

IIS&R Project

CETIS Project Report

“Evaluation of the COLIS Framework from a UK Perspective”

Introduction

This report details the objectives, methodology and findings of research activity undertaken as part of the Macquarie E-Learning Centre of Excellence (MELCOE) Interaction of IT Systems & Repositories (IIS & R) project during the latter part of 2003. This research was undertaken by the Centre for Educational Technology Interoperability Standards (CETIS) which supports the UK further and higher education communities.

Project Team

The research activity was co-ordinated and facilitated on behalf of CETIS by an independent project facilitator, Dr Neil Ringan, Head of the Centre for Remote Access to Learning at Bolton Institute of HE. Lorna Campbell, the Deputy Director of CETIS and Lisa Corley, the CETIS Pedagogy Forum co-ordinator, contributed to the design of the research process and assisted in facilitating the project workshops.

Project Aim and Objectives

The overall aim of this research was to enable a cross section of practitioners from the UK FE and HE sectors to identify and discuss issues which may affect the implementation of an environment such as the COLIS framework to integrate systems and repositories within their own institutions and practice.

The specific objectives of the project were to identify :-

- The factors underpinning the successful implementation of a system such as the COLIS demonstrator to support teaching staff in implementing an MLE within their practice, and how these factors can be embedded within COLIS
- The interoperability issues which need to be addressed from the academic practitioner perspective to enable the effective use of environments such as the demonstrator
- Issues specific to the higher education (HE) and further education (FE) sectors which may inform the further development of COLIS and related environments

Methodology

Participants in the research were selected from respondents to an invitation to participate in the project which was posted to a number of CETIS discussion lists and other appropriate fora. All potential participants were required to work within either the UK FE or HE sectors and were required to be either teaching practitioners, or supporting teaching practitioners within their own institutions. A restriction on the

total number of participants in the project was imposed in order to ensure that group numbers did not inhibit opportunities for discussion. A total of 12 participants volunteered for the project, 5 from the HE sector and 7 from the FE sector.

The research project consisted of two face to face workshops, supported by email and an online discussion group. Participants were required to attend both workshops which were two weeks apart to enable time for reflection and consideration of the issues identified at the first session. During the first session participants were given a demonstration of the COLIS framework by James Dalziel from MELCOE and given the opportunity to identify specific queries or issues which they wished to clarify before considering the implications of adopting a framework such as COLIS within their own institution. At the end of this session participants were given a discussion paper which would form the basis of a focus group which would be utilised to identify and capture emerging issues.

Over the intervening two week period between the demonstration and the focus group, participants reflected on the issues discussed at the first meeting and used the discussion paper to discuss with colleagues at their own institution.

At the focus group meeting, the discussion paper was used to structure the meeting and the discussion was recorded (with the participants consent) as well as notes being made during the course of the session. The findings detailed in later sections of this report are primarily based on the discussions within the focus group but also reflect issues which were identified during the initial presentation by James and the subsequent discussions.

Project Findings

The discussions covered a broad range of areas relating to the implementation and associated development of an environment such as COLIS within institutions. The main contexts which were discussed were :-

- The impact of a COLIS-type environment on teaching practice
- Institutional drivers (and barriers) for a COLIS-type approach
- The range of staff who would need to be involved, and impacts on their roles
- The potential which a COLIS-type environment may afford in relation to teaching and institutional processes
- The likely drivers and barriers to adoption, both institutional and individual

The principal points emerging from the project are identified below against the three objectives of the project.

Identification of the factors underpinning the successful implementation of a system such as the COLIS demonstrator to support teaching staff in implementing an MLE within their practice, and how these can be embedded within COLIS

There must be a robust business case for the implementation of a system of this type which has clear long-term benefits. Interoperability is not necessarily part of the business plan in many institutions and was considered to have no obvious short term benefit. The perceived lack of benefit from considering interoperability issues was a common misconception in many institutions and often only came to be considered when attempts were made to interlink proprietary systems which were initially selected on the basis of providing an 'out of the box' solution. Difficulties identified

during these integration processes were often the driver for institutions to think about interoperability issues. The idea of investment in systems or processes without a clear, identified return on the investment was considered to be a very short term approach.

There must be a clear institutional strategy for integration otherwise any development or activity to integrate systems is of limited value. The lack of a coherent integrative strategy severely weakens any case for the tighter integration of systems. Having interoperability of systems may lead to potential ways of working or collaborations which are not yet obvious or could not be facilitated or supported without a framework such as COLIS.

Essential that any development of an integrated, interoperable system is seen as incremental and that there is unlikely to be an 'end' to it since new systems will come on stream and new interactions will require to be developed.

Need to identify clear "easy wins" which will encourage stakeholders to see the value of an integrated environment. A learning object repository with a single search gateway is a major selling point for many academic staff but this needs to be presented and accessible in an easy, well managed and structured way if it is to aid staff rather than just be another set of resources which are available to them.

A system such as COLIS could be the catalyst to effect change and collaboration within an institution. Staff who need to be involved often do not interact with each other as part of normal activity so bringing them together as part of an initiative such as this could be a major benefit.

Institutions working with the same products and systems should collaborate in order to gain efficiency savings and to identify and address similar problems. This approach would also enable them to exert more influence than if working independently.

Integration should be supported by and referenced within the institutional e-learning strategy and other relevant strategies

Implementation must be driven from the learning and teaching dimension rather than the administrative side. Benefit of integrating systems should be to support different modes and formats of learning and teaching, not enabling more effective business processes. In other words business process re-engineering should be a means to an end rather than the end in itself. This is a tension with some of the current funding drivers for integration which are directed at cost savings and using technology to support business processes.

