

# **ELEMENTARY TEACHERS' CONCEPTIONS AND INTEGRATION METHODS OF ISTEM EDUCATION: AN EXPLORATORY CROSS-SECTIONAL SURVEY STUDY**

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## **ABSTRACT**

Because elementary teachers are typically responsible for teaching all subjects, there is a unique opportunity for integrative approaches to teaching iSTEM Education at the elementary level (Becker & Park, 2011). However, there is a need for professional development if teachers are to be successful in teaching iSTEM Education (NRC, 2011), as elementary teachers may lack strong content knowledge in STEM disciplines (Ginns & Watters, 1995; Trygstad, 2013; Honey et al., 2014; Fulp, 2002; Ma, 1999; Hanover, 2012). Elementary teachers are prepared as generalists--they take few courses in STEM content, and experiences with iSTEM Education in their teacher preparation programs are rare (Fulp, 2002). Beyond the need for professional development related to STEM content knowledge, however, we know very little about the unique needs of elementary teachers regarding instructional approaches to iSTEM Education. This study examines and describes the ways in which elementary teachers conceptualize iSTEM Education and the integrative approaches they use when teaching STEM content, with the intent to inform the development of elementary specific iSTEM Education professional development.