

Title - Science Instruction in a Culture of High-Stakes Assessment: A Transcendental Phenomenological Study into the Experiences of Missouri Elementary School Teachers in a Non-Assessed Grade Level

Program of Study - Education

Presentation Type –PowerPoint (Remote)

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Category – Theoretical Proposal

Abstract:

The purpose of this research is to identify the characteristics and strategies of teachers who elect to teach a non-assessed content area on a daily basis at a grade level which is accountable on high-stakes assessment. Literature review identifies the vision of education as establishing the foundations for college and career readiness; an outcome that is the focus of K-12 educational agencies with the ultimate outcome being for students to take their place in society. In particular, recent educational focus has been on 21st Century skills as well as preparing students for Science, Technology, Engineering and Math (STEM) career fields. The STEM fields have been identified in the news and current discussions of educational standards as educational priorities. According to the National Council of Science, “the need for science and engineering professional to keep the United States competitive in the international arena” (National Research Council, 2012, p. 7) has been at the root of science education improvements. However, the age of accountability and standardized assessment has resulted in an educational system which values primarily the core content areas assessed at each grade level. Daily classroom schedules are designed to maximize instructional time in the assessed content areas with time being diverted from non-state-assessed content areas to spend more time in remediation and enrichment of the assessed content areas, English Language Arts (ELA) and math. The focus on test preparation limits the time spent on content areas other than ELA and Math. In as much, not all teachers are making the same curricular choices and only some teachers choose to teach authentic science through the use of the scientific method and exploration as a part of their learning strategy (Bernhardt, 2015;

Isikoglu, Basturk, & Karaca, 2009; Nadelson et al. 2013). The theories of Social Constructivism (Vygotsky, 1978), Relational Ontology (Vygotsky, 1978) and Growth Mindset Theory (Dweck, 2006) provide a theoretical basis to uncover the essence of teachers involved in the phenomenon. What are the experiences of elementary teachers in Missouri who chose to include daily instruction using authentic inquiry-based science content instruction in an educational culture centered on assessment in math and ELA? What are the beliefs of Missouri teachers who teach science in a non-assessed grade level? What are the strategies teachers take to provide authentic science instructional format to teach Missouri Learning Standards? What are the characteristics of teachers who do not only *teach to the test*, as evidenced by teaching science in a non-assessed grade? Future research will seek to address these questions through a qualitative phenomenological study. Results of the future research may illuminate strategies and characteristics for teacher programs and hiring. Research conclusions may be applicable to preparing students for future science careers. Future work connected to this research may be centered on instructional leadership, assessment and methods for integrating STEM/STEAM in the elementary classroom.

Christian worldview integration: In 250-500 words, describe how your Christian worldview has informed your research design and communication of your results. How is your research impactful within the culture at large?

My biblical world view strongly influences my own educational philosophies and practice. I believe each student should be afforded opportunities to enter into learning and demonstrate knowledge in accordance with his or her talents. I believe that “having gifts that differ according to the grace given to us, let us use them” (Romans 12:6, English Standard Version). I also believe as written in scripture that “God shows no partiality” (Romans 2:11). Thus, God did not imagine that all individuals should be the same nor does He put one person’s gifts and abilities before another’s. Hence, all gifts have value and relevance in the classroom and students should be afforded opportunities to use them, by extension then, all content areas have value and relevance in the classroom. In my study of instructional practices, my Christian worldview has led me to understand that the classroom should welcome all students into learning and provide them instructional activities that allow them to enhance and utilize their own abilities. This has informed my research design by choosing to uncover the characteristics and strategies of

teachers who appear to make instructional choices based on a philosophy that is not aligned to teaching to the test in a high-stakes assessment culture. Additionally, this will inform the communication of my results as I consider methods to share the research with school districts and teacher preparatory programs. The research will be impactful to the culture at large through the identification of characteristics and strategies used by teachers to implement science on a daily basis. This may inform hiring practices and curriculum design for educational practitioners.