Chapter 2.15
Designing and Reusing Learning Objects to Streamline WBI Development

Pam T. Northrup
University of West Florida, USA

Karen L. Rasmussen
University of West Florida, USA

David B. Dawson
University of West Florida, USA

ABSTRACT

Reusable Learning Objects (RLOs) and reusable information objects (RIOs) are tools that facilitate quick, systematic, and effective design and development of Web-based instruction. Learning objects form the basis of an online professional development program targeted toward teachers who must learn and implement new strategies and approaches for teaching in a convenient and flexible environment. Using learning objects, following the Cisco model, to develop instructional components for repurposing provides designers with the flexibility to meet different goals and instructional needs of a variety of education and training settings.

INTRODUCTION

In the past few years, the World Wide Web has emerged as a primary technology-based delivery environment affecting the way people communicate and do business; it is poised to create a paradigm shift in the way people learn (Wiley, 2001). With this trend, there are new technical and instructional demands being placed on instructional designers to get materials to the Web quickly, provide just-in-time instruction, and make modifications to instructional materials on the fly. These demands have forced instructional designers to re-examine the work processes of designing and developing high-quality instructional materials.

Current instructional design models have been touted as 'slow and clumsy' resulting in instruction that takes too long to get to market (Gordon & Zemke, 2001). Thirty years of evidence supports

a systems approach that produces solid instructional products and, in fact, the proposition that students do learn as a result of the instruction. Although the intent of design models is to serve as a heuristic for targeting specific instructional goals to solve organizational performance problems, many designers following the ISD process re-invent the wheel every time new instruction is developed. In one branch of the military, an analysis of courses revealed that there were over 150 courses on 'pumps' and new ones were continuing to be developed. In many organizations, this re-design and re-development continues to occur. (Imagine how many courses on customer service exist!) Rather than re-developing the same course over and over again, it is time to flatten the knowledge silos, see what else is out there, and parcel out components of various types of instruction that can be re-purposed for differing goals and instructional needs. In the 21st century, with the rapid advances in information exchange and mass data storage, these knowledge silos no longer have to exist.

In the past five years, several technological developments have emerged that assist designers in getting content out to end users as quickly as possible. Tools such as learning management systems, content management systems, and task management systems now exist. These systems provide templates that sit on top of high-end databases enabling designers and non-designers to enter content into databases that can then be filtered back into their instructional lessons. The value of directly inputting content into databases lies in the designers' flexibility to locate specific resources to use and re-use for multiple purposes. The problem is that unless data input follows a common standard, it may not be able to be re-purposed and shared with others.

In the late 1990s, the Advanced Distributed Learning movement began as an approach to allow the armed services to create and share their instructional resources rather than to replicate content on similar topics across and even within the branches of the military. This movement has resulted in the development of learning object systems that, to date, have focused on technological attributes, metadata standards, and system specifications that define levels of granularity and interoperability (Singh, 2000). Out of this work, SCORM-compliant standards were developed and are evident in many software applications on the market today.

With research that provides system specifications and standards, it is now time to consider the implications for instructional designers who will be designing and re-using learning objects.

This chapter will provide a foundation for the design of Reusable Learning Objects through discussion of a project to design reusable online professional development in a partnership between the University of West Florida (UWF) and Santa Rosa County School District. Teachers across the State of Florida are being held accountable for student progress at unprecedented levels through a student assessment called the Florida Comprehensive Assessment Test (FCAT). Teachers are being required to learn new strategies and approaches for teaching and learning in Reading, Math, and Science without being provided time outside of the classroom during the school day for professional development. In addition, teachers are at various levels of need and desire for professional development opportunities. The school district is seeking ways to provide professional development to teachers that is convenient and flexible for their busy schedules. In partnership with researchers from UWF, a series of Online Professional Development (OPD) courses were developed as learning objects that could be used and reused, based on the professional development needs of the teacher.

WHAT ARE LEARNING OBJECTS?

The Learning Objects Standards Committee has formulated a definition of learning objects that is

Related Content

Structured Techniques for Successful End User Spreadsheets

Harry Benham, Michael Delaneyand Andrew Luzi (1993). *Journal of End User Computing (pp. 18-25).*

www.irma-international.org/article/structured-techniques-successful-end-user/55696

Computational Engineering in the Cloud: Benefits and Challenges

Lorin Hochstein, Brian Schottand Robert B. Graybill (2011). *Journal of Organizational and End User Computing (pp. 31-50).*

www.irma-international.org/article/computational-engineering-cloud/58546

The Technology Acceptance Model: A Meta-Analysis of Empirical Findings

Qingxiong Maand Liping Liu (2008). *End-User Computing: Concepts, Methodologies, Tools, and Applications (pp. 1088-1100).*

www.irma-international.org/chapter/technology-acceptance-model/18243

The Influence of Perceived Source Credibility on End User Attitudes and Intentions to Comply with Recommended IT Actions

Allen Johnstonand Merrill Warkentin (2012). *End-User Computing, Development, and Software Engineering: New Challenges (pp. 312-334).*

www.irma-international.org/chapter/influence-perceived-source-credibility-end/62802

Virtual Reality, Involvement and the Consumer Interface

John Gammackand Christopher Hodkinson (2003). *Journal of Organizational and End User Computing (pp. 78-96).*

www.irma-international.org/article/virtual-reality-involvement-consumer-interface/3777