

Chapter 1

The Classification of Motor Skills

Concept Statement

Classifying skills into general categories helps us to understand the demands those skills place on the performer/learner.

Chapter Objectives

After completing this chapter, you will be able to accomplish the following:

- Define and distinguish the terms *actions*, *movements*, and *neuromotor processes*, and give examples of each.
- Describe the one common motor skill characteristic for each of three motor skill classification systems, the two categories of skills in each system, and examples of motor skills in each category of each system.
- Describe the two dimensions used to classify skills in the Gentile taxonomy of motor skills and the classification characteristic included within each dimension.
- Discuss ways to use the Gentile taxonomy of motor skills in physical rehabilitation or physical education and sport contexts.

Chapter Outline and Key Terms

- I. Application
 - A. Application Problem to Solve
- II. Discussion

Key Terms:

- **Motor skills:** activities or tasks that require voluntary control over movements of the joints and body segments to achieve a goal
- **Motor learning:** It is defined as the acquisition of motor skills, the performance enhancement of learned or highly experienced motor skills, or the reacquisition of skills that are difficult to perform or cannot be performed because of injury, disease, and the like. Of interest are the behavioral and/or neurological changes that occur as a person learns a motor skill and the variables that influence those changes.
- **Motor control:** It is the way our neuromuscular system functions to activate and coordinate the muscles and limbs involved in the performance of a motor skill. Researchers may investigate this question while a person is learning a new skill or

performing a well-learned or highly experienced skill.

- **Motor development:** human development from infancy through old age with specific interest in issues related to either motor learning or motor control

A. Skills, Actions, Movements, and Neuromotor Processes

1. What Is Skill?

Key Term:

- **Skill:** (a) an *activity* or task that has a specific purpose or goal to achieve and (b) an indicator of quality of *performance*, often referred to as “skill level”

2. Skills and Actions

Key Term:

- **Actions:** see *motor skills*
- a. Characteristics of Skills and Actions

3. Movements

Key Term:

- **Movements:** specific patterns of motion among joints and body segments used to accomplish action goals

4. Neuromotor Processes

5. Why Distinguish Actions, Movements, and Neuromotor Processes

B. One-Dimension Classification Systems

1. Size of Primary Musculature Required

Key Terms:

- **Gross motor skill:** a motor skill that requires the use of large musculature to achieve the goal of the skill
- **Fine motor skill:** a motor skill that requires control of small muscles to achieve the goal of the skill; typically involves eye–hand coordination and requires a high degree of precision of hand and finger movement

2. The Specificity of Where Movements of a Skill Begin and End

Key Terms:

- **Discrete motor skill:** a motor skill with clearly defined movement beginning and end points, usually requiring a simple movement
- **Continuous motor skill:** a motor skill with arbitrary movement beginning and end points. These skills usually involve repetitive movements
- **Serial motor skill:** a motor skill involving a series of discrete skills

3. The Stability of the Environmental Context

Key Terms:

- **Environmental context:** the supporting surface, objects, and/or other people or animals involved in the environment in which a skill is performed
- **Closed motor skill:** a motor skill performed in a stationary environment

where the performer determines when to begin the action

- **Open motor skill:** a motor skill performed in a moving environment where the feature of the environmental context is in motion determines when to begin the action

C. Gentile's Two-Dimensions Taxonomy

Key Term:

- **Taxonomy:** a classification system organized according to relationships among the component characteristics of the group of items or objects being classified

1. Environmental Context

a. Regulatory Conditions

Key Term:

- **Regulatory conditions:** They are features of the environmental context to which movements must conform whether they are to achieve the action goal. They regulate spatial and temporal aspects of the movement.

b. Intertrial Variability

Key Term:

- **Intertrial variability:** It is an environmental characteristic in Gentile's taxonomy of motor skills. The term refers to whether the regulatory conditions associated with the performance of a skill change or stay the same from one trial to the next.

c. Relating the Two Environmental Context Characteristics

2. Nonregulatory Conditions

Key Term:

- **Nonregulatory conditions:** features of the environmental context that have no influence or only an indirect influence on movement characteristics

3. The Function of the Action

4. The Sixteen Skill Categories

5. Practical Application of the Taxonomy

III. Summary

IV. Points for the Practitioner

V. Related Readings

VI. Study Questions

VII. Specific Application Problem

Lab Manual in Online Learning Center

- Lab 1: Gentile's Taxonomy of Motor Skills

Lab 1 in the Online Learning Center Lab Manual for chapter 1 provides an opportunity for you to become more familiar with Gentile's taxonomy of motor skills by applying it to

sports skills or to motor skills we experience in the everyday world.