

Chapter IX

A Toolkit to Guide the Design of Effective Learning Activities

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ABSTRACT

The DialogPLUS Toolkit is a web-based application that guides the design of learning activities. Developed to support the project's geographers, it incorporates well-researched pedagogic taxonomies that are presented as drop-down lists with associated 'help' pages. Toolkit users are encouraged to consider and specify factors including learning and teaching approach, environment, aims and outcomes, assessment methods, learner and tutor roles and requisite skills as they design any number of tasks within a learning activity and select the tools and resources needed to undertake them. The output from the toolkit is a design template that can then be used to guide the instantiation and implementation of online learning activities. The designs are saved within the toolkit, forming a database of designs, which other toolkit users can view. This chapter will present the rationale for the toolkit and the detailed taxonomies. It will describe and illustrate the software design, development and implementation, including the approach to contextual 'help', provide examples of learning activity designs created using the toolkit; and present and discuss feedback from users.

INTRODUCTION

Pedagogic knowledge results from the study of how we learn. Ever since the earliest Greek philosophers started asking questions about the world we live in, people have been interested in understanding the nature of how we absorb, process, and apply information. This research can help improve learning, both maximizing the knowledge transfer for learners and increasing the effectiveness of teachers. In today's digital world, the challenge of applying these ideas becomes even more difficult as, like it or not, technology moves us forward; enhancing the tools and resources we use and evolving the communities that surround us.

To keep up with this challenge, tools are needed to help today's learning designers make best possible use of the resources available to them when designing or developing units of learning. The DialogPLUS Toolkit was developed by a team of educationalists and computer scientists working with subject specialists (geographers) to help understand how practitioners approach the task of designing learning activities.

The aim of this group was to design and deliver an easy-to-use system that would guide teachers and learning technologists as they created learning resources, tasks, and activities so that these would support effective learning. Drawing on previous work and the wide body of literature about approaches to teaching and learning, the toolkit is underpinned by a comprehensive pedagogic taxonomy. Thus, toolkit users are encouraged to consider and specify factors including the learning and teaching approach, aims and outcomes, assessment methods, learner and tutor roles, and requisite skills as they design the tasks that make up a learning activity, and select the tools and resources students will need to undertake them. The output from the toolkit is a design template that can then be used to guide the actual creation and implementation of the online learning activities or

can be used by others as an example, which can be repurposed to create a new learning activity.

The toolkit is available on the Web for any practitioner to access (DialogPLUS, 2006). Designs are saved within a database and can be easily viewed by other toolkit users.

The specific objectives of this chapter are to present the background and rationale for the toolkit; explain the underlying taxonomy; describe the software design, development and implementation, including the novel approach to contextual "help;" provide examples of learning activity designs created using the toolkit; and to present and discuss feedback from users. Finally, the future of this and similar tools to support designs for learning is considered.

BACKGROUND

Practitioners are faced with a potentially bewildering array of tools and technologies to support learning and teaching. However, "while it is clear that technologies are having an increasing impact on institutions ... it is equally apparent that their potential for enabling new styles of learning is not yet being realised" (Conole et al., 2005, p. 3). Practitioners designing and creating learning activities need to make a complex set of inter-related decisions. Examples of the questions they ask themselves, and others, include:

Which tools should I use to promote dialogue between students – chat, a discussion forum, video conferencing?

How can I set up an activity to encourage students to collaborate on a shared problem?

What is the best way to create a collaborative shared space of resources?

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