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Yes, No, Maybe So: The Effect of Ambiguity, Falsification, and Confirmation on Re-Categorization

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Abstract: Researchers argue that dissatisfaction with a misconception is a prerequisite for adopting an alternative conception and that having clear feedback aids learning. The present study investigated the importance of ambiguity (having response options that support both the misconception and target learning category), falsification, and category induction opportunities when overriding a prior conception in favor of a new conception. The results suggest that ambiguity and direct falsification opportunities may aid in learning more than having both direct falsification and induction opportunities, which may be better than ambiguity and providing induction opportunities without direct falsification. Ambiguity may improve learning when coupled with falsification opportunities. Implications are discussed.