Timmons, Stephen and Wharrad, Heather and Vezyridis, Paraskevas and Randle, Jacqueline and Lymn, Joanne and Bath-Hextall, Fiona (2010) Building and sustaining collaboration in cross sector e-learning development. In: Interprofessional e-learning and collaborative work: practices and technologies. IGI Global, Hershey, pp. 166-175. ISBN 9781615208890

Access from the University of Nottingham repository:
http://eprints.nottingham.ac.uk/31261/1/wharrad%20chap14_bromage%20book2010.pdf

For more information, please contact

Interprofessional
E-Learning and
Collaborative Work:
Practices and Technologies

Adrian Bromage
University of Birmingham, UK

Lynn Clouder
Coventry University, UK

Jill Thistlethwaite
University of Warwick, UK

Frances Gordon
Sheffield Hallam University (SHU), UK

Chapter 14

Building and Sustaining Collaboration in Cross Sector E-Learning Development

Stephen Timmons
University of Nottingham, UK

Heather Wharrad
University of Nottingham, UK

Paraskevas Vezyridis
University of Nottingham, UK

Jacqueline Randle
University of Nottingham, UK

Joanne Lymn
University of Nottingham, UK

Fiona Bath-Hextall
University of Nottingham, UK

ABSTRACT

This chapter will focus on the process of building and sustaining collaborative reusable e-learning object development across three educational sectors, Higher Education (HE), the UK National Health Service (NHS) and Further Education (FE) Colleges, using the LOLA project as a case study. A qualitative evaluation of 'process' ran alongside the entirety of the LOLA project. This chapter reports the findings of this qualitative research, and analyses how collaboration was achieved between the diverse institutions who were project partners. The strengths of this approach included the commitment of the team members to collaboration, while practical challenges included the location of the team members, but also wider issues in the institutions involved, and in particular, the role of the Media Developer and the perception of it by other team members.

INTRODUCTION

The LOLA project explored learning objects for life-long learning, and was a cross-sector collaboration across three educational sectors, Higher Education (HE), the UK National Health Service (NHS) and Further Education (FE) Colleges. These sectors were represented by the University of Nottingham School of Nursing, Nottingham University Hospitals NHS Trust, and Castle College Nottingham respectively. The overall aim of the project was to produce a set of Reusable Learning Objects (RLOs) covering a range of health care topics. The intention was that these RLOs would be usable across the three educational sectors involved in the project.

While there is general agreement that cross-sector collaboration is a desirable aim, it has not always been achieved. As the Department for Education and Skills (2003) said:

There is too little cross-sector collaboration in supporting learners as they move through the education system – we need a greater focus on linking our public sector systems to provide unified support for learners throughout life (Department for Education and Skills, 2003).

For students there are clear benefits. A student on an Access to HE course at an FE college accessing a repository of learning objects to support their studies moves to a university nursing course and has access to the same repository and a similar set of learning objects (albeit at a different academic level). The same individual would be able to access the repository as a qualified nurse continuing their education in the work place. A common repository of learning objects to support learning helps to create a seamless transition as students move across learning sectors (Universities Collaboration in E-Learning (UCEL), 2009).

Successful communities of practice have taken this collaborative approach, including the Universities Collaboration in e-learning (UCeL)

and the National Learning Network (NLN) in the FE sector. Though cross sector initiatives exist, they tend to be small scale. The universities of Bournemouth and Plymouth have partnered local colleges to produce resources for courses in Tourism and Arts. Cross-sector collaboration has also been achieved in language learning (Scottish Centre for Information on Language Teaching and Research, 2008). By widely disseminating the items in the repository and exchanging materials with other communities, time and funding constraints as well as project commitments were significantly reduced. This is because the production of new RLOs will often involve just reorganising assets into new ones or creating only those RLOs that are not yet available. It is worth noting that the development and maintenance of open repositories can be greatly beneficial for sectors like the FE where current conditions do not permit the development of them in-house (Fleming, Tammone & Wahl, 2002).

