“Schema Theory: A Critical Appraisal and Reevaluation”

In 1975, Richard A. Schmidt published an article that would become an influential article in the field of motor learning. This article has been criticized and reviewed for the past twenty five years and has slowly been dismissed as a “viable theoretical perspective” due to tests that have produced evidence that support “motor programs.” Though the premises for the explanation for many of our general motor processes and how one learns a movement still “receive strong empirical validation.”. Richard Schmidt’s article did leave a variety of questions that were unable to be answered at the time testing and experimentation. The only thing is that no one else could answer the questions either.

In the article that I read, many of other articles were reviewed and in those articles multiple questions presented by Richard Schmidt were put to test. These articles tested the “Notion of Independent Memory States or Processing Mechanisms”, “Variability-of-Practice Hypothesis”, “Effector Independence”, “Reliance on Motor Program Notions” and the “Notion of Invariance”. Each subject is supported with explanations and testing to support the hypothesis that each had made. The authors of the article that I read has reviewed all these articles and the given and explanation of what each has done and what things that they can do to better their experiments to help eliminate factors that can influence their results.

All the authors of the articles reviewed stated different aspects of Richard Schmidt’s original article that they were further testing to either reinforce what was stated by Schmidt or to try and clarify questions or hypothesis that were otherwise unclear. In the article all the reviewed articles experimental data and procedures were clearly stated so that one could understand what was being
tested and why. There were several tests that actually were testing several different aspects at the same time. Some tested different types of movement such as simple movements versus complex movements. Other tests used different time periods in which one was allowed to practice the movement in the experiment. The last tests actually regulated how the subjects were allowed to practice such as how many times they were allowed to practice before testing.

After the articles had been reviewed by the authors of the article that I read they had come to some conclusions. The “Notion of Independence Memory States or Processing Mechanisms” proved that the independence of “movement structure and the movement parameters” has been more than fully proven. “Variability-of-Practice Hypothesis” proves that parameter specification is enhanced by variable as opposed to constant practice.” In the reviewed article “Reliance on Motor Program Notions” there were debates over if the motor program metaphor is a reliable metaphor for the explanation of motor skill control and learning which Schmidt gives evidence that out weights his opposition. The “Notion of Invariance” is given a great challenge from many other experiments that suggest a “movement sequence” compared to invariance in movements. Though analogies that had become popular that “described the invariant and variant features of [motor programs] suggest true invariance.”

This article touches on many different aspects of the schema theory and tests associated with motor learning. At the end of each article summary was a critique which gave examples in which each experiment could be refined to eliminate factors in the test. One thing in a whole that was said is that “A new theory is called for, at least in part, by what we view as a void in the ability of current theoretical perspectives to effectively account for the learning and transfer of motor actions.”
For me, reading this article allowed for different views on motor learning theories and how each is viewed by others in that particular field. It also allows me to have a better understanding, from how the experiments were performed, on how to incorporate many different techniques to teach individuals particular tasks and to help with ensuring a higher degree of success.

Bibliography