

1. The stage of learning
 - 1.1. We human beings are always interested in learning skills. Other animals cannot acquire a new skill. Some animals, pet dogs, seem to learn a new skill, such as soft of shaking the hand like putting the hand on our hand. They may be able to pick up an item when we ask for it because they obey us for being fed or food. That is completely different from the skill we acquire.
 - 1.2. We want to know what to do and how to do it in consciousness when we learn a new skill. This is called the cognitive stage.
 - 1.2.1. It confuses us to learn a new skill. How can we move the arm, hand, or fingers on one side for the new skill we are learning while holding them on the other side?
 - 1.2.2. Is there anything we can apply for it from our past experience?
 - 1.2.3. How can we use the strength of the muscles while learning the skill?
 - 1.3. We make a lot of errors while trying to acquire the new skill.
 - 1.3.1. The errors we made are the best way to find out problem solving.
 - 1.3.2. Error can be stress in mind, which may help us focus, depending on the amount of stress. If the error is too big to solve, we cannot convert it to stress. Rather we think of no way to solve it.
 - 1.3.3. Learners cannot find out the reason for the error they made.
 - 1.3.3.1. They need some cues that help seek the solution.
 - 1.3.4. The most important thing during the first stage of learning is timing of each of the segment movements on both mobility and stability sides through making errors.
 - 1.3.5. Timing is the pattern of movement regardless of movement speed.
2. Once we learnt the timing how we can move each of the segments, we are barely able to repeat the same movements for the skill. This is called the associative stage, in which we can achieve the goal of action, or the skill, in a certain environment.
 - 2.1. We focus on the movement we engage in, but we cannot be aware of other environments.
 - 2.2. Repetition is part of achieving the goal of action. We also get to know how to solve the problem by ourselves when we make mistakes or errors during practice.
 - 2.2.1. Detecting problem solving enables us to refine our skill.
 - 2.2.2. Problem solving by ourselves also helps us focus on the timing of movement as consistently as possible.
 - 2.2.3. This stage increases our capability to detect or identify the errors we make during the repetition of practices.
3. The last stage for the new skill is an autonomous or independent stage.

- 3.1. We create the practice to minimize the errors we make to polish or improve the skill.
 - 3.1.1. Habitual movement with the skill makes us satisfied. All the movements are automatic.
- 3.2. One of the creative practices is also known as “repetition without repetition.”
 - 3.2.1. Once we acquire the skill and we develop the movement patterns with an optimal timing regardless of situations, also called consistency or stability.
 - 3.2.2. We must be persistent to increase the capacity of the skill as continuing to improve.
 - 3.2.3. The concept of repetition without repetition is to seek problem solving.
4. In the early stage of learning a new skill
 - 4.1. We identify all the equipment or tools we use for the skill, such as a racket, golf club, or ball.
 - 4.1.1. We also identify all the environment associated with the skill we learn, such as a type of floor or surface, indoor or outdoor.
 - 4.2. We can adapt all our movement patterns to the situation in the later stage regardless of environmental conditions, such as audience or not.
 - 4.3. We are finally able to perform the skill with an economy of effort or minimizing attentions to our movement patterns. Instead, we have more room to be aware of other things, such as teammates, opponents, or situations we face during competitions.
5. Typically, skills can be divided into two types: one is closed skills; and the other is open skills.
 - 5.1. Closed skills require movement coordination pattern. For instance, baseball pitchers must utilize the ground reaction force in both the drive and stride legs, which must be transferred to the upper body.
 - 5.1.1. The throwing arm should be extended with shoulder rotation, horizontal adduction, the forearm supination to pronation, and ulnar deviation from the cocking phase through the ball release phase. This movement pattern has tremendous coordination.
 - 5.2. Open skills on the other hand requires athletes to develop adaptation as well as anticipation in their skills. For instance, soccer players must quickly watch or be cautious in the situation to prepare for opponent offensive patterns. In other words, they need to anticipate a variety of situations that may occur.
 - 5.2.1. We cannot attain adaptation and anticipation without similar experiences, such as many games or competition experiences.
6. The background correction is another coordination that takes place without consciousness.

6.1. Learning a skill is like solving a problem.

6.1.1. We tend to be aware of the extremity we move, such as arms or legs. What about the trunk?

6.1.1.1. The trunk or core muscles must be coordinated with extremity movement and the internal force the extremity generates during performance.

6.1.1.2. The core muscles can be coordinated with the reaction forces under automatisms.

6.1.1.3. We eventually control extremity movements in the numerous details with equilibrium between internal and external force, also known as background corrections.

6.1.1.4. The background corrections should be independent of motor skills.