Inquiry-based Learning and Networked Learning

A meta-analytical study

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1 Introduction

This document analyses 44 Theory of Change (ToC) documents developed for the evaluation of departmental programmes and individual inquiry-based learning (IBL) grant projects, up to summer 2008, with view to identifying over-arching themes related to networked learning, and linking these to the CILASS Programme Theory of Change (available at www.shef.ac.uk/content/1/c6/11/08/47/CILASS_ToC.pdf).

CILASS subscribes to the definition of ‘networked learning’ that is associated with the Centre for Studies of Advanced Learning Technologies (CSALT) at Lancaster University, and reported by Jones (2004):

*Networked learning is learning in which information and communication technology (C&IT) is used to promote connections: between one learner and other learners, between learners and tutors; between a learning community and its learning resources.*

(Jones, 2004, p. 89)

The above definition lends itself to utilisation within the inquiry-based learning context as it excludes those aspects of technology which could be used to simply automate learning – through multiple choice tests, online repositories and/or databases. Although these exist within the portfolio of CILASS projects, it is the pedagogical approach which warrants their inclusion in inquiry-based learning development projects.

2 Methodology

Out of the 44 Theories of Change developed by July 2008, 17 constitute individual projects, which normally revolve around individual modules, and 27 constitute departmental programmes, which normally seek to impact on a variety of modules or include over-arching initiatives. All documents were coded using Atlas.ti following the idea of ‘chunking’ employed by Bamberger and Schön (1991, p. 187). This approach, loosely related to grounded theory, allowed for the emergence of codes not necessarily related to the over-arching CILASS themes, facilitating the emergence of spontaneous data and unanticipated connections. Bamberger and Schön comment:

*Once having found a chunking that seemed right, we went back and looked for the criteria we had quite spontaneously used. In other words, we reflected on our own behaviour while at the same time letting the behaviour of our participant ‘talk back’ to us [...]. These various chunkings served to help us see in new ways. New moves, new behaviour, new features of the protocol were ‘liberated’ – that is, things we hadn’t seen at all became ‘visible’. But, most important, we gained insight into our own, often tacit assumptions [...] (p. 187).*

The spontaneous code list is included in the Appendix, page 20. Following the emergence of these codes, this document will now explore the CILASS Programme ToC as the over-arching evaluative document, and will address its themes in turn. It will then highlight remaining references to networked learning in departmental and project ToCs, in line with CILASS’s remit to report on and encourage ‘unanticipated outcomes’. It is hoped that this approach allows for the insight into ‘tacit assumptions’ Bamberger and Schön raise above.
2.1 Wording, phrasing and coding

One issue surrounding the coding of networked learning activities is that of different priorities regarding wording. Rarely do two Theories of Change attach a comparable level of importance to networked learning. This means that, in some cases, technology as a tool is featuring prominently (usually where the project revolves around the development of a new online resource) – in these cases, a pedagogical tie-in is often assumed, and potentially clear to the project leader; however, to the outsider, the exact use of the resource for IBL purposes can remain unclear.

At the other extreme, technology is seen only as a tool to support IBL, and as such features very little. The Theory of Change will mention tasks being created and/or skills (e.g. information literacy skills) being developed, without alluding to the fact that networked learning technologies will be used. This is particularly the case where staff are technologically confident, i.e. perceive little support needs in relation to networked learning technologies. As the Theory of Change is intended to highlight ways in which the existing situation will change, it appears only natural that project leaders will focus on those areas which to them signifies the greatest departure from their current situation and comfort zone. Unlike other areas within the CILASS scope (e.g. information literacy and collaborative inquiry), networked learning in and of itself could be considered to be pedagogically neutral. There are two points arising from this:

a) the fact that a project intends to use networked learning technologies does not, inherently, make this project inquiry-based learning

b) it is entirely feasible that a project may not entail any networked learning at all, yet still engage students in inquiry-based learning.

