



NIE Office of Education Research Grant (OER) (2010-2013)

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The effect of task constraints on skill acquisition from a nonlinear pedagogical perspective

This project aims to determine key aspects of Nonlinear Pedagogy in terms of using external focus of attention instructions to enhance the learning process in a badminton serving task. The use of such instructions that emphasise a more sub-conscious control of movement with attention paid to the effects of movement rather than the form of the movement seems to encourage the acquisition of important affordances in skill learning. Key phases of the project include examining adherence to such instructions, impact of different focus attention instructions as a function of skill level and also the effect of such instructions as a function of practice. The research is funded by the Office of Educational Research grant from the National Institute of Education, Nanyang Technological University, Singapore. The funding for this project is S\$20,000 (SUG 20/12 CJY). The project is on-going.

An investigation of Nonlinear Pedagogy and its application in Singapore Schools

This project aims to determine the impact of Nonlinear Pedagogy on the learning of game skills (a net barrier game) on a Singapore School. There are three phases of work for this project, which examined the acquisition of a modified tennis task in i) a more controlled setting, ii) in a 1v1 game setting and iii) in a series of actual Physical Education (PE) lessons within the PE curriculum. Major findings include the beneficial advantage that Nonlinear Pedagogy can provide in encouraging greater exploratory behaviours and thus the presence of degeneracy in skill acquisition and also more enhanced development of game play behaviours in actual game settings. Teachers and students also provided positive perception of the effectiveness of Nonlinear Pedagogy. The research is funded by a Office of Educational Research grant from the National Institute of Education, Nanyang Technological University, Singapore. The funding for this project is S\$ 249,325.30 (OER15/09 CJY). The project was completed in February 2014. The research team included experts in the field of Ecological Dynamics from University of Otago (New Zealand) as well as from Nanyang Technological University in Singapore.

<http://www.nie.edu.sg/physical-education-and-sports-science/laboratoriessport-facilities/motor-behaviour-laboratory/research>