Facilitating uptake of online role play: Reusability, learning objects and learning designs

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This study tracks the uptake of online role play in Australia from 1990 to 2006 and the affordances to its uptake. It examines reusability, as one affordance, from the perspective of two often polarized constructs: Learning Object and Learning Design. The study treats "reuse" on two levels: reuse of an existing online role play and reuse of an online role play as the model for another role play. In keeping with terminology that has come into recent use, we propose that the first level implies the online role play is used as a Learning Object and the second level implies the online role play is used as a Learning Design. Thirty six role plays were identified in Australian universities, of which 80% were reuse of a Learning Design. Only three examples of role play as Learning Object were found, indicating that so far Learning Design is the more useful concept in understanding reusability in universities. Other affordances to uptake of role play were also tracked. The contribution of Educational Developers far outweighed that of colleagues, conferences, journals and engines. The results have implications for the work practices of Educational Developers and for managers of Learning Object Repositories.

Keywords: reusability, learning objects, learning designs, online role play

Introduction

It is not yet clear whether Learning Designs is a movement that will take off with the same momentum as the Learning Objects industry. This study compares the two by focusing on online role play as the example of courseware. Role play is deliberately chosen because it is a learning design that does not have its pedagogical basis in a content transmission model of teaching. Because it presents a constructivist learning environment, it may better challenge the current definition of Learning Objects. It is also an area of teaching activity in Australian universities that is small enough that it can be investigated in detail via interview and case study rather than broad-brush survey methods. Most papers on Learning Objects are very theoretical and divorced from a real context. By discussing Learning Objects and reusability in a concrete teaching and learning context, it is anticipated that recommendations will be more meaningful.

Tracking use of online role play in Australian universities

The growth of online teaching has been very rapid in the past ten years, yet implementation of role play in an online setting is growing more slowly. In a previous national study (2001–2003), the essence of effective online role play was distilled into a Learning Design from analysis of seven exemplar case studies and interviews with fifteen role play designers (Wills & Ip, 2003; Hedberg et al, 2002). Since that study the authors have tracked the growth of new designers and found additional designers who were missed in the first study because they had not published about their work or were not available for participation in the project at the time. The current study identified role play designers in Australian universities via literature review, search of university teaching and learning websites, follow-up email survey with the original designers, new interviews with some of those designers, and personal approach (Table 1).

Some role plays have stopped running after three to four times of use, either because the designer moved universities and has not yet restarted the role play in a new context, or because the curriculum has changed and the role play has not yet been re-purposed for the new learning objectives. In the first

interval there was a quadruple increase. In the second interval, as the internet began to gain credence in teaching, there was a three fold increase. There is only a small increase in the last interval but this covers two years so far rather than five years. A number of new role plays are developing in at least nine universities. Some designers quoted in (Alexander, 2005, p.105) worry that online role play would lose its impact if it lost its uniqueness. Online role play is far from being at saturation point yet, but it is growing.

Table 1: Growth of online role play in Australian Universities 1990–2006

Growth in…	**1990–4**	**1995–9**	**2000–4**	**2005–6**
Number of **role plays** developed	2	7	22	36*
Number of **role play designers**	2	11	35	48

Note. * 10 of these 36 role plays are not currently running but most anticipate running again in the future

Reusability, Learning Objects and Learning Designs

Because online learning has become a large investment for universities and is now a concern of Information Technology Services and Finance Directors as well as Educational Development Centres, "reusability" has become a topic of high interest. The term "reuse" is used loosely and often overlaps with other terms like "uptake", "adoption", "adaptation", "modification" and "dissemination". In tracking the uptake of online role play in Australia from 1990 to 2006, this current study treats "reuse" on two levels: reuse of an existing online role play and reuse of an online role play as the model for another role play. In keeping with terminology that has come into recent use, we propose that the first level implies the online role play is used as a Learning Object and the second level implies the online role play is used as a Learning Design. Laurillard takes a similar approach to terminology in an unpublished presentation titled "A pedagogic focus for R&D: Generic e-learning activities as learning objects?" at an AUTC Learning Designs conference in Sydney, 2002, and in Chapter 7 of *Reusing Online Resources* (Littlejohn, 2003).

Of the 36 role plays developed during the 15 year period, 29 role plays (80%) were a reuse of another role play. Table 2 analyses the 29 role plays using the framework of learning objects and learning designs.

Table 2: Reuse of Learning Object and reuse of Learning Design

Reuse by…	Different teacher **same** discipline	Different teacher **different** discipline
same role play: Learning Object	6	0
same role play **design**: Learning Design	5	18

Before the analysis it had been predicted that most role plays would fall into the category of "Reuse of same role play design by different teacher in same discipline" as this is the lesser "distance" to transfer. However results show substantial uptake of the Learning Design by different teachers in different disciplines. That 23 of the 36 role plays are reuse of a Learning Design supports the value of the original Learning Designs project: in a university context, Learning Design is currently a more useful concept than Learning Object.

