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Author(s)	Wong, A; Whitehill, T; Ma, E; Masters, R
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Effects of errorless learning on velopharyngeal movement control
A. Wong, T. Whitehill, E. Ma, R. Masters

Evidence from the implicit motor learning literature suggests that it is beneficial for learning if errors are minimized during the acquisition phase. This study aims to investigate whether the same principle holds for the learning of velopharyngeal movement control. Normal speaking participants were asked to learn to produce hypernasal speech in either an errorless learning condition (in which the number of errors was minimized) or an errorful learning condition (in which the number of errors was maximized). The nasality level of the participants' speech was measured by nasometer and reflected by nasalance scores (in %).

Errorless learners practiced producing hypernasal speech with a threshold nasalance score of 10% at the beginning, and gradually increasing to a threshold of 50% at the end. The same set of threshold targets were presented to errorful learners but in a reversed order. Errors were defined by the proportion of speech with a nasalance score below the threshold. Preliminary results showed that, relative to errorful learners, errorless learners displayed fewer errors (50.7% vs. 17.7%) and a higher mean nasalance score (31.3% vs. 46.7%) during the acquisition phase. Furthermore, errorless learners outperformed errorful learners in both retention and novel transfer tests.