UBC School of Kinesiology
THESIS PROPOSAL

Date:	**19 March 2015 | 9:30am**	Location:	**Scarfe Room 304A**
Student Name:	**April Karlinsky**	Degree:	**PhD**
Title:	*Motor learning through a social lens*		
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ABSTRACT. Despite the ubiquity of social motor learning settings, the vast majority of motor learning research has been conducted on individuals in isolated environments. The overall aim of my thesis is to study how an individual's performance and learning experiences are modulated by the presence of a co-learner. While much research has supported the promotion of cognitive effort in individual practice, often achieved by incorporating 'interference' into practice, the role of interference in social learning contexts is unclear. In my first set of studies (Part 1 of the research program), I employ alternating, self-directed, and peer-directed practice paradigms to evaluate how pairs impact the learning of multiple skills (either golf putting skills or different keystroke sequences), when there is potentially shared contextual interference and when partners can influence the practice choices of their peers. In Study 1 (partially conducted), I manipulated turn-taking partners' practice schedules, such that they matched (relatively low inter-person contextual interference, CI) or mismatched one another's (relatively high inter-person CI). Initial results revealed an advantage of matched practice towards learning, suggesting that dyad learning of a complex skill is enhanced by 'shared' practice more so than 'interfering' practice. The addition of an individual control group (in progress) will provide insight into the potential benefits (or costs) of paired practice. Interference in practice can also be manipulated by allowing learners to determine their own practice schedule, referred to as self-directed practice. Previous research has shown that self-directed practice can enhance learning over experimenter-imposed and yoked practice schedules. In Study 2 (completed), I manipulated whether learners (Actors) practiced individually or in pairs, and whether the Actor or their observing peer partner directed the Actor's practice schedule. Working in pairs was as effective as practicing alone, and peers provided performance-contingent schedules that were as effective as self-directed schedules. In Study 3 (proposed), I will continue this line of investigation by studying how self-directed practice (now in a turn-taking practice context) is influenced by the practice of a partner (following experimenter-imposed or self-directed practice schedules), in terms of practice scheduling decisions and learning. In the second set of studies (Part 2), I propose to study pair-based concurrent practice, where partners simultaneously physically practice, either independently (Study 4), or in an interlocked fashion (Study 5). Recent research has shown that observing an actor, or even knowledge of the actor's task, interferes with concurrent action production. I will evaluate how pairs impact the learning of a single skill, when there is potentially online partner-related interference (Study 4) and/or the opportunity to 'co-represent' a co-learner's task (Study 5). In Study 4 (proposed), both members of the pair will simultaneously serve as actors and observers on a stabiliometer balance task. This study will provide insight into the potential interference-related influence of a partner on performance and learning, compared to individual practice. In Study 5 (proposed), partners will engage in interlocked practice of a bimanual polyrhythm, such that each partner will practice part of a skill concurrently so that together the whole skill is achieved. This dyad group will be compared to individual practice groups (who will unimanually practice one, or bimanually practice both of the component rhythms) to assess what can be learned via shared practice, based on current joint action concepts of co-representation (wherein the tasks and action plans of a co-actor are integrated with one's own). The proposed research is expected to enrich our understanding of motor learning, as it applies to a social setting, and the potential strengths (and mechanisms) of peer-based practice. t methods of practice.