**Errorless learning and analogy instruction: Comparing implicit learning methods**

*Jamie S. North, Sam Warren & Oliver R. Runswick*

When executing a motor skill in a high-pressure situation, a decrement in performance is often observed. Anxiety can cause performers who have learned via explicit instruction to reinvest in previously stored declarative knowledge and regress towards a more conscious state of motor control often exhibited by novices (Masters, 2002). Implicit learning has been shown to reduce this performance breakdown but there has been little research comparing the relative effectiveness of alternative implicit learning methods. We used a golf-putting task to compare errorless learning, analogy instruction, and explicit instruction methods to ascertain which would result in superior learning and retention under pressure. We hypothesised that, under pressure, both implicit methods would result in more accurate putting performance relative to the explicit group, and that the errorless learning group would be more accurate than the analogy instruction group due to the reduced opportunity to accrue declarative knowledge. Three separate groups of novice golfers completed a pre-test putting task five feet from the hole and then received 100 acquisition trials with either, explicit instructions, an analogy instruction (move the club in a pendulum like motion), or errorless learning conditions (trials one foot from the hole). Immediately following acquisition a post-test was performed, followed by retention tests under non-anxious and anxious conditions 48 hours later. All groups improved putting accuracy with the explicit instruction group showing superior performance at post-test. However, both implicit learning groups performed more accurately in the anxiety based retention test than the explicit group, with no difference found between the errorless and analogy learning groups. Results support previous findings that show implicit learning is effective in minimizing skill breakdown under conditions of high-anxiety and both the use of analogies and errorless learning are equally effective strategies to promote implicit learning.