

## Replication of Meaningful Gesture Study for N400 Detection Using a Commercial Brain-Computer Interface

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**Abstract :** In an effort to test the ability of a commercial grade EEG headset to effectively measure the N400 ERP, a replication study was conducted to see if similar results could be produced as that which used a medical grade EEG. Pictures of meaningful and meaningless hand postures were borrowed from the original author and subjects were required to perform a semantic discrimination task. The N400 was detected indicating semantic processing of the meaningfulness of the hand postures. The results corroborate those of the original author and support the use of some commercial grade EEG headsets for non-critical research applications.

**Keywords :** EEG, ERP, N400, semantics, congruency, gestures, emotiv

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