Indeed, four Theories of Change documents do not mention technology at all [French IBL, HCS IBL, Education IBL, Clinical Dentistry], with others mentioning it only marginally [ACSE].

A number of ToCs appear to be over-generalising – not necessarily equating, but stating as a desired outcome that students should be “better able to engage with WebCT and IBL techniques” [Individual IBL Grant] – this over-generalisation fails to engage in detail with potential links and/or differences between IBL and NL, although it could be argued that, as WebCT is the institutional VLE, better knowledge thereof could assist the facilitation of IBL.

3 Networked Learning in the CILASS programme ToC

The CILASS Programme Theory of Change engages with Networked Learning in a number of instances. This document seeks to address each of these instances in turn and, where appropriate, map them with regards to the relevant departmental programme and project ToCs.

The CILASS ToC clearly recognises the need for embedded use of networked learning in order to facilitate IBL. This is illustrated in the statement in the ‘current situation’

2. Benefits identified in linking IBL with information literacy, and in adopting collaborative, interdisciplinary and networked learning approaches.

As outlined above, this embeddedness appears not to have been realized in all projects thus far, but will be further covered below.
3.1 Availability of technology and learning spaces

The CILASS Programme ToC recognises that, at the outset of CILASS, spaces and availability of technology did not inherently lend themselves to an embedded IBL approach, where through the use of technology or not:

8. Not many physical learning environments at UoS facilitate IBL activity in the classroom.

This commitment is mirrored in the Enabling Factors, where the CILASS ToC specifies the need for

Stimulus and support for IBL programmes and projects.

19. Funding for IBL programmes and projects, including for enhancement of space/equipment.

22. Provision and promotion of new central learning spaces and technologies, and user support.

Physical spaces and the creation of a technology-rich environment for inquiry-based learning are a considerable aspect of CILASS’s remit, as illustrated by the financial commitment of £1.8M to the University’s flagship Information Commons and £350K for a third Collaboratory in Bartolomé House. In addition to this, the first round of departmental funding allowed departments to specify equipment which they felt would allow them to embed IBL at departmental level.

At departmental/project level, the issue of learning spaces and availability of technology is addressed at varying levels. Only three ToCs explicitly state that the technology is adequate as it is, and whilst a large number of ToCs do not mention hardware, there are 10 ToCs which list access to CILASS spaces (e.g. the collaboratories) as an enabling factor, expanding by citing a supportive environment for interactive teaching, student collaboration, and experimentation as enabling.

There is a feeling that existing spaces and technology support the transmission model of teaching, with CILASS funding supporting positive change:

*Uses of space & access to technology affect the modes of teaching & prevent more interactive teaching approaches*

[English]

When it comes to departmental funding, mobile technologies (i.e. laptops) are universally cited as the most common enabling factor, although the reasoning behind this differs from staff mobility for planning, over increased staff-student interaction and networking to student mobility for access. Occasionally, funding for hardware is cited without going into detail as to how this hardware will facilitate IBL. In two cases, subject-specific technology is regarded as an enabling factor, allowing departments to purchase the equipment to specifically prepare students for entry into a technology-rich discipline [Music, Journalism].

Finally, one department [Economics] mentions the use of voting systems to allow for more interactive teaching, with students feeding back immediately on their understanding on topics.
There is a detectable move from mention of departmental technologies to the use of CILASS spaces in line with changes in CILASS funding and increasing availability of CILASS spaces. This means that early departmental ToCs (from the first round of funding) are much more likely to list CILASS-funded technology as an enabling factor, whereas individual IBL Grants and departmental ToCs from the second round of funding (when capital funding was no longer available) focus more strongly on the availability of CILASS spaces.

The CILASS ToC lists as a Desired Outcome that

54. The benefits of new spaces and technologies for learning and teaching are such that there is intensive use and demand.

The evaluation of use of CILASS teaching and learning spaces is taking place over summer 2008, although additional evaluation regarding department-based technologies might be necessary.

