Title
Influence of Curriculum Structure on Early Skill Learning during a Virtual Throwing Task

Permalink
https://escholarship.org/uc/item/2jt000kz

Journal
Proceedings of the Annual Meeting of the Cognitive Science Society, 45(45)

Authors
Frater-Baird, Rebecca
Patil, Gaurav
Richardson, Michael J
et al.

Publication Date
2023

Peer reviewed

Influence of Curriculum Structure on Early Skill Learning during a Virtual Throwing Task

Rebecca Frater-Baird
Macquarie University, Sydney, Australia

Gaurav Patil
Macquarie University, Sydney, NSW, Australia

Michael Richardson
Macquarie University, Sydney, Australia

Patrick Nalepka
Macquarie University, Sydney, NSW, Australia

Abstract

Perceptual-motor tasks offer redundant solutions to achieve a goal. However, not all solutions are equally robust to error-producing variability and thus, skill learning requires the search for behaviors that are error-tolerant. Throwing a ball to hit a target is a skill that has been studied via the "skittles" task, a simplified 2-dimensional throwing environment. The study investigated whether participants learning the skittles task benefit from task scaffolding via the placements of targets provided by either a human confederate posing as a teacher, or by the participant. These groups were compared to a third sample who received an unstructured curriculum consisting of randomly placed targets. The results demonstrate that participants in the unstructured training condition were better able to perceive the task's underlying solution geometry, compared to scaffolding provided by a human. Future work will explore methods to design training curricula that are more efficient in facilitating perceptual-motor skill development.