relation to performance goals (e.g., shot percentage or degree of height or distance). KR feedback is used most often to enhance the learning and performance of open skills and outcome-based closed skills for learners in intermediate and advanced levels of learning.
* The delivery of KP feedback should be intermittent (every three to five trials) for learners at the beginning level and faded for learners at the intermediate level. Feedback should be delayed for a few seconds after performance in order to give learners a chance to process their intrinsic feedback and consider how to correct their performance if necessary.

# Identifying Types of Practice and Feedback

Read the following scenarios and answer the questions.

## Scenario 1

Students repeat a sequence of dance steps to the same tempo and rhythm.

Type of practice: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Type of skill:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Scenario 2

What type of practice are you using when you think about the skill cues while performing a skill—for example, the overhand throw (side to target, hand behind ear, stepping with opposite foot, following through across body)—or when you visualize what your performance should look like?

Answer:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Scenario 3

From a tossed feed to the same spot (marked by a poly spot), students use a forehand groundstroke with a modified tennis racket to hit the ball as follows:

* Straight “down the line” on the first five tosses
* Down the middle of the court on the second set of five tosses
* Crosscourt on the third set of five tosses

Type of practice: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Type of skill:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Scenario 4

After the completion of each set of five hits, the teacher provides verbal feedback about the skill cues of the forehand groundstroke (e.g., “bring your racket back before the ball bounces on your forehand side”). This type of feedback is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The feedback from seeing where the ball goes is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

## Scenario 5

A teacher provides the following feedback: “Good job—you got three of the five hits down the line. Try to step in the direction you want the ball to go each time.” This statement provides which two types of KR feedback?

Answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Scenario 6

From a tossed feed to the same spot (marked by a poly spot), use a forehand groundstroke to hit the ball:

* Toss 1—down the line
* Toss 2—down the middle of the court
* Toss 3—crosscourt

Repeat this pattern five times.

Type of practice: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Scenario 7

Play 3v3 soccer. Scoring is accomplished by passing to a teammate over the end line.

Type of practice: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Type of skill: \_\_\_\_\_\_\_\_\_\_

# Review Questions

1. Describe the differences between constant practice, variable practice, and contextual interference.
2. Which types of practice are used with form-specific closed skills, with outcome-specific closed skills, and with open skills?
3. Describe the differences between knowledge-of-results feedback and knowledge-of-performance feedback.
4. Describe the types of skill and practice for which knowledge-of-performance feedback is appropriate.
5. Describe the types of skill and practice for which knowledge-of-results feedback is appropriate.
6. What is the difference between descriptive and prescriptive feedback? Give three examples of each type.