The LOLA project, the RLOs produced, their use and evaluation are discussed in more detail in chapters in this volume by our colleagues Richard Windle and Heather Wharrad. The LOLA project was funded by a grant from the Eduserv Foundation (2009). Instead of an external or top-down managerial introduction of a repository, the aim was to recruit members from various sectors who could be equally involved in the development and were willing to advertise and incorporate these materials into their daily teaching practice. This chapter will discuss the 'how' of building and sustaining collaboration, often a neglected topic in the e-learning literature.

A collaborative, cross-sector approach is thought to be essential for lifelong learning (Jameson & DeFreitas 2006), and they are well developed in nursing and health studies (Brady, 1997; Trim, 2001), though not specifically for the development of e-learning. Jameson et al. (2006, 964) report on two cross-sector collaborations (eLISA and CAMEL) to recommend a "controlled form of collaborative distributed-coordinated

leadership within team-based e-learning projects". McConville (2007) reports an initiative where FE students were given access to HE e-learning resources, though this was designed principally as an aid to recruitment. One of the few papers to consider cross-sector collaboration in detail is by Connolly, Jones and Jones (2007), however, the study reported in this chapter is wider in scope in so far as the LOLA project encompassed Higher Education (HE), Further Education (FE) and UK National Health Service (NHS) partners.

We can therefore see that while cross-sector collaboration has much to recommend it as a model for e-learning development, it is not a straightforward process, and in particular, it is unclear the extent to which the development teams can work interprofessionally: as task-focussed team working between members of different professions who communicate and learn from each other in order to achieve shared objectives. While institutional and cross-sector collaboration are often cited as examples of good practice (Hanna, 1998; Reid, 1999; Mason & Lefrere, 2003), and have been positively supported at a policy level, (Harvey and Beards 2004) what is unusual about the LOLA project is that this research study, explicitly designed to investigate these issues, was designed into the project from its inception.

The University of Nottingham School of Nursing already has some experience in collaboration with other HE institutions through the UCEL collaboration (UCEL, 2009). The University of Nottingham Centre for International ePortfolio Development has successfully developed technology which supports lifelong learning (Hartnell-Young et al., 2006), though their paper concentrates largely on the technical, rather than the organisational issues. This evaluation of process was built in to the original grant application for the funding of the LOLA project and we are therefore able to present a distinctive perspective on the building and sustain of cross-sector collaboration in e-learning development.

Methods

The research methods used to investigate collaboration within the project were qualitative. These included two rounds of interviews, one about half way through the project, and another round when the project was completed. The interviews were conducted by a researcher independent of the project, in order to give a degree of critical distance from the project and its participants. The interviewees were all the collaborators in the project (n=9) including Content Developers, the Project Leads and the Media Developers, drawn from all collaborating institutions. The same interviewees were used at each stage of the research, and their names were anonymised. Interviews were lasted about 30-45 minutes, were digitally recorded and then transcribed verbatim. The data were then analysed, also by an independent researcher. Analysis was conducted using QSR Nvivo 8, creating codes to describe sections of data, and then grouping those codes into the themes reported below.

Findings

Positive Interprofessional Experience

Participation in cross-sector collaborative teams for the development of RLOs was generally conceived as a positive experience by the members of the project. For uninitiated members it offered the opportunity to work collaboratively and exchange perspectives and teaching materials towards the development of innovative educational tools. For experienced members it reinforced and strengthened this attitude. In particular, we have indentified two main aspects which contribute to the perceived positive experience. These were the exchange of perspectives, and an increase in knowledge.

Working collaboratively offered a great opportunity for staff from different sectors to meet and exchange perceptions, ideas, thoughts

and teaching materials about common areas of expertise. It also offers an opportunity for sectors (particularly FE) that do not have sufficient resources to proceed with such developments by taking advantage of those of other sectors which are more self-sufficient, especially in the area of media development:

I think it has been really positive! You know, especially with working with [name] and I just wish it would continue (Interviewee 1).

Furthermore, it offers an opportunity for colleagues to understand each other's working and teaching areas, as well as the requirements that need to be considered during the development of the RLO, and in relation to the different user groups and their educational needs. Although there is an unsurprising tendency for all representative of a particular sector to think first about its own students-users and then about cross-sector re-usability, the discussions during the development process were of great benefit to all the members and, in effect, the audiences, since the end products crystallise their various perspectives:

I hope especially if positive results come from this, it will pave the way for other FE colleges and Higher Education Institutions to collaborate and not just for financial gain but for being able to get students to learn the value of education better by using better resources, I think it is a really good opportunity (Interviewee 3).

