Emergence of Conscious Awareness of Underlying Verbal and Visual Rules
Over Time in Moderate Closed-Head Trauma Patients

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Abstract

The present research was undertaken to investigate the emergence of conscious awareness of underlying verbal and visual rules over time in survivors of moderate, closed-head trauma.

A total of 25 adult patients participated in the study and they were measured on implicit and explicit knowledge acquisition of phonics (verbal) and visual rules. The phonics rules governed the pronunciation of 2 types of pseudowords, while the visual rules governed the classification of 2 types of pseudoanimals. Participants were given the opportunity to implicitly acquire knowledge about the phonics and visual rules. After completing the implicit acquisition phase, participants were administered a test of implicit knowledge. They were implicitly asked to verbalize the knowledge acquired during the initial phase. Thereafter, a role reversal teaching phase was introduced to measure explicit knowledge of the verbal and visual rules over 10 trials. Then participants were given a posttest of implicit knowledge. This test was a measure of the effectiveness of the role reversal phase to increase explicit awareness of the verbal and visual rules. Subsequently, participants were given the opportunity to explicitly acquire knowledge of a different set of verbal and visual rules.

The results indicated that moderate closed-head injured patients: (a) did not require greater trials to reach criterion for the implicit verbal rule learning condition compared to the explicit verbal rule learning condition; (b) required greater trials to reach criterion for the implicit visual rule learning condition compared to the explicit visual rule learning condition; (c) made more errors to
reach criterion in the implicit verbal task compared to the explicit verbal task; (d) made more errors to reach criterion in the implicit visual task compared to the explicit visual task; (e) performances in the implicit acquisition and testing phases of the verbal categorization task were significantly related; (f) were not able to fully report more of the rules over trials in the role reversal teaching phase of the implicit verbal condition; (g) seemed to acquire explicit knowledge about the visual rules governing the pseudoanimals over time in the role reversal teaching phase; (h) performed better on the posttest of implicit knowledge for verbal rules compared to the pretest of implicit knowledge for the same rules; (i) conscious awareness of visual rules governing the pseudoanimals did not significantly increase after the exposure to the role reversal teaching phase; (j) explicit test scores of verbal rule learning were significantly higher than their scores of verbal rule learning from the implicit testing phase; and (k) explicit test scores of visual rule learning were significantly lower than their implicit visual test scores.

The findings of this research provide valuable information worthy of future research pursuits. Offers of suggestions for prospective research are included and discussed.