Full Title

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Abstract:

The abstract provides a very short summary of the whole information of the paper which briefly states purpose of research, key results, and major conclusions. The abstract should not be longer than 300 words and should not shorter than 100 words. A simple rule-of-thumb of writing abstract is to provide enough key information to make abstract useful to readers and those who may want to see your work. If the abstract does not contain a certain amount of information to provide a brief understanding of your work, it is more likely that the abstract should be revised.

Keywords: Sustainability, Community, Development, Sustainable Development Goals

1. Introduction

Higher education and society have a symbiotic relationship--major shifts in one often necessitate and lead to significant changes in the other. This is especially true for professionals working in science, technology, engineering, and mathematics (STEM) since they are often highlighted when discussing our nation's most pressing challenges and needs (National Research Council, 2007; National Academy of Engineering, 2010) Given that tomorrow's STEM workforce needs to be prepared to address unprecedented social and technological challenges, those in higher education are constantly evaluating whether the educational experience that we are creating for our students will results in graduates who are well-equipped to be successful long after their commencement celebrations. Regardless of whether we explicitly say it or not, we strive to make an impact. We aim to make a difference that will last.

This study explores STEM educators' perceptions of impact and identifies patterns in their ways of thinking as another step toward characterizing what impact looks like in STEM education. The literature review summarizes the results of a study that explore science educator's perceptions of impact. While the methods sections provide details surrounding the thematic analysis of 101 STEM education researchers' perceptions of how they are making an impact through their work, the results include the three overarching themes that emerged from their responses. The discussion and implications sections situate the results in the current literature and in the broader context that motivated this study.

2. Literature Review

Two problems are worth noting: there is a lack of research about the theoretically-driven change efforts that happen in STEM education; and STEM education researchers seldom document the impact of their efforts to make a change (Dancy & Henderson, 2008). Together, these serve as a barrier that obstructs our understanding of the impact from STEM education research. However, starting with STEM educators/education researchers' perceptions on the topic is a useful starting place.

To date, there is very little literature on STEM educators or STEM education researcher perceptions of impact. Three studies use a mix of quantitative and qualitative research methods (i.e., online surveys, interviews) to investigate the perceptions of science faculty in various departments across the California State University (Bush et al., 2011) and the U.S. (Bush et al., 2014; Bush, Rudd, Stevens, Tanner and Williams, 2016) that have an education specialty.

3. Methodology

In this study, a qualitative approach was used to gather data and synthesize insights STEM education researchers' perceptions of impact, and discover possible links between research and impact in STEM education. An interpretivist research philosophy undergirds this study. In short, interpretivist research includes social inquiry that leads to evidence-based claims as a result of interpretations of individuals or groups' lived experiences (Lincoln & Guba, 1985). The research question guiding this study is: *What are STEM education researchers' perceptions of how they make an impact through their work?*

3.1 Thematic Data Analysis

Three researchers analyzed and coded the interview data using a web-based qualitative analysis software Dedoose (Cardella, 2013). Thematic analysis (Boyatzis, 1998; Braun & Clarke, 2006) was used in an attempt to determine the themes that represent the pathways from research to impact. There are three stages of coding implemented in this study in order to link the data to the explanation of the meaning of patterns, and to the pathways that illustrate the relationship among those patterns (Richards & Morse, 2007 as cited by Saldaña, 2009).

4. Results and Discussion

4.1 Subsection Headline

#### 4.1.1 Sub-Subsection Headline

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Data 1	Data 2	Data 3
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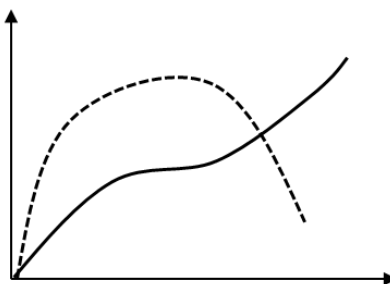
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5. Conclusion

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