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Author
Alma, Carine V.

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The Contrast-Relation Type Model: An Explanatory Framework for Encoding Status Decisions

Carine V. Alma
University of Connecticut
Dept. of Psychology, Box U-20
Storrs, CT 06269-1020
alma@uconnvm.uconn.edu

Previous research has linked the presence of higher-order relations to judgments of similarity (Gentner, 1989). Other research has drawn distinctions between differences linked to commonalities, termed alignable differences, and differences not connected to commonalities, termed non-alignable differences (Gentner & Markman, 1994). The purpose of this paper is integrate these findings into a model which explains encoding status decisions. An encoding status decision entails categorizing entities as either not analogous (containing few similarities), partially analogous (containing moderate numbers of similarities), or analogous (containing high numbers of similarities).

The Contrast-Relation Type Model makes several predictions: (1) Non-alignable differences serve as a strong difference cue and influence encoding status decisions. The prediction is that partial analogies > analogies, in terms of correct encoding status decisions and "not analogous" decisions. (2) The absence of higher-order relations serves as a weak difference cue. First-order relations (FOR), without higher-order relations, influence "not analogous" decisions. Hence, contexts > themes, in terms of "not analogous" decisions. (3) The presence of higher-order relations serves as a weak "similar" cue. Consequently, themes > contexts, in terms of similarity ratings and "other analogous" decisions.

In this experiment, there were four types of story pairs: context analogies (FOR, similarities), context partial analogies (FOR, similarities, differences), theme analogies (FOR + HOR, similarities) and theme partial analogies (FOR + HOR, similarities, differences). First, partial analogies > analogies on both encoding status ($F(1, 19) = 9.22$, $p = .007$) and "not analogous" decisions ($F(1, 19) = 5.43$, $p = .031$). Second, contexts > themes on "not analogous" decisions ($F(1, 19) = 10.7$, $p = .004$). Third, themes > contexts on similarity ratings ($F(1, 19) = 18.7$, $p = .0004$) and "other analogous" decisions ($F(1, 19) = 7.04$, $p = .016$). Taken together, the predictions support the notion that contrast and relation type affect encoding status decisions.

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