

THE INTERPLAY BETWEEN METACOGNITIVE AWARENESS AND SCIENTIFIC EPISTEMOLOGICAL BELIEFS

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ABSTRACT

Considering the importance of epistemological beliefs in students' learning process and how students reach knowledge; this study explored contributions of metacognitive awareness level to students' scientific epistemological beliefs. Discipline Focused Epistemological Beliefs Questionnaire and Metacognitive Awareness Inventory were administered to 250 eighth graders. Correlation analysis indicated that both knowledge of cognition and regulation of cognition dimensions of Metacognition related with certainty/simplicity of knowledge, source of knowledge, attainability of truth dimensions of epistemological beliefs. Multiple Regression Correlation analysis, however, revealed that the model that includes regulation of cognition reached statistical significance and explained 11% of the variation in certainty/simplicity of knowledge; ($F= 14.772$, $p < .05$) and 7% of variation in attainability of truth ($F= 8.396$, $p < .05$). The positive beta values indicated that students controlling all aspect of their learning tended to see scientific knowledge as more certain, simple as well as more attainable.

Keywords: Epistemological beliefs, metacognitive awareness.