Moreover, this opportunity was of great benefit to all members because the exchange of perspectives led also to the exchange of knowledge. In fact, the development of an RLO became a learning process for all the members involved, including the Media Developer, whose role was to produce the RLOs, principally in Macromedia Flash, based on designs and content produced by other team members, through sharing and challenging ideas and practices. They have indeed achieved

interprofessional task-focussed team working, as members of different professions who communicate and learn from each other to achieve shared objectives.

One major positive outcome from this collaboration was the opportunity for all members to evaluate and rework their teaching style. The development of a RLO necessitates the content to be able to stand alone. Any assumptions that the content author has prior to this development, and in relation to the teaching materials in the classroom, need to be re-examined and refined for inclusion, since each RLO needs to be self-explanatory, with appropriate use of language and wording and coherent structure and meaning.

The team members' initial excitement and enthusiasm for working collaboratively with colleagues from other sectors was maintained throughout the development of RLOs. In many cases this was reinforced as the project came to fruition and the end products started being used by students. The wider dissemination of the produced materials promoted their work and enhanced the reputation of the institutions in which they are located. In addition, the wider dissemination of the developed RLOs contributed to the exchange of materials, ideas, thoughts and teaching styles not only within but also outside the collaborative team.

Approach

Contrary to the dominant top-down approach in the development of RLOs, a bottom-up approach offered an alternative development process concentrated on creating a feeling of ownership and a community of practice for team members closer to the student-user. The bottom-up approach was welcomed by all members of this project team, who thought that the materials produced were more likely to be used as a result. It was observed that as soon as people from the sectors involved, who were not initially involved in the project, began to understand and appreciate the value of the RLOs produced by their colleagues' involve-

ment, they expressed considerable enthusiasm for participation:

So our approach was you know getting a bottom up approach, getting communities of people together, running workshops and deciding on you know what sort of resources as a group would benefit our different groups of students (Interviewee 2).

This fact had a two-fold benefit for the project team. Firstly, they continued the advertising and incorporation of the RLOs into their teaching. Secondly, they provided the team with constructive feedback about the appropriateness of the RLOs for their students' learning requirements. For example, even though the project team included FE members, it was their colleagues who pointed to that fact that the language used for specific RLOs was above the standard that many of their students would be able to understand.

While the overall experience of collaboration was positive, a number of issues were raised in the interviews which elucidate some of the barriers to collaboration. These were 'physical location', 'managers and colleagues', 'time constraints', 'funding', 'RLO concepts', and importantly, the 'Media Developer's role'.

Issues: Physical Location

Physical location had a major impact on communication between members. Sectors that were in close proximity (especially within the same building) were more likely to develop informal communication channels. In many cases, the location of the involved sectors often seems to offer additional informal channels of communication and may very well support informal and face to face communication especially when team members, even if they come from different sectors, are located within the same premises. As a result, the University and NHS Trust project members worked more closely together on the RLO production than did the FE college lecturers:

sometimes getting hold of them is even more difficult because their schedules don't have that sort of inherent flexibility (Interviewee 4).

Issues: Managers & Colleagues

The development of RLOs can often be very time consuming. Therefore immediate educational benefits for the institutions involved might only arrive at a later stage. Managers and colleagues (particularly those who have had experience in collaborative teams) needed to be involved from the early stages of the development, in order for the members of the team to be able to negotiate effectively their contribution with regards to their pre-existing work commitments. Managers' involvement was also important where future reorganisations or unexpected increases in work affected and even jeopardised members' involvement. Team members thought that it is important for the people around them to understand and appreciate the value of the RLOs as early as possible, not only for the support of existing members, but also as an effective way of attracting new contributing members:

I think if it was going to be done again I think it would need to be structured at the beginning so that the staff knew exactly what was expected of them, [and] their managers in order for the managers to appreciate the length of time it takes to help to support the members of staff (Interviewee 6).

