

## How should we conceive repetition in sport practice?

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There are different theoretical perspectives on how practice can shape athlete development and performance preparation, some yielding greater pedagogical effectiveness and efficiency than others. This presentation focuses on a key concern of coaches, teachers and professional support practitioners in sport, *repetition in practice*, from an ecological dynamics rationale. While it is accepted that repetition is important in practice to enhance learning, traditional pedagogical approaches have been greatly influenced by movement decomposition and technique rehearsal.

So, what can we glean about repetition in practice from contemporary ideas in ecological dynamics?

A major theoretical influence on the concept of repetition in practice from an ecological dynamics perspective remains Karl Newell's (1986) *model of interacting constraints*. The nonlinear and dynamical nature of the relationship between the individual, task and environment means that emergent performance solutions need to be continually adapted, due to athlete development and other changes over the lifecourse. This constant process of refining performance functionality continues throughout all phases of athlete development, where it continually encounters another major influential idea in an ecological conceptualization of practice: Nikolai Bernstein's (1967) emphasis on *repetition without repetition*.

Taken together, these major ideological influences on an ecological conceptualization of practice task designs suggest that repetitions should promote a continual *search* by athletes and teams for evermore *functional performance solutions*, regardless of expertise, experience and skill levels. This exploratory process has been termed *skill adaptation*, emphasizing that *repetition without repetition* in practice requires task designs should continually seek to challenge performers at all levels to repeat the solving of performance problems, to satisfy dynamic task constraints.

Task designs, play and physical activities, and games for repetition without repetition in practice become more specific and narrower at the elite end of the continuum (signifying *specialized practice*). During less specialized phases, athlete *enrichment* through play, games and activities of a more *generalized* nature enhances the learner's capacity to use functional movements to explore the performance landscape to discover and adapt more refined performance solutions.

Finally, focusing practice designs on *repetition without repetition* requires great pedagogical emphasis on: (i) carefully-selected use of augmented information (feedback and verbal guidance) to guide search and exploration, (ii) expectations of individualized, adaptive performance solutions from each athlete, and (iii), problems and activities which engage multiple dimensions of the individual, integrating cognition, perception and actions.