Abstract: A Blended Approach to the Development of Psychomotor Skill in the Beginner Learner

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Purpose: Physical therapists provide patient care within a dynamic, evolving health care system for an increasingly complex patient population. Procedural knowledge, which includes psychomotor skill performance, is a vital subset of clinical reasoning necessary for effective clinical practice. There is a paucity of literature specific to physical therapist education offering guidance on the teaching of psychomotor skills, particularly in the beginner learner. Further, the COVID-19 pandemic necessitated the transition from in-person learning to blended (hybrid) delivery, forcing educators to grapple with how to best teach psychomotor skills in this learning environment. Providing meaningful course structure to promote learning in the blended environment, particularly for the development of psychomotor skills, became essential. Contemporary evidence on psychomotor skill development in medical education outlines specific recommendations on how to teach complex psychomotor skills. The purpose of this poster is to describe the application of an evidence-based framework to teaching psychomotor skills to beginner learners in a blended learning environment.

Methods: Using a modified 11-step framework founded in motor control and cognitive learning theories, several foundational clinical skills courses in a Doctor of Physical Therapy Program were redesigned to deliver a substantial portion of psychomotor skill content online prior to skill practice during an in-person lab immersion experience. The framework is designed to help students build a sequential cognitive and motor plan for approaching the learning of psychomotor skills. Online synchronous class time and asynchronous learning modules were used to outline intentionality of the learning framework, deliver psychomotor skill content, and develop procedural knowledge. Innovative technology was used in the modules to deliver content, assess student skill, and provide feedback remotely prior to students attending an immersive lab experience which included 8, 6-hour lab sessions designed to hone psychomotor skills and add complexity through scaffolded activities. Formative and summative assessments occurred during lab immersion.

Results: Evaluative data include assessment scores, course evaluations, and qualitative student feedback. Students reported high satisfaction with these courses at the end of the semester. Data from course evaluations indicated scores were equal or improved over scores from previous years. Students commented that courses were highly organized, asynchronous videos were effective for learning remotely, and the immersive labs were highly valuable and perceived as effective. Student feedback indicated that they felt prepared for immersive labs and were comfortable applying psychomotor skills to patient cases. Faculty commented that students were better prepared for lab-based practice and instruction compared to previous course structures. Importantly, students performed at or above expectations on all assessments.

Conclusion: In response to changes in course delivery due to the COVID-19 pandemic, a successful blended learning environment was created that was comparable to previous in-person curriculum structures. Using a modified 11-step framework supported the delivery of

psychomotor skill content prior to “hands-on” practice of skills leading to effective psychomotor skill development. Adaptations to the teaching, learning, and assessment of psychomotor skill were received favorably by students and aligned well with evidence regarding psychomotor skill development in the beginner learner and may be adopted in future curricular structures.