

Chapter XXXVI

Guidelines for Developing Learning Object Repositories

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ABSTRACT

We present guidelines for designing and developing a repository for the storage and exchange of instructional resources, as well as considerations for the development of the resources to be included in the repository. We elaborate on the constraints that design teams may typically face and the tradeoffs they make to ensure that users utilize the system. The guidelines and decision points we present center around common issues discussed in the learning object literature as problematic and salient to the design, development, and implementation of learning objects and object repositories. These themes are terminology, granularity, reusability, and object sharing. The guidelines we present stem from the creation of an online shareable content support system for faculty within a department of early childhood education. The types of issues and solutions we illuminate are applicable across varied educational contexts and content areas.

With the increasing implementation of learning objects in higher education contexts, the spectrum of repositories developed to house these objects ranges from large-scale collections open to the public to relatively small-scale in-house collections with restricted access (Bannan-Ritland,

Dabbagh, & Murphy, 2000; Campbell, 2005; Carnevale, 2001; Malcolm, 2005). Some repositories allow any user to add objects to the collection while others limit who can contribute. Objects included in some collections are developed, maintained, and published by individual contributors without

common design specifications across contributors, while other collections contain objects created using a guided design process and published through a structured workflow. Across repositories, the range of media types stored as well as the search options afforded by the interface and structure of the repository also vary. Examples of repositories across the spectrum include Wisc-Online (Wisconsin Online Resource Center, 2007), Penn State Multimedia Teaching Object (MTO) Repository (The Pennsylvania State University, 2007), Multimedia Educational Resource for Learning and Online Teaching (Merlot, 2006), Learner.org (Annenberg Media, 2007), and Integrating New Technologies into the Methods of Education (INTIME, 2001). Typically, the intent of these collections is to make objects available to other users to integrate into the teaching and learning process, to provide exemplars, and/or to assemble an organization's knowledge. The extent to which these repositories are utilized can be determined by a number of factors, including ease of retrieval and use of objects, the type and nature of content available, and the quality of the objects (Bratina, Hayes, & Blumsack, 2002; Collis & Strijker, 2004; Parrish, 2004), all of which should be addressed when designing a repository.

In this chapter, we offer guidelines for designing and developing a repository for the exchange of instructional resources, as well as considerations for the development of the resources to be included in the repository. The guidelines we present, which stem from the creation of an online shareable content support system for faculty within a department of early childhood education, illuminate the constraints the design team faced and compromises made to promote full utilization of the system. At the crux of the project was a departmental vision for an online repository for full-time and adjunct faculty to use when developing and teaching on-campus, online, and blended courses. The driving force was to promote intradepartmental sharing of instructional objects and resources among faculty

and develop a system that faculty could use to collectively store, explore, and retrieve resources for customization and reuse. When the project was initially proposed, the department was undertaking several initiatives that would increase offerings of blended and online courses, and would likely increase the need for hiring adjunct faculty. The department sought to alleviate the faculty burden of developing online content for courses and to provide instructional support to adjunct faculty, while at the same time maintaining high-quality content and continuing the department's tradition of enriched student learning experiences. Access to the repository was restricted to departmental faculty; however, anyone with access to the repository could add objects or retrieve them.

The issues and solutions presented in this chapter are applicable across varied educational contexts and content areas in which learning objects and repositories are utilized. The learning object literature provides a beginning framework for the design of all types of objects and repositories, but designers using only this guidance must make pivotal decisions based on limited prescriptions. The objectives of this chapter are to: (a) identify and expand on common themes identified in the learning object literature as most salient to the design, development, and implementation of learning objects and object repositories; (b) illuminate the design decisions that emerge in mapping these themes to the creation of a learning object repository and learning objects to meet specified goals and objectives; and (c) provide guidelines that illuminate the constraints and affordances of the decisions.

A broad range of educational practitioners can use these guidelines to help ensure that their ideas are grounded in realistic expectations, practical considerations, and empirical research. Individuals who serve in planning, implementation, support, and oversight roles for educational technology (such as e-learning managers and administrators) can use these guidelines to proactively identify and address issues that can influence

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