Cognitive Arithmetic revisited: Effects of equation presentation format

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Abstract: The present study examined the cognitive processing of basic arithmetic. Thirty university students participated in a simple calculation verification experiment. In the experiment, a series of simple addition problems were randomly presented to each participant in one of the twelve experimental conditions (3 + 4 = 8) or (8 = 3 + 4) or (?O + ?l = ") or (" = ?O + ?l) or (?O + 4 = ") or (8 = ?O + ?l) or (12 = ?O + ¡ã) or (8 + 7 = 13). Participants were asked to verify whether the equation is correct or not by pressing a key as quickly and accurately as possible. The general pattern of results revealed that both the variables of equation presentation format and the numerical surface form influences the equation verification time but this was not the case for the variable of problem size.