

## Chapter 1

### Understanding Motor Development: An Overview

PED 201  
Dr. Jeff Walkuski

---

---

---

---

---

---

---

### KEY CONCEPT

(FIGURE 1.1)

#### “Motor Development”

*Continuous change in motor behavior throughout the life cycle, brought about by interaction among the requirements of the movement task, the biology of the individual, and the conditions of the learning environment.*

© Gallahue, D.L., Ozmun, J.C., & Goodway, J.D. (2012). *Understanding Motor Development*. Boston: McGraw-Hill.

---

---

---

---

---

---

---

### Understanding Motor Development

- ▣ Knowledge of the processes of development lie at the core of education.

---

---

---

---

---

---

---

### **Motor Development**

- ▣ The continuous change in motor behavior seen throughout the life cycle.

---

---

---

---

---

---

---

### **Motor Development**

- ▣ A field of study that cuts across various disciplines.
- ▣ A life span perspective that looks at events from conception to death.
- ▣ Age-related but not age-dependent.

---

---

---

---

---

---

---

### **Motor Development**

- ▣ A continuous/discontinuous process
- ▣ Encompasses all change over time
- ▣ Highly specific
- ▣ Highly individualized

---

---

---

---

---

---

---

## Motor Development

- ▣ Studied through a process or product orientation.

---

---

---

---

---

---

---

## Motor Development and Growth

- ▣ If movement serves as a window to the process of motor development, then we can examine the sequential progression of movement abilities throughout the lifespan.




---

---

---

---

---

---

---

## Motor Development and Growth are studied many ways...

- ▣ Longitudinal studies
- ▣ Cross-sectional studies

---

---

---

---

---

---

---

### **Motor Development and Growth are studied many ways...**

- ▣ Experimental studies
- ▣ Cross-cultural studies
- ▣ Observational studies

---

---

---

---

---

---

---

### **Age Classifications**

- ▣ Ways that development is classified.
- ▣ Again, age-related not age-dependent.

---

---

---

---

---

---

---

### **Age Classifications of Development and Growth**

- ▣ Chronological age
- ▣ Morphological age
- ▣ Skeletal age
- ▣ Dental age
- ▣ Sexual age

---

---

---

---

---

---

---

### Terminology

- ▣ The process of *Motor Development* is revealed primarily through changes in movement behavior.
- ▣ The process *Growth* is revealed primarily through observable physical changes.

---

---

---

---

---

---

---

### Terminology

- ▣ Maturation: qualitative changes that enable one to go to higher levels of functioning.
- ▣ Experience: factors within the environment that may alter the appearance of developmental characteristics.
- ▣ Adaptation: the complex interplay between the environment and the individual.

---

---

---

---

---

---

---

### Motor Development

Influenced by the interaction of the:

- ▣ Task
- ▣ Individual
- ▣ Environment

---

---

---

---

---

---

---

## Movement Forms

- ▣ Movement
- ▣ Movement pattern
- ▣ Fundamental movement pattern
- ▣ Movement skill
- ▣ Sport skill

---

---

---

---

---

---

---

## Movement Terms

- ▣ Gross vs Fine
- ▣ Discrete, Serial, & Continuous
- ▣ Open & Closed

---

---

---

---

---

---

---

## Classifying Movement: One Dimensional Schemes

Muscular Aspects	Temporal Aspects	Environmental Aspects	Functional Aspects
-Gross -Fine	-Discrete -Serial -Continuous	-Open -Closed	-Stability -Locomotion -Manipulation

---

---

---

---

---

---

---

### Classifying Movement: Two Dimensional Models

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>▣ <u>Gentile's Model</u><br/>(table 1.5)</li> <li>▪ Environmental context</li> <li>▪ Functional aspects</li> </ul> | <ul style="list-style-type: none"> <li>▣ <u>Gallahue's Model</u><br/>(table 1.6)</li> <li>▪ Phases/stages</li> <li>▪ Functional aspects</li> </ul> |
|---|--|

---

---

---

---

---

---

---

### A SIX STEP MULTIDIMENSIONAL SCHEME (TABLE 1.7)

#### DETERMINE...

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>▣ 1. The Role of the Instructor</li> <li>▣ 2. The Purpose of the Instruction</li> <li>▣ 3. The Learner's Developmental Level</li> </ul> | <ul style="list-style-type: none"> <li>▣ 4. The Learner's Level of Skill Learning</li> <li>▣ 5. The Elements of the Task</li> <li>▣ 6. The Performance Requirements of the Task</li> </ul> |
|--|--|

---

---

---

---

---

---

---

### Multidimensional Schemes (cont.)

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>▣ 1. Determine your Role &gt;</li> <li>▣ 2. Determine your purpose &gt;</li> </ul> | <ul style="list-style-type: none"> <li>▣ 1. Am I a Parent, Teacher, Coach or Therapist?</li> <li>▣ 2. Am I teaching skills for Daily Living, Recreation, Sport or Rehabilitation?</li> </ul> |
|---|--|

---

---

---

---

---

---

---

### Multidimensional Schemes (cont.)

- ▣ 3. Determine the developmental level of the learner >
- ▣ 3. Is learner at the *Reflexive, Rudimentary, Fundamental or Specialized* level of motor development?
- ▣ 4. Determine the learner's skill level >
- ▣ 4. Is learner at the *Beginning, Intermediate, Advanced or Elite* skill level?

---

---

---

---

---

---

---

### Multidimensional Schemes (cont.)

- ▣ 5. Determine required elements of the movement task >
- ▣ 5. What is required?
  - Functionally: (*locomotion, manipulation, stability*)
  - Temporally (*discrete, serial, continuous*)
  - Muscularly (*gross, fine*)
  - Environmentally (*open, closed*)

---

---

---

---

---

---

---

### Multidimensional Schemes (cont.)

- ▣ 6. Determine the performance requirements of the task >
- ▣ What elements of physical and motor fitness influence performance of the task?
  - *strength & endurance*
  - *aerobic endurance*
  - *joint flexibility*
  - *body composition*
  - *speed*
  - *balance*
  - *power*
  - *agility*

---

---

---

---

---

---

---