

Chapter XXV

A European Evaluation of the Promises of LOs

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ABSTRACT

Most studies on reusable digital learning materials, Learning Objects (LOs), relate to their use in universities. Few empirical studies exist to explore the impact of LOs on pedagogy, especially in schools. This chapter provides evidence from an evaluation of the use of LOs in schools. The evidence is from an EU-funded project Context E-Learning with Broadband Technologies, involving 500 schools in six countries across Europe, to examine the impact of LOs on pedagogy. It brought together producers and users to try out technically and pedagogically sound ways of producing, making available through a portal, and using LOs. This chapter reports data from both quantitative and qualitative studies conducted during 2004, including: online surveys (of all the teachers involved), routine data from the portal, semi-structured interviews in 40 schools in all six countries, experimental studies in one of these countries, and 13 classroom case studies in four of the countries.

INTRODUCTION

This chapter will examine the major promises that learning objects (LOs) offer to teachers through the experience of a major European project, *Context E-Learning with Broadband Technologies* (CELEBRATE). LOs have been seen to offer a way of exploiting the new educational technologies, including those based on the Web and on virtual learning environments (VLE). One difference that it is claimed LOs bring to the new educational technologies is their potential for re-use in a variety of circumstances and thus that they have flexibility and interoperability. This marks them out from more purpose-built resources. Despite this apparently special nature, the most accepted definition of a LO is rather general: any entity, digital or nondigital that can be used or re-used or referenced during technology supported learning.^a In this chapter we will examine the major features that have been attributed to LOs and, through the data from the evaluation of the CELEBRATE project, see to what extent some of the promises they offer can be fulfilled.

CELEBRATE was an Information Societies Technology Programme project funded by the European Commission over 30 months: June 2002 until November 2004.^b It involved 23 participants from 11 countries, including commercial producers of learning materials, multimedia specialists, ministries of education, software and network companies, university academics and schools, and associated local authorities. Its objectives were to create and use a critical mass of material for a new generation of learning environments, and this material was distributed and used in schools in six countries: England, Finland, France, Hungary, Israel, and Norway. The LOs were made available via a Demonstration Portal to selected schools across Europe that were involved in existing broadband pilots in order to further stimulate the development of LOs by teachers themselves. CELEBRATE took the idea of an “exchange” and applied it to the school sector through a

brokerage system. The CELEBRATE Brokerage System, which was a way of connecting initially four repositories of LOs and allowing users to search for and retrieve a LO on that system, provided a working model for how both schools and commercial publishers could develop and make available media-rich LOs both separately and in partnership. Precisely because all the elements of production, distribution, and use of LOs were involved, this was considered a feasibility study, and all that could be achieved by way of use of LOs by teachers was in the form of a pilot lasting a relatively short period of time (a maximum of four months). The data that forms the basis of this chapter were derived from an evaluation carried out by three of the universities involved (see Chapter XXVII for an account of the evaluation methodology).

The literature on LOs is largely based on technical aspects or on speculations about the benefits to producers and users of LOs, and much of this within the higher education sector. There are few empirical studies (e.g., Littlejohn, Jung & Broumley, 2003), and so this evaluation provided unique empirical evidence against which to judge the promises that pre-occupy the literature on LOs, extending it to include user experience (teachers). The evaluation revealed a positive view of LOs by school teachers, but a number of problems related to some of the major promises of LOs. The promises examined in this chapter relate to each of the phases of production, distribution and use (re-use) of LOs, and through this address the issues of:

- Interoperability, that is, that they can be used in different technical environments (Campbell, 2003; Koper, 2003);
- Reusability, that is, that though they might have been designed by one person with a particular learning context in mind, they can be used by another in a different context and in different combinations of LOs without making any changes to content (use “as is”) (Lambe, 2002);

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