3.2 Provision of user support

As Point 22 of the CILASS ToC outlines (see above), dedicated support to link IBL with technology features prominently in CILASS’s remit. This support is available at a number of levels with varying weightings regarding the balance of pedagogy and technology. Support is thus provided both from within the CILASS core team, and brokered across from the institutional Learning and Teaching Services (LeTS, formerly Learning and Development Media Unit, LDMU). Perhaps unsurprisingly, a larger number of ToCs focus on the ‘nuts and bolts’ support needed in order to create resources, such as the creation of a WebCT/MOLE environment, a video resource, etc., with CILASS support either tacitly assumed or listed under unspecific, pedagogical advice. Frequently, the ToC will not differentiate between the varying units in the institution who are linked to providing support for CILASS projects, e.g.

_CILASS/Library/LDMU support for transferring workshop content to sustainable learning resources and online exercises._

[History 2]

_The CILASS core team, the Library and LDMU support the investigations at stage one and the development and delivery of the pilots at stage 2._

[Economics 1]

Taking into account the close collaborative partnership between LeTS and CILASS, the lack of distinction between the two in the ToCs is understandable. The integrated approach adopted by CILASS is illustrated further in a number of ToCs, e.g.

_CILASS and LDMU resources and expertise to facilitate an integrated approach to the program_

[HCS 2]

Whilst departments are aware of the two units, differentiation for project leaders appears either more problematic or of less importance, i.e. the focus is on the fact that support exists, the origin of this support is less important.
Worth mentioning are the instances where ToCs focus on intra-departmental technical support. In three instances, this existing technical support is seen as an absolutely vital enabler [UL2 IBL Grant, Journalism, ACSE IBL Grant], in a fourth, the lack of a dedicated departmental technician is highlighted repeatedly as a potential barrier to successful implementation [SEAS] – unsurprisingly, this ToC focuses strongly on the availability of CILASS spaces and support from both LeTS and CILASS as enablers for the projects.

4 Pedagogical approaches using NL technologies

There are a number of varying uses of networked learning technologies cited in the ToCs. The CILASS Programme ToC highlights that

36. Staff develop approaches to IBL that promote development of students’ inquiry-related awareness/skills and encourage: collaborative inquiry/inquiry communities; information literacy development; imaginative use of ICT; interdisciplinary inquiry; independent student use of new spaces and technologies for IBL.

Of specific interest here are the two areas of networked learning for collaboration and independent inquiry respectively.

4.1 NL for self-access to IBL

The proportion of ToCs describing networked learning technologies focuses on the creation of learning resources to facilitate students’ self access to information. Expected positive outcomes from these projects include students’ increased confidence in their learning skills, the ability to self-pace their learning, greater flexibility and the development of independent learning skills.

*The gallery of WebCT-based activities will be used by students to support their individual learning as their needs arise.*

[HCS 1]

*Adapt existing paper-based materials to WebCT, so that students can independently test their core knowledge of chemical engineering principles using self-assessment quizzes that provide instant feedback.*

[ACSE IBL]

*Tasks surrounding the repository will encourage students to develop independent learning skills.*

[SEAS]

Although this document does not cover in detail aspects of information literacy, it is obvious that some project leaders have this in the forefront of their mind when it comes to the design of NL resources and/or activities:

*Students develop their confidence in finding, selecting and using research resources.*

[English IBL]
Overall, 10 of the ToCs focus on using technology in order to support students’ self-access to learning materials. What is perhaps more interesting is the project leaders’ perception of what this self-access will achieve. Whilst most of the ToCs focus on students’ skills development (see above), some identify that self-access could and would create additional time in the curriculum. In four of the ten cases mentioned above, students’ self-access is intended to support additional time to focus on classroom-based IBL:

- **Flexibility to use contact time on issues relevant to each group**
  
  [Law 1]

- **Staff are able to apply their expertise more effectively to facilitate student learning**
  
  [Music]

