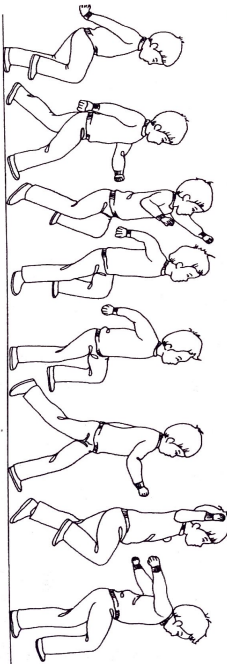
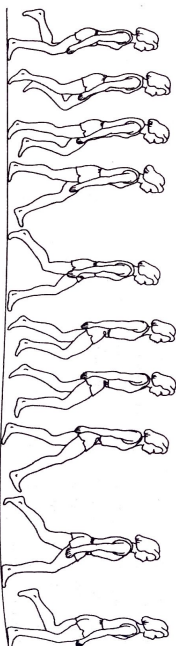


Stage 1



Stage 2



Stage 3

Figure 12.3 Developmental Sequences of Skipping

Reprinted with the permission of Dr. Cynthia Branta and the Michigan State University Motor Performance Study.

are attempting the skill, or (3) the one-sided ipsilateral skip pattern described above. Emerging skippers (stage 2) can maintain a rhythmic step-hop pattern, but the vertical component is high and there are exaggerated and flailing arm actions with high knee actions. The proficient (stage 3) skipper demonstrates the characteristics shown in Table 12.5.

In terms of the interskill sequence, skipping is one of the last locomotor skills to develop. From its initial patterns to proficiency, the intraskill sequence develops in the shortest amount of time, from approximately 4½ years to 6½ years (Seefeldt & Hubschtricker, 1982; see Figure 11.4). Although girls and boys demonstrate the initial skill around the same time, there is a slight advantage to girls

TABLE 12.6 Component Developmental Sequences of Skipping

- I1 One-sided skip**—An ipsilateral pattern where one side skips and the other side just steps.
- I2 Alternating flat-footed step-hop pattern**—A skipping pattern that has a flat-footed landing.
- I3 Alternating ball of foot step-hop pattern**—A proficient skipping pattern with alternating step hop and landing on the ball of the foot.
- A1 Blizard assist**—Arms move in unison pumping up and down, resulting in a high vertical component on the hop.
- A2 Semi-opposition**—Arms move forward together at first, then break into semi-opposition.
- A3 Opposition**—Arms swing loosely in opposition to the non-support leg.

in reaching the proficient form about 6 months before boys.

Component Developmental Sequence of Skipping

A two-component sequence has also been identified for the leg and arm components (Robertson & Hahverson, 1984). Table 12.6 shows the arm and leg components, and these components in many ways reflect the total body stages.

Skipping is a complex and often frustrating skill for young children. Although there is not much empirical data to guide the teaching-learning process, the developmental sequences and age-related data are valuable. As the skill develops so rapidly between the preschool/kindergarten years, parents, teachers, and physical educators should provide children with plenty of opportunities to practice the skill and the prerequisite skill of hopping.

JUMPING

Jumping is a body projection skill that involves a take-off and landing on both feet. It is an explosive skill that requires significant muscular strength, multijoint coordination, and dynamic balance in order to be performed proficiently. There are three phases to a jump: a preparatory phase where the body positions itself for the impending jump, a force-producing phase where the body generates the forces necessary to get off the ground, and a

follow-through phase where the body lands and attenuates the forces generated. The vertical jump and the horizontal jump are the two jumps on which we have the most information. Jumping in general is a well-utilized skill in many sports. Sports like gymnastics, basketball, and volleyball demonstrate remarkable feats of proficient jumping skills, particularly the vertical jump. Other field events such as high jump and long jump show how elite athletes can maximize their body mechanics and jump great heights and distances.

Proficient Jumpers

Proficient jumpers have learned how to control their body dynamics during the preparatory, force producing, and follow-through phases of the jump. Jumping has a significant timing element to it, and proficient jumpers can coordinate multiple body parts to place the body in an effective position to produce the most force in the line of the intended direction of the jump. During the airborne phase jumpers can reposition their body to attenuate the landing forces from the jump. Table 12.7 illustrates the characteristics of a proficient jumper, in this example performing a horizontal jump.

Initial long jumping often starts with prejumping behaviors. This typically consists of the child repeatedly bouncing up and down with knee flexion and extension and arms moving bilaterally. In these prejumping behaviors the child is not actually able to coordinate his body