Issues: Time Constraints

The most challenging aspect in forming cross-sector and cross institutional collaborative networks developing RLOs was undoubtedly time and the synchronisation of team members' availability. In general, academics tend to be presented with more inherent flexibility in terms of work commitments and schedules when compared to other sectors like

healthcare organisations and FE. However, this flexibility is often underestimated or not appropriately utilised to support the project, especially in terms of academics being willing to visit other sectors for formal meetings when the members of these sectors are unable to travel to universities, in which the Media Developer is usually located.

There was also the need for all members to update their group regularly about their own whereabouts, and particularly about their availability for meetings and development work (such as photo shooting, filming, narration), in order to synchronise activities and tasks. For example, there were instances where the group made an assumption that a team member is under a heavy schedule at a particular time when in fact that was not (or was no longer) the case, wasting valuable time towards the development of an RLO.

Issues: Funding

As always funding is needed for this kind of project. The major portion went on the media development of the RLOs to hire an experienced media technologist for the actual technical creation. However, all team members thought that it would have been helpful to buy their time out, particularly in sectors where heavy schedules and increased work commitments might detract from them from being active members of the development team:

the funding, everything, whatever you would be compensated for, whether it's money for creation of the project or money to buy your time out, it needs to be sorted out right from the very beginning (Interviewee 6).

Issues: RLO Concepts

The conceptual development of a RLO for common use among educational sectors with various levels of learning was a great challenge. A satis-

factory level of explanation and communication of concepts (especially between FE and HE) was sometimes hard to achieve. The appropriate choice of the RLO concepts determined the formation of sub-groups within the team. There was a tendency for members to elaborate on already-existing relationships with the aim of developing RLOs intended to benefit the students of their own sectors:

I think I geared mine very much towards FE students (Interviewee 7).

However, even within the same educational sector there was a danger that the RLO might be too specific and, thus inapplicable to other institutions of the same sector. For example, especially when developing RLOs with very specific practical instructions and guidelines this might prohibit other similar institutions from using them since they might not adhere to those institutions' internal policies:

but the supporting material that is cited within the actual RLO itself which I think was a bit of a mistake doing it that way, that will change, that may become outdated (Interviewee 4).

It was, therefore, important for the team to set clear targets about the kinds of RLOs expected to be produced. At this point, the team had to consider an educational level-based approach in the development of concepts into RLOs. In this way, the concept could progress incrementally in complexity and language, at various levels under a lifelong learning approach.

Therefore, the resulting RLOs concentrated on the explanation and communication of basic principles, theories and basic practical steps that are widely accepted, and then elaborate on this concept by building-in exceptions and specificities, perhaps via another accompanying RLO. The RLO repository developed as part of the LOLA project has a valuable role, in the sense that it can provide interested parties with assets to con-

figure the RLO according to their institutional environment.

Issue: Media Developer's Role

In developing RLOs for digital dissemination, the Media Developer has a central position in the collaborative team. This is because they usually have the experience and knowledge regarding the capabilities of current software packages for the development of RLOs which other team members lack.

However, their centrality is not always acknowledged: teams tend to assume that as long as the RLO is put on paper and the content has been created, the Media Developer will then be able to proceed with the digital construction of the RLO. This one-way, non-interprofessional collaboration may have a significant impact on both the time needed for the development and on the quality of the final product. This then, is the potential trap for teams producing RLOs; a 'blindness' towards inadequacies in their own interprofessional team working:

I personally would have liked to have spent more time here actually with the media developers (Interviewee 6).

In particular, members of the network who are unfamiliar with the relevant technology found it difficult to communicate their vision of a specific RLO to the Media Developer, and at the same time, it was for the latter to interpret it appropriately. Particularly for RLOs of extended size and scale, interpreting words and thoughts into suitable images, audio and interaction can be a very involved process. As a result the development of such RLOs became very time consuming, since there was a need for greater communication between the Content Author and the Media Developer.

Furthermore, there was the possibility that tensions would develop between these members of the team, particularly when the Media Developer's

interpretation began to affect the accuracy of the information included in the RLO. It therefore needed to be constantly reworked by the Media Developer. Lastly, as more time was spent on the RLO by the Content Author, although they began to realise what was achievable and practicable, there was a danger that they might also begin to forget their initial vision of the RLO.