- **Less time will be spent on teaching preparation of [xxx], instead, more time will be spent on advanced skills.**
  
  [Journalism]

- **Staff will be able to focus more on classroom IBL.**
  
  [ACSE IBL]

In one case, however, the potential re-focusing of staff time has a different aim:

- **Staff are able to re-allocate more time to research**
  
  [Hispanic Studies IBL]

Although the concept of using networked learning technologies in order to free up time for staff research is a distinct minority, it does address at least partially the ongoing worry that both IBL and learning technologies could be seen as ‘time savers’ by staff, not accounting for the greater buy-in for pedagogical development needed.

One departmental and two individual IBL Grant ToCs are turning to NL in order to cope with large student numbers, in one instance explicitly stating that the hope is that technology will enable staff to facilitate IBL with large cohorts:

- **Staff will be more confident in using technology to support new and innovative approaches to learning and teaching, with particular reference to practising IBL with large cohorts.**
  
  [Psychology 1]

Self-access, then, serves different purposes in different circumstances. Variations on the themes of skills development will be further discussed below.
4.2 Networked collaboration

An approach arguably opposite to that of using NL in order to support self-access and independent research is inherent in a number of projects, which have placed importance on NL in order to support student collaboration. Whilst some of these projects account for the more ‘traditional’ reasons for networked collaboration (e.g. distance learning, long periods of non-contact time), others are very much traditional modules which are seeking to implement additional ways for students to communicate with one another. However, a further distinction can be made regarding the exact use of technology. Distance learning projects are likely to use NL technology for online communication to support collaboration:

Create online opportunities for groups to discuss their progress and engage in joint critical reflection.

[Education 1]

Desire to experiment with something new and introduce online collaboration/group work with students at [another institution].

[Dutch 1]

Use the technology to be able to work together from remote locations.

[ScHARR IBL]

Set up discussion boards to facilitate communication between Level 2 students and those currently abroad.

[SOMLAL]

In face-to-face classes, NL is predominantly used either to facilitate group work with large cohorts:

A bank of networked laptop computers will be acquired which will enable collaborative, small-group networked learning approaches in large classes

[HCS 1]

or to utilise an additional feature of a pre-existing platform (i.e. WebCT /MOLE/Vista):

Increased use of WebCT as a discussion forum and platform for group work

[Philosophy 1]

Vista as a technology is used fully to implement collaboration and IBL

[Management 1]

However, not all projects place the emphasis on NL technologies to support the communicative aspect of collaboration. Some ToCs highlight the advantages of collaborative, technology-rich spaces as a means to facilitate face-to-face collaboration, where the technology would be utilised to access information. This aspect ties particularly into those projects where use of CILASS (or CILASS-funded) spaces is also a key enabler:
Foster an environment and culture for use of the collaboratory that is developmental and collaborative, bringing studio and performance together.

Staff make creative uses of teaching space & technology to support open-ended & collaborative IBL

Frequently, the collaboration here takes place both face-to-face and, between meetings, online through joint work on collaborative resources using Web 2.o technologies – these instances will be further discussed below.

5 “Imaginative use of ICT”

Whether or not departments engage in ‘imaginative use of ICT’ (see CILASS ToC point 36 above) is difficult to establish. Certainly, the term ‘creativity’ is likely to adopt different meanings in different scenarios, offering a flexible scale of what might be considered ‘creative’, ‘imaginative’ or ‘innovative’ in departments. Whilst several of the ToCs adopt the terminology, this is most often not backed up by highlighting what exactly the innovation entails. This section of the report thus has to resort to interpretation, in an attempt to tie activities, processes and technologies to this terminology elsewhere in the ToC.

One of the clearest indicators, perhaps, can be found in the types of resources and technologies departments were planning to create or engage with.

5.2 Specific technologies

As outlined above, a considerable number of departments sought to make increased, more varied, or more innovative use of technologies already employed in the various modules (e.g. the move from WebCT/MOLE as a repository to a communication hub). Some departments, however, had clear ideas about how their engagement with specific technologies could facilitate IBL in their learning and teaching.

