Let’s Make It Real:  
A Commentary on Observation Research

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Through my own research, and my practical experiences as a competitive athlete and coach, I am confident in stating that observing a demonstration, whether that be of the self or of someone else, is an indispensable tool when teaching motor skills (see also Ste-Marie et al., 2012). Observation, in my opinion, is one of the most valuable forms of conveying information that not only enhances learning and performing but also contributes to the psychological well-being of an individual in almost any area of life. Thus, research on the topic excites me and I read with interest the four articles of this special section. The authors have not only contributed to our current knowledge and understanding of motor skill learning, but have also provided insights and avenues for future explorations. My goals for this commentary include highlighting the researchers’ unique contributions to the current literature, possible limitations to consider, and, most importantly, future directions to inspire innovative ideas.

Contribution to Observation Literature

Researchers are continuously exploring the use of observation in motor learning and these four articles have helped clarify some uncertainties within this literature and have also provided new insights for areas not yet investigated. In Hebert’s research, participants performed a cup stacking task in groups of three in which each participant watched each other’s physical attempts, resulting in 20 physical trials and 40 observational trials for each participant. This resulted in three groups which differed in terms of the scheduling of observational and physical practice; one group did the physical trials before any observation and two groups observed execution of the task prior to their own physical attempts. For the latter two groups, observation of the two models followed a different sequence; the person who physically practiced second followed an ‘observe, practice, observe’ schedule, whereas the third person followed an ‘observe, observe, physically practice’ schedule. The findings of Hebert’s experiment were consistent with others that have shown that observing a model, or models, before physically attempting a skill

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enhances learning of that skill (e.g., Weeks & Anderson, 2000). His work did, however, bring forth new understanding concerning the relative effectiveness of the ordering of the modeling interspersed with practice: an interesting concept that deserves attention. That is, observing more than one model and increasing the amount of observations prior to physical practice enhances performance to a greater extent than viewing a single attempt of a single model. Another unique aspect of the research is that responses to a self-report measure suggested that participants learned strategies from observing their peer which were used when performing the task. Although not statistically compared, the responses of the participants from the group that were exposed to two models prior to physical attempts provide some support that having more than one model provides an avenue for strategies to develop due to the nature of comparing the models. The results of this research also align with other research relating to learning models increasing the acquisition of motor skills due to increased engagement of cognitive processes (Carroll & Bandura, 1982; Lee, Swinnen, & Serrien, 1994).

Robertson and colleagues provided a new understanding of the contributions of combining skilled models with another model type within a practical setting. That is, the research was conducted in a gymnastics club where they compared viewing the self to viewing a combination of the self and a skilled model that was interspersed between physical attempts. Their results indicated that observation enhances gymnastics performance but the greatest benefit arises from combining two different model types (i.e., self and skilled model) as opposed to viewing the self only. This advantage of coupling two different model types was the case for both skill acquisition and error recognition (via video) for the skill being learned. A unique aspect is that with the experimental design including three acquisition sessions, and thus multiple retention tests were possible. Through these retention tests it was found that it was not until the second and third retention tests that learning differences became evident. This suggests that some interventions may need a longer time interval before learning effects begin to emerge. Their contribution to the literature not only supports that observation can be effective in applied settings but that viewing the combination of the self with a skilled model in conjunction with physical practice provides greater skill learning and recognition of errors than only viewing the self. Furthermore, the results of the error detection test provides evidence that cognitive processes occur alongside the viewing of a demonstration.

Karlinsky and Hodges ventured into the area of dyad practice in which they used a bidirectional approach wherein both participants acted as the model and learner, either in a turn-taking or concurrent manner. Furthermore, they demonstrated that dyad practice can be used while learning a whole skill and not limited to learning partial parts of the skill. The results indicated that both turn-taking and concurrent practice showed similar performance on a balancing task that continued throughout retention and transfer tests, and these modeling pairs did not differ from a single practice group. A beneficial contribution to the current literature is that their results showed concurrent practice during observation promoted higher coupling of movement patterns early in acquisition trials, yet this coupling did not have detrimental effects on learning (nor a beneficial one). Regardless, the authors bring forth an interesting caution associated with this finding in that one needs to consider whether the concurrent model is demonstrating errors or correct