DISCUSSION AND IMPLICATIONS FOR PRACTICE

This detailed study of collaborative processes in a cross-sector e-learning project has shown that collaboration between institutions in different educational sectors is indeed practical, and generates many of the benefits that the literature predicts (Hanna, 1998; Reid, 1999; Mason & Lefrere, 2003).

During this project, two of the sectors involved (National Health Service (NHS) organisations and Further Education (FE) Colleges) underwent massive re-organisations which greatly affected the progress of developing RLOs. In general, we can say that these two sectors that have slightly different educational purposes are more likely to experience both anticipatable and unanticipated obstacles during their participation. These needed to have been considered as much as possible at a very early stage in the project. Early involvement of line managers should have been sought to facilitate smooth progress. A further issue is that team members from the NHS and FE sectors are often under the management of two or three people, and so their managers' agreement and involvement was a prerequisite for their participation.

While collaboration was enthusiastically embraced by the staff involved from all three sectors, obstacles that arose at the level of the organisation. While the individuals (and, generally, their line managers) were keen to work together across institutions, the institutions themselves, pursuing divergent priorities, often caused problems for

the team members. Some of these, such as major reorganisation were unavoidable. However, as the project progressed, senior managers became more aware of the project and its benefits for each collaborating institution. This often smoothed the path in terms of some of the obstacles that the team members encountered. A key recommendation is, therefore, to ensure that not only the direct managers, but also more senior managers, are aware of projects like LOLA and understand what benefits they can bring. We would concur with Jameson et al. (2006) that a collaborative management style within the LOLA project was a key factor in its success. Again, this was an explicit aim of the project, to build a community of practice (Wenger, 1998).

This opportunity was found to be beneficial to all members, because the exchange of perspectives led also to an exchange of knowledge. The development of an RLO became a learning process for all the members involved, including the Media Developer, whose role was to translate plans into digital media. To this extent, the teams did succeed in practicing interprofessional task-focussed team working, as members of different professions who communicated and learned from each other to achieve shared objectives.

However there was one emergent challenge: the centrality of the Media Developer was not always acknowledged: teams tended assume that if they put an RLO on paper, the Media Developer will be able to digitally construct the RLO, yet it was found in practice that they must be actively involved throughout the entire design process. This one-way non-interprofessional collaboration arguably reflected a 'blindness' towards the inadequacies of their own interprofessional team working, and one that such teams must be aware of in any future collaboration.

Therefore it is suggested that the Media Developer has an active role from the very first stages of the team formulation and the discussions around the development of specifications and contents of RLOs. This is not only for the

team to be able to define what can be achieved in terms of technology per se but also what the selected media developer can create in terms of her experience and knowledge in the use of the relevant software packages. It is also desirable for the media developer to be able to understand and familiarise herself with the jargon (such as acronyms) used by members from other sectors, facilitating more effective communication within the time constraints. Lastly, this early involvement will offer other content authors the opportunity to expand their vision about a particular RLO in order to include advanced interactive features that might have not initially been thought of.

This collaboration could expand even more and include the exchange of teaching (for teachers) and learning (for students) techniques and styles among the involved sectors. By exchanging visits to sectors and classrooms, the members will be able to understand the different settings as well as the different styles and requirements of learning. In this way, the content authors and the media developers will be able to exchange feedback that could potential be invaluable for the development of RLOs since they would be more sensitive to particular learning styles.

FUTURE RESEARCH DIRECTIONS

The case study reported in this chapter is relatively small scale, and the generalisability of any qualitative project are limited, however, it is clear that the issues of process, especially in terms of cross-sector working remain poorly understood. We would therefore recommend that further studies of this type are conducted alongside developments in e-learning, and perhaps this should become a standard for the evaluation of projects of this kind. It would also be interesting to see if these issues were reproduced at a much larger scale, or whether different organisational and managerial issues became more important.

CONCLUSION

Team members drawn from three different educational sectors working interprofessionally to create RLOs felt that the experience had been a great opportunity to meet and exchange perceptions, ideas, thoughts and teaching materials about common areas of expertise. It also offers an opportunity for sectors (particularly FE) that do not have sufficient resources to proceed with such developments by taking advantage of those of other sectors which are more self-sufficient, especially in the area of media development.