5.2.1 Visual technologies

Visual technologies were most inherent where physical distance played a part in the learning and teaching process. These instances of distance, however, were considerably varied in nature.

In one case [Dutch], students were required to collaborate with students from another institution. Video-conferencing technology was used in order to facilitate the discussion process, and to provide a high-impact end-of-project plenary, which would provide students with a memorable experience as the culmination of their previous (written) online collaboration.

In another case [Biblical Studies], only a small number of students would have the benefit of experiencing an environment which would be of benefit to other students on the course. Video was used in order to capture these students’ experiences, and edited to create a resource that had a focus on the student experience and could be re-used in future years.
In a third instance, the physical distance was between students and the material [TRP IBL]. Students had been asked to engage with a case study situated at a considerable geographical distance. Staff gathered video material and photos, but students also used online technologies such as Google Earth to collaboratively inquire into the geographical location from afar, which helped them to formulate their responses to the issues presented in the case.

Video and audio recordings are also used to address the issue of sustainability, in instances where CILASS has funded ‘one off’ experiences for students (through visiting experts, workshops, etc.), which need to be documented in order to create a resource for future years [Music 1].

Finally, video and audio technologies are utilised as innovative forms of student-produced materials [UL2 IBL], allowing students to create a resource which can then be presented to peers and holds the potential to form the basis for assessment.

5.2.2 Audio technologies

Where audio technologies are explicitly uncoupled from visual technologies, the focus lies most frequently with the pursuit of authenticity. This is an issue in language learning, leading to a considerable number of projects engaging with audio recordings in order to support students in their development of language learning skills. In one instance [SEAS], additional technology is then used to enable communication between learners about the listening experience. In all others, however, the intent is for language listening resources to facilitate student learner autonomy through the engagement with the resource.

5.2.3 Other technologies

A couple of instances where specific hardware technology has been used to facilitate IBL have already been mentioned above [Journalism, Music, Economics].

Worth mentioning here are Web 2.0 technologies which can be utilised to support collaborative inquiry. In three instances [Architecture, Germanic and Music] a wiki was used for students and staff to collaborate on the creation of a resource. In one instance [SOMLAL], students were required to set up sites which could then be used by others:

*Students will set up online ‘information sites’, to be maintained and updated by the students themselves, providing street-level information to students planning their year abroad experience.*

In one department [SEAS], students’ individual blogs were synthesised via a staff blog, encouraging students to communicate with each other; and in a further project [Education 1], students were encouraged to write a blog in order to explore theories and concepts behind blogging, using the technology first-hand in order to facilitate their inquiry.
6 Skills development

The CILASS ToC focuses clearly on staff developing skills in using new technologies:

37. Staff use new spaces and technologies in their IBL teaching, and develop skills in using them.

Departmental and project ToCs, however, strongly link skills development in both staff and students to the use of technology.

A small number of departments identify in the ‘current situation’ a chasm between staff and student skills regarding the use of technology [e.g. Hispanic Studies IBL, Biblical studies]. However, what is also highlighted is that these advanced technological skills frequently do not translate into ‘learning skills using technology’.

Meanwhile, many students come to the University with greater amounts of technological knowledge and skill. Presently, the students in the department have a wide range of computer-related knowledge and skills, with some requiring basic information and training. However, regardless of their computer backgrounds, most lack a grounding in scholarly applications.

[Biblical Studies]

A different ToC highlights the same issue with regards to subsequent employability status of students:

There is an assumption that students come equipped with a certain level of ICT skills, but many in fact don’t. Students don’t develop sufficient study, writing, research, ICT and information literacy skills, particularly at level one in the current curriculum, which focuses on producing graduates who know a lot rather than graduates who have transferable skills.

