To Break It Down or Not Break It Down: That Is The Question!

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Learning a new skill, even a seemingly simple one, can be an overwhelming task for a beginner. A question often faced by the practitioner as a result is whether or not to break the skill into parts for initial practice. There are certainly situations where breaking a skill into component parts and practicing them separately before integrating them to perform the skill as a whole is advantageous. However, there are other occasions where practicing the whole skill would be more beneficial. So how does one decide what strategy will be most effective in a given situation? And if part practice is employed, how should it be organized?

Which Method?

The decision as to which method to use is dependent on the nature of the skill, which is determined by assessing two skill variables: skill complexity and skill organization. Skill complexity refers to the number of components or parts of a skill and the information processing load (i.e., the amount of thought) required for performance proficiency (Coker & Hunfalvay, 2004). Highly complex skills characteristically have many parts and/or require a great deal of thought or concentration in order to perform the skill successfully. A tennis serve, a football punt, and fielding a ground ball are examples. To determine a skill’s complexity, a basic task analysis should be conducted whereby the number of steps and the number of decisions required to perform the skill are identified. See Figure 1 for an example using the tennis groundstroke.

Intuitively, it would seem that for skills assessed as being high in complexity, one should employ part practice. However, without also considering skill organization, this decision would be premature. Skill organization refers to the relationship between the parts of the skill. A skill is considered to have low organization when its component parts are independent of one another as is found in a rhythm stick sequence. In this situation, performance on one part of the skill does not influence the next part. On the other hand, a skill has high organization when its parts are interdependent. An example of such a skill would be bowling because performance on one part of the skill influences performance on the next part.

Breaking down skills that are high in organization can jeopardize their underlying dynamics and change their natural rhythm when the parts are later integrated.

Once the skill has been analyzed and its complexity and organization established, the appropriate practice strategy can be determined. For those skills assessed as low in complexity and high in organization, practicing the whole skill is preferred. If the opposite interaction exists, where the skill is high in complexity and low in organization, learning will be more efficient if part practice is employed. Unfortunately, the decision to employ part or whole practice is less clear when skills are either high in both complexity and organization.
Techniques for Breaking Down Skills

Once the decision to break the skill into parts is made, several methods are available for its implementation. In the part-whole method, each part is first practiced separately. Once the desired degree of proficiency is achieved for each part, they are combined and the skill is practiced in its entirety. It is important throughout this process to teach the students how the individual parts are integrated into a cohesive unit for optimal learning.

The progressive part method involves practicing the first two parts of the skill separately. Once a criterion level has been demonstrated, those two parts are then combined and practiced together. The third part is then introduced and practiced independently. Again, once the desired proficiency has been achieved, this part is combined with the first and second parts and the three are practiced as a unit. This pattern continues until all parts have been integrated. This alternative approach is advantageous in that it provides the student with a better understanding of how the parts fit into the whole.

Finally, a variation of the above method is the repetitive part method. Here, the first part is practiced separately. Rather than practicing the second part separately, it is immediately added to the first and they are practiced together. Again, the pattern continues until all parts are integrated into the whole skill (see Figure 2).

In addition to selecting a part practice method, the practitioner can present the parts using either forward chaining or backward chaining. Forward chaining involves practicing the first part of the skill then the second part of the skill, then the third and so on. Backward chaining, on the other hand, involves practicing the last part of the skill, then the second to last part of the skill, then the third to last part of the skill and so on. This reverse sequence provided through backward chaining allows students to perform the fun part of the skill first (e.g., the kick). This in turn could lead to greater motivation (Christina & Corcos, 1988; see Figure 3).

Conclusion

Skill complexity and skill organization interact to provide direction as to whether whole or part practice should be employed in a given situation. Careful assessment of these two variables therefore enables the practitioner to determine the optimal method for developing skill proficiency.

References


FIGURE 3 Illustration of forward and backward chaining combined with the part whole method.