

Constructivism and Elementary Preservice Science Teacher Preparation:  
Knowledge to Application

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## ABSTRACT

This investigation examined the impact of the constructivist learning model on elementary preservice science teachers' beliefs in reference to their constructivist knowledge and the practical application of this knowledge. During the 2000 - 2001 academic year, 511 student teachers completed a "Student Attributes" questionnaire administered by their respective university supervisor. The "Student Attributes" form included three questions addressing constructivism in regards to the students' knowledge and application beliefs. Ninety "Student Attributes" forms were randomly selected for data analysis. The Pearson product-moment correlation (Pearson  $r$ ) was the relational measurement utilized to determine if there was a statistical correlation between constructivist knowledge and application beliefs. The correlation coefficient for the data between student teachers' beliefs towards constructivist knowledge and application was a high positive relationship of .76 ( $r=.76$ ). As the student teachers' knowledge of constructivism increased, their belief that they would be "able to apply constructivist principles in the classroom learning situation" tended to increase. This correlation coefficient,  $r = .76$ , is considered to be a relatively high positive measure of the strength of the relationship. Furthermore, student teachers' beliefs related to their knowledge of constructivism was high - a mean of 3.52 on a scale of 0 - 4. Student teachers' beliefs pertaining to the application of constructivism in the classroom was also high - a mean of 3.42 on a scale of 0 - 4. The student teachers' beliefs affirm that the constructivist conceptual framework of this college of education is being adequately "imparted" to the students. The high correlation, then, assumes that the more knowledgeable student teachers are in regards to constructivism, the more likely they will be able to apply constructivist principles in the classroom.