[Sociology 1]

Whilst there is little further mention of comparisons between ‘knowledge’ and ‘skills’, the fact that a large number of ToCs focus explicitly on ‘skills development’ appears to highlight a growing recognition of a need in this area.

6.1 Student skills

The skills the varying projects are trying to facilitate are obviously not exclusively related to technology, instead, NL components of projects help in the skills development jointly with other aspects, e.g. innovative assessment, change in teaching style, enhanced focus on group work, etc. There are, however, a number of instances where ToCs do link students’ skills development to the use of technology.
Where self-access is the point of the utilisation of technology, independent learning skills are high on the project’s agenda:

*Creation of repository of listening materials will give students resources to learn independently. Students will have a single repository of guided listening materials appropriate for their level. Tasks surrounding the repository will encourage students to develop independent learning skills.*

[SEAS]

*A glossary will encourage learner independence and self-pacing.*

[Russian & Slavonic IBL]

*Through the wiki-based collaborative documentation process, students are usually able to solve problems without staff intervention.*

[Music]

For some projects, however, the creation of online resources is more explicitly linked to research and/or information literacy skills. As there is a separate document analysing all ToCs for references to information literacy, this document will touch on these areas only briefly.

*Students develop their confidence in finding, selecting and using research resources. Students are able to select appropriate resources for their written work. Students have the confidence to go beyond given print resources.*

[English IBL]

*Develop structured materials to help with the research process.*

[Education 1]

*Develop a package of materials covering information literacy and related skills, to be hosted on WebCT for use in conjunction with the core L1 study skills module ‘Reading Skills’.*

[Hispanic Studies IBL]

*Students will, through the tasks, engage in the process of finding information and analysing it.*

[Journalism]

*The information skills resource is developed in partnership with academic staff to meet specific pedagogical aims and is embedded within specific WebCT courses and has a role in student assessment.*

/Library
[Students] will have further developed information literacy skills in terms of being confident in interacting with electronic information resources for [the subject] and be able to critically evaluate information that they find.

[Psychology IBL]

Introduction of linkages between information technology and research design

[Psychology IBL]

Students at the end of level 1 will be confident in using online library resources such as e-journals and databases to search for literature for their subject.

[Sociology 1]

In nearly all the instances cited above, using the technology was secondary to the intended skills development, with the technology facilitating access (e.g. to information). In some cases, however, it was precisely the availability of technology which necessitated the skills development (i.e. the need to assess large amounts of easily available information online).

Although networked collaboration was highlighted above, collaborative skills as an outcome hardly feature in ToCs which focus on networked learning. Where these skills are highlighted, it is assumed that they will be gained through the face-to-face aspect of the collaboration. In one instance [Sociology 1] technology is cited as a means to make available to students a guide for collaborative inquiry:

A guide to the peer support process will be created and provided to dissertation students via WebCT.

Finally, a small number of ToCs describe the use of NL technologies to facilitate students’ reflective skills:

Private student diaries on WebCT are used by students to reflect on and record their learning experience

[Hispanic Studies IBL]

Students will use the video equipment to record themselves in interview situations for professional development

[Sociology 1]

6.2 Staff skills

Like student skills, staff skills can be categorised in a variety of ways. Whilst a majority of projects cite staff development skills in the area of IBL, few do so by explicitly linking these skills to technology, instead seeing the skills development as integrated into the whole project, of which a NL component may be a part. Some staff skills cited are therefore highly instrumental, describing the need for staff to master the technologies needed to engage students in the IBL process. Skills development in relation to WebCT/MOLE/Vista is mentioned in nine instances. Even more projects focus on ‘staff awareness of new technologies’, or variations thereof – this lack of precise phrasing most likely originates from the time-frame of the ToC, which often takes place before planning begins in earnest, i.e. at a time when particulars such as specific technologies are as yet unclear. No data was
available regarding the final choice of technology in these instances, or indeed whether the nine mentions of the institutional VLE translated into nine cases of use. Anecdotal and evaluation evidence suggests that choice of technology can and does change through the development process, often through discussions with the CILASS LDRA, academic peers, students, or simply raised awareness of, and interest in, the availability of technologies.

