

Chapter 8

The Future of Immersive Instructional Design for the Global Knowledge Economy: A Case Study of an IBM Project Management Training in Virtual Worlds

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ABSTRACT

Instructional design has not kept pace with the growth of the globalized knowledge economy. In the area of project management, a volatile global economy requires immersive learning and training exercises targeted to expert learners that have not yet been widely adopted. The authors developed a 16-hour, immersive collective learning experience for mid- to high-level project managers. The exercise was carried out in the Second Life Virtual Worlds platform and aimed to accelerate learning among participants. In addition, the authors tested a number of questions about the capacity of Virtual Worlds to be used for running complex, immersive learning and training. Results indicate that participants experienced high levels of engagement with exercise and, in the second iteration, were able to achieve goals within the exercise. Various technological breakdowns pointed to both the downsides as well as the opportunities for Virtual Worlds to be used for immersive rehearsal engagements.

INTRODUCTION

IT implementation has been, and remains, one of the great enablers of the globalizing economy. IT systems such as Enterprise Resource Planning (ERP) or Supply Chain Management (SCM)

pose increasing challenges commensurate with the complexity of global business; they are tools necessary or participating in a more complex business world, but also disruptive when not implemented well. One of the major issues we see in IT implementation failure is that the rapid growth

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of a globalized knowledge economy has outpaced the training and instructional design necessary to have a workforce adequately prepared to tackle new, complex challenges. Particularly for Project Managers (PMs) in IT, rapidly changing objectives, competitive environments and budgetary needs require a kind of adaptive flexibility that is difficult to guarantee with traditional training and professional development approaches. Project leads can easily lose sight of the uncertainty inherent in IT implementation, often underestimating the necessary time, money, and resources or even the real indicators of success that need to monitor, such as better outcomes for the business implementing the technology.

The experiences of effective project managers show that developing the needed adaptive flexibility among PMs of IT implementations—at both the individual and organization level—involves trial and error and learning through failure in complex situations. Yet, traditional classroom or workshop style instructional methods are not designed this way. Traditional methods often fail to sufficiently account for how people develop real expertise and tend to focus on specific steps, procedures, and skills instead of allowing learners to experience decision-making in an exploratory, outcomes-driven environment that helps develop higher-level skills such as agility and naturalistic decision making. Furthermore, traditional methods fail to sufficiently take advantage of emerging technologies that can enable a more immersive, exploratory learning experience to accelerate skills development among workers dealing with complex challenges.

In this paper we describe a 2-day exercise, called the Project Management Rehearsal Studio (PMRS), designed to provide an immersive learning experience for Project Managers at IBM using a Virtual Worlds technology. The exercise was designed to replicate a client engagement, and targeted complexities PMs face in a rapidly changing global knowledge economy. Specifically, it enabled users to practice the high level

skills involved in IT implementation through iteratively rehearsing the implementation of enterprise business IT systems—in this case ERP. Furthermore, the experience targeted specific deficits in traditional instructional design methods among learners in complex, volatile environments. Lastly, virtual world technologies have allowed for a new generation of instructional design. Through this pilot project, we were able to reveal both the challenges and opportunities afforded by emerging virtual worlds' technologies.

Our goal for this paper is to illuminate key points of immersive simulation and rehearsal design that may be able to narrow the gulf between the kinds of skills required in the global knowledge economy and the instructional methods available to professionals in the field.

Literature Review

Project Management in the Globalized Knowledge Economy

Over the last half-century, massive global shifts from the industrial economy of the Fordist era to the globalized knowledge economy of the 21st century have transformed the way in which organizational knowledge is developed, trained, transferred and deployed. In the current environment, organizations face an increasing pressure to accelerate the speed of innovation. Competitive advantage is no longer measured by how much one produces, but by the degree to which individuals and companies are able to rapidly create and revise strategies to meet changing demands. As a result, learning in the knowledge economy is not measured by ability, but by *agility*. The complex problems that projects face today require Project Managers (PMs) working in this environment to go beyond declaring success when a project is completed on time, within budget, and within performance goals. Instead, PMs must develop a business-focused, success-oriented project approach that takes into consideration strategic and

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