

# A Post-Positivist Framework for Using and Building Theory in Online Instructional Design

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## ABSTRACT

Theories are critical components of research and are widely used tools among online course development researchers and practitioners. However, enhanced knowledge about how theories are developed and change over time is a strategic need in the field of online education design and delivery. This article examines a set of theory analysis and development tools, focusing particularly on post-positivist frameworks and perspectives. Building from prior work in theory development, this paper makes several novel contributions to enhancing understanding of theory development processes and their use in online teaching and course design. Two unique theory analysis and development tools are proposed. The theory development diagnostic matrix is proposed as a tool for evaluating essential characteristics of theories and how theories may be appropriately used. The Theory-Innovation Cycle is introduced as a model for explaining how theories are created, developed, and changed over time and the influence these processes have on theory use in online education research and practice. Implications and recommendations for using these tools are also presented and discussed.

## KEYWORDS

Course Design, Educational Technology Research, Instructional Design, Instructional Innovation, Theory Development, Theory Modeling

## INTRODUCTION

*Theory* is a term commonly accepted and applied by online education researchers and practitioners. Theory is, in fact, inherent in course designing when one thinks of a course plan as a prediction – or “theory” – for how the designer thinks the course supports certain learning experiences and outcomes. From this perspective, theory-building in online instructional design is important because it helps advance professionalism and maturity in the field, unite research and practice, promote multiple research methods for theory and practice (Lynham, 2000), and resolve inconsistencies and contradictions in current theories (Van de Ven, 1989).

Theory and theory-building are also important for designers of online instruction for two other reasons. First, theories represent the conceptual realm that must be united with empirical data to attain the scientific approach to research and practice (Jaccard & Jaoby, 2010) that is generally valued by instructional designers. Second, theory-building is particularly important in relatively young applied fields that are sometimes characterized as lacking theoretical foundations. This criticism has been faced

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by research and development in online learning, which has frequently been criticized as primarily a collection of *how we did it* reports and data explaining *if* it worked but not *why* it worked. All these reasons provide justification for attention to sound use of theory by designers of online instruction.

Scholars have offered several successful approaches to theory and its development that might be applied by instructional designers. For example, Dubin (1976, 1978); Knowles, Holton, and Swanson (1998); Mezirow (1981); and Katz and Kahn (1978) have all offered different approaches to building theories (Lynham, 2000). Turnbull (2002) and Lincoln and Lynham, (2011) have presented theory-building methods and evaluation frameworks. Torraco (2002) compared five different theory-building approaches. In other theory-related work, research literature has previously examined theory-building processes (Lynham, 2002a; Lynham, 2002b) and research methods used to construct theories (Holton III & Lowe, 2007).

All these contributions to theory-building can be – and have been – used by instructional designers. However, little *original theoretical work* has yet emerged from this field to represent its theoretical thinking, a problem that Kettley (2010) has described as a crisis throughout education that threatens the quality and usefulness of both research and practice. Further, extension of theoretical foundations is welcome in any professional field, and new approaches can benefit both research and practice in online instructional design and implementation. For example, specifically relating to virtual environments such as those frequently presented in online learning, Ausburn and Ausburn (2014) recently raised the matter of ongoing concern for effective use of theory in virtual technologies. Thus, the present authors maintain there are currently strategic opportunities to advance understanding of theory and theory-building in professional instructional design practice.

Hopes of offering online education professionals some original and unique ways to conceptualize theory and theory-building in the field provided the rationale for this paper. The approach presented here is not intended to represent *the* way to think about and develop theory, but rather as *a* way to think about the process. The authors offer the ideas presented here as one response to theory-building opportunities in online instructional design, based on a specific theoretical perspective.

## PERSPECTIVE, PURPOSE, AND METHODOLOGY

### Theoretical Perspective

While theory and theory-building can be approached from many perspectives with equal validity, the perspective applied in this paper is specific. Here, the theoretical perspective is *post-positivist*, which focuses on using theory for hypothesis-building, testing with empirical data, and developing predictable outcomes. This approach to theory was selected because it is appropriate for, and valued by, both designers and users of online technologies and courses because they need to create learning environments that can be trusted to reliably produce successful learning results. However, other perspectives are equally valid and useful. The authors do not intend to diminish the value of other approaches, and we invite others to join the theory-building dialog in online design by addressing other theory perspectives.

### Purpose of the Paper

This paper presents a novel conceptualization of theory as a language that aids communication within a professional field, and two unique theory tools: a theory diagnostic matrix and a Theory-Innovation Lifecycle. These are intended to serve two major purposes for the field of online instructional design: (1) help course-design researchers and practitioners to analyze and develop theory in the field, and (2) provide theoretical contributions that can represent the field in the arena of research, development, and practice.

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