

Conditional Reasoning and Propositional Logic: Some Empirical Results

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It is hard to overestimate the importance of logic in human affairs. Logic, whether implicitly or explicitly, underwrites many of the decisions we make in our daily lives, and is an integral part of the scientific method. It is also at the heart of various academic subjects, including computer science, mathematics and philosophy. Despite its ubiquity, there is surprisingly little empirical work to support its pedagogy. Most existing work investigates the effectiveness of logic tuition in increasing grades or performance in standardised tasks, but there is a lack of comparative analysis. We conducted an interactive online logic learning experiment to compare teaching strategies. The focus of our study is on conditional reasoning with propositional logic. We classify our teaching strategies across two dimensions: semantic-centric vs. syntactic-centric and visually-aided vs. non-visually aided. We present some initial results and discuss their broader significance.