Issues which are identified as part of integration processes within institutions need to be cascaded effectively across the sector in a pragmatic fashion.

A lot of the evidence for integration is anecdotal. Whilst this is often good enough, we need to become much more analytical and evidence-based in terms of moving forward in relation to obtaining funding and resources to support future developments.

At the moment there seems to be a lack of the student perspective. What would students like to be able to do? Don't want to "Google-ise" learning and teaching by just having a huge learning object repository available to them to search. Has to be integrated in a sensible, usable and pedagogically sound fashion.

A shared understanding of what is trying to be created and how (and why) this relates to other institutional processes is a fundamental part of an effective implementation strategy.

One approach would be to set up project teams and user groups with the technical group receiving input from the user community (including students). Formal processes and procedures can then be agreed and embedded.

Senior management commitment or support is often seen by other staff as a 'kiss of death' and the system is therefore seen as a management tool rather than as a useful resource to support learning and teaching. This dynamic was considered to be dependent on the management culture of an individual organisation and some participants considered that without senior management commitment it would be impossible to implement major projects within their institution.

Identification of the interoperability issues which require to be addressed from the academic practitioner perspective to enable the effective use of environments such as the demonstrator

At this stage it is not helpful for standards to be set in stone since everyone is "working towards" integration so some form of transitional standards which could be reviewed and updated easily would be more beneficial.

There are obvious reasons for interoperability in some areas (e.g. VLE to SRS) but reasons are less clear, if present at all, between other systems.

We need to bear in mind that COLIS is a research project and consequently it is likely to represent an idealised model of interoperability or representation of the situation in which individual institutions are attempting to integrate systems. 'Real world' implementations would require to address local institutional processes, policies and systems (hardware, software and operational).

Also need to consider and address issues of interoperability between institutions as well as within the same institution. Particularly important in relation to transferability of student data and also ensuring effective sharing and integration of learning objects.

For the concept of a learning object repository to effectively integrate with a learning environment requires the embedding of digital rights management tools as a fundamental principle in order that staff can easily and confidently utilise resources which they identify.

The concept of learning object repositories is still a bit fuzzy in some respects. Academic staff get excited by the opportunities which they may afford but still very early days. LTSN subject centres could have a major role in promoting/developing subject-based repositories.

Production of learning outcomes needs to be focussed on identifying a problem and finding a technology to fit it rather than the other way round which is often the case at the moment.

Whole process around identification and management of learning objects needs to be formalised.

The integration has to be flexible enough to be able to cope with a wide range of contexts. There is no “one size fits of all” either of how staff will want to apply a system such as COLIS nor how students will want to access and utilise it.

Identification of any issues specific to the higher education (HE) and further education (FE) sectors which may inform the further development of COLIS and related environments

Discussions have already occurred about whether VLEs and similar systems are pedagogically neutral, but there is also a debate about whether VLEs and MLEs are culturally neutral. There is often an assumed mode of operation within systems such as these which may not effectively map onto existing institutional practice, and which may be difficult to change due to cultural issues within the institution.

There is no disagreement with integration being a worthwhile goal, and for this to be supported using interoperable systems, but identifying the business case and making a clear argument for resources to support this approach is difficult in many institutions.

The contexts, drivers and barriers within HE and FE are totally different and implementation of a COLIS-type system would need to focus on the specific ones associated with a given sector and institution.

Many institutions have initiated projects to look at integration between specific systems (usually VLE and SRS) or to develop a student portal but this has usually been undertaken with no real consideration of interoperability or standards. Essential that any activity of this type does not influence or compromise standards-based interoperable integration in the future.

Institutional structures also impact on the development of interoperable systems. Traditionally institutions have not operated in a way which requires different groups of staff to work together or share data so we must ensure that new structures reflect a different way of working. Institutions do not have the neutral structure which is assumed in an environment such as COLIS and the structure should be effectively addressed in implementing a COLIS-type environment.

Many staff do not have the vocabulary or conceptual understanding of the educational potential of interoperable systems in order to describe or contribute to the development and implementation of an environment such as COLIS. We therefore need to ensure that effective development and understanding occurs. Terminology is currently an issue for many staff but it is unclear about whether this will fade away or not.

Integration of library and access management systems are not a high priority at the moment whereas management information systems, human resources and finance systems are, especially within the FE sector.

Difficult to identify which organisation or group might have the credibility within the sectors to take lead responsibility in this area and to ensure effective working and development. JISC perceived as one option but unclear if they have appropriate credibility across all potential stakeholders.

There are potential impacts on the roles and responsibilities of a wide range of staff within institutions, particularly staff working at boundaries between central and

departmental activity and at the boundary between academic and technical/support functions.

Staff across all levels and roles require guidance on the possible implications on their role, particularly if not familiar with delivering learning and teaching in this way.

Summary

The research undertaken as part of the IIS&R project has identified a broad range of issues and concepts which would need to be addressed as part of the implementation of an environment such as COLIS. Some of these issues are at the institutional level, some affect the entire sector (either FE or HE) and some lie in the domain of developers of systems which are, or claim to be, interoperable.

The overarching themes which emerged during the research project were :-

- The user view of an environment such as COLIS needs to be appropriate to the needs of each individual user
- Implementation of an interoperable system requires a team approach involving an appropriate blend of technical, academic and administrative staff
- The focus of an integrated, interoperable system should be on enhancing learning and teaching rather than on enhancing business processes
- Institutional investment and business processes need to recognise the fundamental importance of interoperability between systems