One area of staff skills that features explicitly in ToCs is that of networked learning (or online) facilitation skills. Through the increase in networked learning experiences, staff recognise development needs attached to changes in pedagogy.

Staff are comfortable with IBL facilitation online, and have integrated these techniques throughout the curriculum.

Rapid professional development; develop skills in facilitating process and groups

Online tutoring skills for staff. Skills to provide adequate facilitation to students (level of interference, prodding, steering)

In a couple of instances, the ‘pilot status’ of the CILASS projects within the department becomes noticeable, with project staff shouldering the burden of ‘test-riding’ new pedagogical approaches and/or technologies and modelling these for others.

Project staff model IBL and VLE skills and practice to other staff.

There is little ‘expertise’ among staff in on-line facilitation, but there is willingness to engage should a pilot prove successful.

Certainly within the context of these departments becomes obvious the section of the CILASS Programme ToC which states that

Staff and students engage in IBL development, experimentation and innovation.

Experimentation and exploration features explicitly in four ToCs [Dutch, Music 1, Biblical Studies 1, ScHARR], in one case highlighting the necessity for departmental support and the advantages of having a Centre for Excellence in Teaching and Learning which encourages experimentation and innovation (as enabling factors):

Support from [department] to try new things. CILASS gives permission to experiment and push boundaries.
Experimentation is, however, implicit in further ToCs, especially where the move to IBL through NL is perceived as a big step. For some departments, therefore, taking the institutional VLE beyond the stage of repository for course notes implies a great step into the unknown, even though the ToC does not necessarily list this clearly.

The department has engaged with WebCT as a pedagogical tool, not just as a repository of information.

[Sociology 1, intended outcome]

Staff develop ICT and IL skills and knowledge. Staff use WebCT features such as discussion boards to create and manage an effective learning environment.

[Hispanic Studies IBL]

In a number of cases, the ToC describes the dissemination of a successful component to further areas in the department – this is particularly so in second iterations of ToCs in the same department (whether at stage two of departmental engagement, or where an IBL Grant follows a departmental programme, or vice versa).

The gallery of WebCT-based activities will be used by students to support their individual learning as their needs arise.

[HCS 1]

Our postgraduate programs are on-line. Much of the use of ICT in these programs is content-focused. We want to increase the use of ICT for collaborative and active learning.

[HCS 2]

The extent to which use of NL technologies is re-used, expanded on, or abandoned between various ToCs from the same departments is one area which warrants further exploration on the basis of evaluation data.
7 Further benefits

As a ‘Desired Outcome’, the CILASS ToC lists a great number of benefits to students:

51. Students experience benefits including greater enjoyment, engagement and confidence in learning, and enhanced capabilities in self-directed inquiry; information literacy; communication; collaboration; use of ICT.

Some of these benefits, e.g. self-directed inquiry, collaboration and use of ICT have already been highlighted above. Of the remaining benefits, ‘enjoyment’ (specifically linked to NL) is one that features explicitly in only a small number of departmental and project ToCs. Desired outcomes include ‘popularity of WebCT’ [Sociology 1] and other specifically created resources [Law 1].

In one particular instance, the ToC goes beyond the description of passive benefits and move into the area of ‘students as designers’ (although it is not described as such), highlighting ownership:

The repository is well received by students. Students feel ownership of the repository and feel inspired to add to it and create their own learning tools.

[SEAS]

Other ToCs may focus on the theme of ‘students as designers’, albeit not in direct correlation to technology. These instances, where technology might be a tool, but not a vital component, might warrant further investigation and comparison with evaluation data.

8 Reputation

In an era of competitiveness, target numbers for student places, and the National Student Survey, the departmental and institutional reputation is high on the agenda of academic members of staff. The CILASS ToC addresses reputation in its ‘longer-term impacts’ as

80. UoS will be recognised as producing highly capable, self-directing, critical inquirers who are sophisticated users of information and technology and have high-level employability and lifelong learning capabilities.

