

Building Conceptual and Theoretical Frameworks that Inform Research

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Abstract

Researchers develop theory that is supported by justifiable evidence. In doing so, researchers across the social, physical, and life sciences seek conceptual and theoretical understanding, pose empirically testable and refutable hypotheses, design studies that test and can rule out competing counter-hypotheses, use observational methods linked to theory that enable other scientists to verify their accuracy, and recognize the importance of both independent replication and generalization (NRC, 2002).

Research is highly demanding and difficult to do. The very act of collecting and analyzing data is not as important as the persistence and consternation of thinking critically and deeply about a phenomenon. This is the highest level of art and skill one can use to better understand difficult problems through science. If "science is competent inquiry that produces warranted assertions" (Dewey, 1938), then researchers need conceptually strong arguments that are grounded previous studies and theoretical assumptions.

Among the most important scientific principles that guide scientists, it is not in collecting and analyzing data. Rather, it is being able to pose significant questions that can be investigated empirically, linking research to relevant theory, and providing a coherent and explicit chain of reasoning (NRC, 2002). According to Camp (2001), "In general, a major stumbling block for many researchers in *conceptualizing research* is the development of an adequate theoretical framework for a study. Equally daunting is the problem of verbalizing the theoretical framework for the purposes of publication in the research literature."

The definitions of conceptual and theoretical frameworks are unclear and sometimes intertwined. Warmbrod (1986) stated, "I am assuming that we agree that a theoretical/conceptual framework can be defined as a systematic ordering of ideas about the phenomena being investigated or as a systematic account of the relations among a set of variables" (p. 2). Moreover, "The two terms – 'conceptual framework' and 'theoretical framework' – are likely the two most misunderstood and misused terms in agricultural education research today. As such, the two terms are often erroneously interchanged" (Dyer et al., 2003, p. 64).

Camp (2001) defined the difference between conceptual and theoretical frameworks. A conceptual framework is a structure of what has been learned to best explain the natural progression of a phenomenon that is being studied (Camp, 2001). Comparatively, theoretical frameworks are explanations about the phenomenon (Camp, 2001). Marriam (2001) provided additional clarity by stating a theoretical framework provides the researcher the lens to view the world.

As researchers struggle to provide clarity to the conceptual and theoretical frameworks in their studies (Dyer et al., 2003), simply adding the heading "Theoretical Framework" to a review of related literature does not actually make it a theoretical framework. Moreover, labeling an inadequate "theoretical framework" as a "conceptual framework" does not make it adequate (Camp, 2001). Dyer and his colleagues found that 29% of the articles published in the *Journal of Agricultural Education* in 1990-99 had appropriate theoretical frameworks, and 87% had appropriate conceptual frameworks.

The purpose of the symposium is to clearly define the differences between conceptual and theoretical frameworks, and provide researchers strategies to effectively develop and use them to inform their research designs and studies. As such, the audience will engage in the process and strategies that researchers can more effectively build conceptual and theoretical frameworks that inform research and scholarship.

Conceptual and theoretical frameworks are based on previous studies, conceptual analyses, and theories that exist in the literature. Literature helps researchers frame the problem, support the problem, synthesize the knowledge base, and creating a need for the study. The logical chain of reasoning used to support the argument of a research study is illustrated in the identification of the problem, assertions, and knowledge claims. Metaphorically, the logical chain of reasoning is a thread that provides the researcher a way to connects the problem situated in a context, to the purpose and assertions, to the conceptual and theoretical frameworks, to the need for the study, to the research design, to the data sources and analyses, to the findings and knowledge claims, and to the implications and recommendations.

The abstract nature of building conceptual and theoretical frameworks makes research a difficult and onerous process. In 1916, John Dewey cautioned against the tendency to prematurely acceptance of assertions that have not been thoroughly tested and grounded in thinking that is accurate, comprehensive, and rigorous. Dewey stated, "...we tend naturally to cut short the process of testing. We are satisfied with superficial and immediate short-visioned applications." He called for science to serve as the medium through which special applications and methods are used to result in accurate knowledge claims.

If researchers are going to make and support knowledge claims, they must do so understanding the process of adding to the knowledge base, which requires them to explicitly state what is known, what is not known, what could be known, and how what is learned from current research studies adds to or provides new perspectives to the knowledge base. Conceptual and theoretical frameworks are the cognitive tools needed to make assertions and supporting knowledge claims, and guide the profession toward action (Rojewski, 2002).

References

- Camp, W. G. (2001). Formulating and evaluating theoretical frameworks for career and technical education research. *Journal of Vocational Education Research*, 26(1). Retrieved May 1, 2009 from: <http://scholar.lib.vt.edu/ejournals/JVER/v26n1/camp.html>
- Dewey, J. (1916). *Democracy and education. An introduction to the philosophy of education* . New York: Free Press.
- Dewey, J. (1938). *Experience and education*. New York: Collier Books.
- Dyer, J. E., Haase-Witler, P. S., & Washburn, S. G. (2003). Structuring agricultural education research using conceptual and theoretical frameworks. *Journal of Agricultural Education*, 44(2), 61-74.
- Marriam, S. B. (2001). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass Publishers.

National Research Council. (2002). *Scientific Research in Education*. Washington, DC: National Academies Press.

Rojewski, J. W. (2002). Preparing the Workforce of Tomorrow: A Conceptual Framework for Career and Technical Education. *Journal of Vocational Education Research*, 27(1), Retrieved May 7, 2010 from:
<http://scholar.lib.vt.edu/ejournals/JVER/v27n1/rojewski.html>.

Warmbrod, J. R. (1986). *The theoretical/conceptual framework: What is its relevance to conclusions and recommendations?* Paper presented at the annual meeting of the American Educational Research Association, Dallas, TX.