However there was one emergent challenge to this interprofessional teamworking: teams tended assume that if they put an RLO on paper, the Media Developer will be able to digitally construct the RLO, yet it was found in practice that they must be actively involved throughout the entire design process. It is thus strongly recommended that interprofessional teams working to produce RLOs must reflect upon the inadequacies of their own interprofessional team working, and take steps to ensure that all team members are aware that Media Designers are not mere translators of ideas into a digital format, but have much expertise to offer on an equal footing with other team members. With the proliferation of digital media, it is likely that in future years, Media Developers will have gained their expertise during graduate and post-graduate studies of media production, and be certified academics in their own right.

REFERENCES

Brady, D. (1997). Further and higher education partnerships: the future for collaboration. *Journal of Vocational Education and Training*, *49*(1), 167–175. doi:10.1080/13636829700200292

Connolly, M., Jones, C., & Jones, N. (2007). Managing collaboration across further and higher education: a case in practice. *Journal of Further and Higher Education*, *31*(2), 159–169. doi:10.1080/03098770701267630

Department for Education and Skills. (2003). *Towards a Unified e-Learning Strategy*. Consultation Document. Retrieved March 4, 2009, from http://publications.teachernet.gov.uk/eOrderingDownload/DfES-0455-2003.pdf

Eduserv Foundation. (2009). *Research and Innovation*. Retrieved March 4, 2009, from http://www.eduserv.org.uk/research

Fleming, T., Tammone, W., & Wahl, M. (2002). *E-Learning: Addressing the Challenges via Collaboration*. Washington, DC: US Department of Education. Retrieved February 14, 2009, from http://eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/1a/52/e9.pdf

Hanna, D. E. (1998). Higher education in an era of digital competition: Emerging organizational models. *Journal of Asynchronous Learning Networks*, *2*(1), 66–96.

Hartnell-Young, E., Smallwood, A., Kingston, S., & Harley, P. (2006). Joining up the episodes of lifelong learning: A regional transition project. *British Journal of Educational Technology*, *37*(6), 853–866. doi:10.1111/j.1467-8535.2006.00668.x

Harvey, B., & Beards, D. (2004). E-learning in Scottish further and higher education. *Education + Training*, *46*(6/7), 353–360. doi:10.1108/00400910410555268

Jameson, J., & DeFreitas, S. (2006). Editorial: Collaborative e-support for lifelong learning. *British Journal of Educational Technology*, *37*(6), 817–824. doi:10.1111/j.1467-8535.2006.00665.x

Jameson, J., Ferrell, G., Kelly, J., Walker, S., & Ryan, M. (2006). Building trust and shared knowledge in communities of e-learning practice: collaborative leadership in the JISC eLISA and CAMEL lifelong learning projects. *British Journal of Educational Technology*, *37*(6), 949–967. doi:10.1111/j.1467-8535.2006.00669.x

Mason, J., & Lefrere, P. (2003). Trust, collaboration, e-learning and organisational transformation. *International Journal of Training and Development*, *7*(4), 259–270. doi:10.1046/j.1360-3736.2003.00185.x

McConville, S. (2007). *Widening Participation: A Virtual Approach to F.E. Collaboration*. Wolverhampton, UK: University of Wolverhampton. Retrieved February 14, 2009, from http://wlv. openrepository.com/wlv/handle/2436/18076

Reid, I. C. (1999). Beyond models: Developing a university strategy for online instruction. *Journal of Asynchronous Learning Networks*, *3*(1), 19–31.

Scottish Centre for Information on Language Teaching and Research. (2008). *Cross sector collaborative activities to promote modern languages in Scotland*. Report to the Subject Centre for Languages, Linguistics and Area Studies.

Trim, P. (2001). An Analysis of a Partnership Arrangement between an Institution of Further Education and an Institution of Higher Education. *Journal of Further and Higher Education*, *25*(1), 107–116. doi:10.1080/03098770020030542

Universities Collaboration in E-Learning (UCEL). (2009). *UCEL Homepage*. Retrieved February 14, 2009, from http://www.ucel.ac.uk/

Wenger, E. (1998). *Communities of practice: learning, meaning, and identity*. Cambridge, UK: Cambridge University Press.