In a number of cases, ToCs reveal staff fearing that they are ‘behind the times’, and these fears appear to be linked more to available hard- and software and teaching through technology than specific considerations about IBL approaches, although the line is blurred in a lot of phrasings. Staff are aware of student demands:

Students previously had a lack of technology use but currently this is going through a transition and newer student intakes are wanting greater technology use

[ScHARR IBL]

Students are demanding listening materials and a structure for the support of the development of listening skills.

[SEAS 1]
WebCT is popular. And demand for WebCT-based IBL is student led.

[Sociology 1]

and feel compelled to comply with these demands. In a small number of cases, access to technology is such that departments feel ill-equipped to address student needs:

Finally, our existing language learning equipment is obsolescent.

[MLTC IBL]

At the same time as this, staff are aware of the changing field of employment that awaits students in their discipline, and their responsibility to equip students with the technical skills and knowledge to compete in that field.

The field of music is changing dramatically as new technologies increasingly blur traditional distinctions between composition, performance, and instrument development.

[Music]

Students will have a competitive edge re: employability, where detailed knowledge of the FOIA is required.

[Journalism 1]

Finally, many feel the departmental reputation is linked to the accessibility of technology, in some cases conflated with IBL approaches, in others not clearly specified:

Collaboratory and iterative workshops attract more/higher calibre students.

[Music 1]

Student recruitment is driven forward through the department being seen as ‘cutting edge’. Profile of SEAS raised among similar departments in the country.

[SEAS 1]

The program will increasingly attract an international cadre of diverse students.

[TRP 1]

For a number of departments, their ToCs highlight the desire to be ‘cutting edge’ not only in the students’ opinion, but in the field more generally:

The Law School’s reputation is enhanced as a place that is innovative and interesting

[Law 2]

The electronic learning package developed for the teaching of literature is adopted by other institutions.

[Hispanic Studies IBL]
**9 Areas for further research**

This document only outlines the various strands that follow through the Theory of Change documents. It should not be forgotten that these often reflect the thinking of project leaders at the very early stages of their engagement with CILASS (and occasionally their engagement with learning and teaching issues). As a result, some thought processes are necessarily unrefined, with the consequence that the ToCs lack the clarity and specificity necessary for more detailed analysis. In addition to this, the question remains whether a forceful, deliberate (and potentially artificial) separation of ‘IBL development using NL’ from ‘generic IBL development’ is helpful. There are, however, a few strands which look particularly useful for following up through evaluation data and/or further, dedicated research, including the following:

- **Students as designers** – does NL technology support students in taking ownership of their own learning and actively create and shape their own learning environment?
- **Staff facilitation skills** – does IBL via NL necessitate an additional skills set (in addition to skills necessary for IBL facilitation and/or for NL)?
- **Pedagogical support/learning development** – how (if at all) does pedagogical and technical support shape staff member’s decision to adopt/change technology use for IBL? What is the relationship between pedagogical and technical support?
- **Skills vs. knowledge** – does (or can) the implementation of NL technologies as part of an IBL programme help take the focus away from knowledge acquisition towards skills development?

**10 References**


11 Appendix – Full list of codes

Appeal to students
Assessment
Availability of technology
Change in pedagogy
CILASS support for NL
Cross-departmental fertilisation
Department reputation
Department technical support
Experimentation
Freeing up time for teaching other things
Large student numbers
LDMU-LeTS support
Library support-digitisation
Looking forward
Need for updating
Networked collaboration
NL-self access
NL to free up time for research
Non-descript NL
Online resources
Repository
Research skills
Specific technology
Staff-student skills differences
Staff development
Staff facilitation skills

Staff interest
Student reflection
Sustainability
Technical skills development
Use of CILASS spaces
WebCT-MOLE