Our motivation for tracking and analysing the role plays was to chart whether a role play can become a Learning Object in the same manner as packaged print-based simulations such as *BaFa BaFa* or educational software such as *SimCity*. Only three role plays have been reused by others.

Three role plays that have become Reusable Learning Objects

The first known university-level online role play developed in Australia, Andrew Vincent's Middle Eastern Politics at The University of Melbourne (1998), is a powerful example as it has become both a Learning Object and a Learning Design. Many of the 36 role plays now developed can track their ancestry back to Vincent's original design. When Vincent moved to Macquarie University in another state and reused the role play there, the role play continued, and flourished, at Melbourne. At Macquarie it has

been reused in schools and may be released as a part of a textbook. Therefore it counts as a Learning Object under the definition of reuse in this paper.

Elizabeth Devonshire, an Educational Developer at Macquarie (see Brierley et al 2003) and now at the University of Sydney, has reused her role play Learning Design three times. The Pain Management role play has recently been licensed to two overseas Universities and therefore counts as a Learning Object.

Likewise Maureen Bell's role play, Idontgoto University (2001), is reused by other teachers at the University of Wollongong in the same subject and by teachers at the University's Dubai campus.

Possibly, reusability in the form of Learning Objects is less likely in a University context because role play designers are highly expert in the discipline area of the role play, such as Politics or Geography, and bring a wealth of knowledge into the moderation of the role play which is difficult to duplicate in another university. Course outlines are often closely aligned to the research strengths of the academics employed in the department.

Reusable Learning Objects within online role plays

Bennett, Lockyer & Agostinho (2004), who were all involved in the original national project, have looked at Learning Designs from a different angle than the study reported here. They investigated how university teachers make use of generic learning designs as a framework for incorporating learning objects into their subjects. A Learning Design can incorporate Learning Objects, and if an online role play is built as a Learning Object then it is feasible that it could contain Learning Objects within it too. Scenarios, role descriptions, and resources produced for an online role play could all become reusable Learning Objects if developed appropriately. For example, a project at The University of Melbourne is currently investigating issues with reusing Cases, developed for Business School case-based learning, as Scenarios in role-based learning.

In this study, we found two instances where a component of a role play may be handed on as a Learning Object (Demetrious, 2003; Linser, Waniganayake & Wilks, 2004). In the first, a scenario in video format may be reused this year in a different department in the same university. In the second, a video-based scenario may be reused in a different department in another university. It is interesting that in both cases the Learning Object is in video format. Because there is a high investment in quality video production, it is worth trying to find other uses for it. In both cases the video is a very powerful trigger for the role play. However, according to one of the designers, video format can constrain reuse because the actors portray roles with real gender, age and ethnicity which cannot be modified for a different context, unlike a text-based scenario. The video scenario written for *A Different Lunch* is based in an early childhood setting. The role play issues have equal validity in a primary school setting but the video scenario precludes reuse in this new setting. These are the type of design issues that affect reuse of low granularity Learning Objects. The second part of this study will investigate the design issues for high granularity Learning Objects, that is, an entire online role play.

Other affordances to uptake of online role play

In tracking the growth of online role play, this study was looking for *reuse* as an affordance to uptake but it also noted other affordances: Colleague, Presentation/ Conference/Journal Papers, Educational Developers, Role Play Engine and the Learning Design website from the AUTC project (Table 3).

Table 3: Affordances for adoption of online role play in Australian universities

Affordance (in some cases more than one affordance)	**1990-4**	**1995-9**	**2000-4**	**2005-6**
1. Personal Handover as Learning Object	1	1	0	4
2. Colleague	1	1	1	3
3. Conference Presentation/Journal Paper		1	3	0
4. Educational Developer			10	12
5. Engine			7	5
6. AUTC Learning Design website				5

The first ten years of role play designers depended on a mix of the first three affordances. It was anticipated that after 2003 the AUTC Learning Design website would have impact, however interviews indicate that although the website has been counted five times as an affordance to five new role plays, the other affordance for these role plays is an Educational Developer. It is the Educational Developer, not the academic, who accesses the website.

Implications

Learning Objects, Repositories and Content Management Systems are presented as being the solution to reuse; however, they are really only underpinning technologies to support a university's explicit approach to facilitating reuse. Outcomes from the study reported in this paper imply that reusability must encompass Learning Objects at many levels of granularity, including Learning Objects within Learning Objects as well as encompassing Learning Designs, templates and guides plus cross-referencing in the Repository between them. A university's approach must build on existing affordances and provide reward and recognition for both *contribution* to the repository as well as for *reuse* of Learning Objects and Learning Designs retrieved from it. In addition, position descriptions for Educational Developers need to clearly articulate their role in identifying opportunities for reuse and designing for reuse. Given their indispensable role in mediating and facilitating reuse and reusability, decisions need to made about whether the Repository is designed for use by Educational Developers or for use by university teachers, as the interfaces will be different.

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