Chapter 6
Room to IMPROVE:
Designing Virtual Professional Learning Environments

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ABSTRACT
Digital learning publications have become more accessible for both creators and users. With little training, creators can utilize various web hosting sites to design and publish engaging content. The purpose of this chapter is to describe an innovative practice in providing graduate students with structured activities and resources to collaboratively author and digitally publish modules on IMPROVE (Instructional Modules for Professional learning Responding to Opportunities and Valuing Educators), a virtual professional active learning journal published on Digital Commons. In 2018, over 500 institutions of higher learning used the Digital Commons platform to manage, publish, and showcase work by faculty and students. The overall process utilized can be easily adapted to other disciplines. The learning cycle featured in the modules is based on the STAR Legacy Cycle developed by the IRIS Center and on the work of Dr. John Bransford and colleagues.

INTRODUCTION
With the increasing ease of website design and publication, the flexibility of asynchronous learning, and reduced funding for face to face professional learning for educators, virtual learning environments have developed as an attractive option to facilitate individualized, self-paced, flexible development in a variety of disciplines. Individuals interested in learning more about almost any topic or improving specific skills can easily find instruction or support from a variety of options ranging from online degrees, DOI: 10.4018/978-1-5225-9438-3.ch006
massive open online courses (MOOCS), and YouTube videos by both experts and amateurs. With so many resources available, effective design based on best practice is imperative. In response, the authors of this chapter collaborated to create an experience for graduate students in designing virtual professional learning environments for global publication.

This chapter will describe specific steps in the development process of IMPROVE: Instructional Modules for Professional learning Responding to Opportunities and Valuing Educators, a publication consisting of virtual modules specifically focused on identified professional learning needs determined through collaboration among public school partners, graduate students, and university faculty. Once published, modules are freely available through Digital Commons, an institutional repository used to showcase and preserve research and scholarship activities. This platform is available for full use by school systems, teachers, parents, instructional specialists, administrators, and researchers to promote positive, data-informed, sustainable change in instructional practices or organizational structures in order to improve student learning at the K-12 level and beyond. IMPROVE professional learning modules are considered an open educational resource, and are licensed under a Creative Commons Attribution NonCommercial (CC-BY-NC) license. The Scholarly Publishing and Academic Resources Coalition (SPARC) defines open education as “resources, tools, and practices that can be fully used, shared, or adapted in the digital environment” (https://sparcopen.org//open-education/).

The history of the project, detailing steps from initial project idea to student development and evaluation to final publication on a global platform is described in detail. The effective design of any learning environment, virtual or otherwise, is dependent on a deep understanding of best practices related to the learning process and how it is best facilitated. As a result, the chapter also explains the work of John Bransford and his associates (National Research Council, 2000) on effective learning environments as described through the How People Learn (HPL) theory. This theory undergirds a specific cycle of learning utilized in the published modules, the STAR Legacy Cycle, developed by the IRIS center at Vanderbilt University.

After explaining the history of the project and the theoretical and conceptual frameworks supporting the design of effective virtual professional learning environments, specific resources and guidance for university faculty interested in developing similar projects is provided. Resources described include the use of the Digital Design Standards to guide accessibility, Digital Commons as a publication platform, and specific website design platforms and collaborative management tools utilized in the development and publication processes. Guidance for university faculty includes information related to the feedback and assessment process built around a comprehensive, analytic rubric; specific instruction provided to the students; and partnerships developed to guide the focus and dissemination of published modules.

**HISTORY OF THE PROJECT**

In the summer of 2014, the program coordinator of the EdD program in Curriculum and Instruction at Gardner-Webb University began an exploration of Massive Open Online Courses (MOOCS), virtual learning platforms offered through Coursera, edX, and Harvard Open Courses, among others. This exploration was initiated due to both personal curiosity and professional interest. Personally, the program coordinator enjoyed discovering the availability of free content from prestigious universities and revered lecturers for herself. Professionally, the coordinator was seeking models of alternate means of profes-
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