- 1. One of the questions for any of the instructors might be how we can deliver information to learners.
  - 1.1. The way to deliver information depends on the level of performance. For instance, at the beginning of acquiring a new skill we need to know how we move limbs. That is known as a cognitive stage.
  - 1.2. It is not a rule but how height how far we should bring up the arms simultaneously or separately when we learn a golf swing.
  - 1.3. What about the legs, knee joints, and hip joints? How should we hold each of the joint angles in terms of flexion.
    - 1.3.1. For a beginner, she or he needs to know each of the joint angles in the lower legs and the height of the arm as well as the trunk, which must be rotated without swaying.
    - 1.3.2. The beginner is looking for a specific answer in each of the phases during golf swing mechanics.
- 2. Sensory input, especially proprioception, is the tool we perceive and store how we perceived in the frontal lobe.
  - 2.1. Such specific receptor corresponds to muscle activity during movement.
    - 2.1.1. The muscle spindle, located in the deep layer of muscle fiber, monitors the length and contraction velocity of the muscle.
    - 2.1.2. The Golgi tendon organ is also another receptor, located at the junction between the muscle and the tendon, monitoring the tension of muscle contraction.
- 3. All the beginners who are interested in playing golf must at least watch golf during a competition in a gold course or golfers practicing at a driving range.
  - 3.1. They have at least some ideas what golf swing is and likely how to swing an iron.
  - 3.2. Knowing what golf swing is totally different from how to swing a golf iron.
- 4. Which coaching style is more effective way demonstration or verbal instruction?
- 5. When we demonstrate a skill as an experienced instructor, we must perform the skill correctly, regardless of speed or temp of the movement.
  - 5.1. Each of the skills contains invariant features or movement patterns, which correspond to the goal of action to achieve.
    - 5.1.1. The action should be the same in terms of invariant movement or the motion of segments, for instance during swinging a golf iron, regardless of movement speed.
  - 5.2. Learners tend to watch the invariant movement in the performance demonstrated by the instructor.
    - 5.2.1. The volume of invariant features, demonstrated by a skilled instructor, are often too much for beginners to know what to do followed by next practices.

- 5.2.2. The beginner will realize how difficult the skill is when performing.
  - 5.2.2.1. She or he even watches the instructor's demonstration carefully and tries to mimic it as much as possible.
- 5.2.3. A demonstration often makes the beginner discouraged unless it emphasizes problem solving.
  - 5.2.3.1. Pointing out a common error helps the beginner encouraged to solve problems.
  - 5.2.3.2. The most important way for the beginner is to learn problem solving rather than to imitate the skill.
- 5.2.4. It can be beneficial for the beginner to watch another beginner performing because she or he can find out errors, and why another beginner does not perform like the instructor.
- 6. How does problem solving help?
  - 6.1. Problem solving does not overwhelm (or no pressure, no stress) the beginner to think about the whole performance.
    - 6.1.1. The beginner can focus on one thing to improve the skill and may continue to find another problem which she or he can solve.
- 7. The beginner's capability when to demonstrate
  - 7.1. It takes time to increase each of the capabilities or abilities in acquiring a skill.
  - 7.2. Any of the demonstration should be minimized up to the beginner's capability.
    - 7.2.1. Otherwise, she or he will be confused with what to do during practice.
    - 7.2.2. All the information beyond the capabilities will be useless and it may be potentially dangerous illusion if the beginner attempts the skill like the demonstration.
- 8. How to memorize the demonstration the beginner observed
  - 8.1. It is beneficial only if the beginner can rehearse what to observe while organizing the information of demonstration.
- 9. Verbal instruction
  - 9.1. Verbal instruction helps a beginner to focus on what to do in practice because of the limited information provided by the instructor.
    - 9.1.1. It helps her or him pay attention to each of the movements.
  - 9.2. The instructor may provide an idea similar to actual movement. For example, holding a barrel when you rotate the trunk. This may help keep the arms in parallel the whole way of swinging.
  - 9.3. Verbal instruction can include speed, accuracy of the action of the goal, skill.
    - 9.3.1. The content of verbal instruction should be short enough for the beginner to memorize.

- 9.4. An instructor can provide the reason of explanation that helps the beginner focus on the invariant feature in the environment of performance.
  - 9.4.1. Never says "don't miss," which can make the beginner more likely to miss.
- 9.5. It is easy to store the instruction as long as the beginner pay an attention because she or he communications with proprioception during the performance.