

## Chapter 4.14

# Project Management for Project-Based Learning: A Case Study of Course Projects with Small Virtual Instructional Design Teams

**Shahron Williams van Rooij**  
*George Mason University, USA*

### ABSTRACT

This chapter reports the results of a case study in which the final project outcomes of small virtual instructional design teams using Project Management in an online graduate-level course are compared with teams using a less-structured approach. Based on the findings, the author offers the following recommendations for structuring project-based learning in small virtual teams: (a) assess through pre- or in-course questioning individual motivators of success and performance in virtual teams, (b) provide teams with templates with which to document roles, responsibilities, milestones and key deliverables, and (c) offer time and schedule management tips to reinforce/extend entry skills in team project management and participation. This case study can serve as a resource to eLearning practitioners seeking research-based best practices for both managing and participating in project teams that may have limited human and material

resources and that may be distributed over a number of geographic locations and time zones.

### INTRODUCTION

In learning how to design for the online environment, students of Instructional Design seek not only skills and competencies, but also a virtual design team experience similar to what they will encounter as instructional design professionals. The ability to work in teams and apply social, communication and collaboration skills is expected by employers (McLoughlin & Luca, 2002), but is also among the essential competencies outlined by the International Board of Standards for Training, Performance and Instruction (IBSTPI) (International Board of Standards for Training, Performance and Instruction, 2000). Acquiring and demonstrating those skills can be more challenging for teams whose members are dispersed across multiple locations and who meet – whether regularly or occasionally – in a virtual

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environment, than it would be for co-located teams. As an instructional strategy, project-based learning can provide adult learners with the opportunity to develop and apply their collaborative skills. When used in a virtual learning environment, project-based learning can also help students to acquire the special skills, including an understanding of human dynamics across functional and cultural boundaries, necessary to lead and work in virtual teams in many organizations (Duarte & Tennant Snyder, 2001). However, the instructor must provide some degree of structure or scaffolding to the project, assisting learners with tasks or concepts that they may not initially grasp, but then gradually “fading” (Lipscomb, Swanson, & West, n.d.), allowing learners to proceed independently and take ownership of both the project process and the project product. Given the need to balance learner control and instructor scaffolding, it is important to explore what tools and techniques are available to instructors and online course designers to achieve and maintain that balance, including tools from a variety of disciplines.

The purpose of this chapter is to illustrate how processes and procedures from the discipline of Project Management can provide a support structure to course projects with small virtual teams and still retain the learner-driven character that is a central feature of project-based learning. Specifically, this chapter takes as a case study a 15-week core course in the online eLearning Graduate Certificate program at George Mason University, with one section of the course using the principles and practices of Project Management as scaffolding for the final team project, and another section of the course using open-ended tips and instructor feedback to help structure the final project. Using content analysis of team discussion boards, as well as a statistical comparison of project scores and post-project surveys, this chapter examines the impact of Project Management vs. a more traditional scaffolding approach on the course project lifecycle in terms of intra-team communication, final project outcomes and overall virtual project

team experience. The chapter concludes with recommendations for e-learning practitioners and instructors/trainers for structuring project-based learning in small virtual teams.

## **BACKGROUND**

To understand the results of the study and their implications, a few definitions are needed. Project-based learning focuses on the production of a final product by applying previously acquired knowledge (Prince & Felder, 2007; Helle, Tynjala, & Olkinuora, 2006). Thomas (2000) lists five criteria of project-based learning:

- Projects are central, not peripheral to the curriculum;
- Projects are focused on questions or problems that drive learners to encounter and struggle with the central concepts and principles of a discipline;
- Projects involve learners in a constructive investigation or goal-directed process that includes inquiry, knowledge building and resolution;
- Projects are conducive to student autonomy, choice, and allow unsupervised work time, and;
- Projects are realistic, not school-like, focusing on authentic challenges where the solutions have the potential to be implemented.

As an instructional strategy, project-based learning is grounded in Situated Learning theory (Lave & Wenger, 1991), which advocates the presentation of knowledge in an authentic context, the use of settings and applications that would normally involve that knowledge, and the inclusion of collaboration and social interaction to solve complex problems.

In addition to applications in a variety of educational settings – K-12, post-secondary/tertiary,

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