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Information literacy and inquiry: what have we learnt?

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Background



CILASS: Centre for Inquiry-based Learning in the Arts and Social Sciences

- Centre for Excellence in Teaching and Learning
- 5 year programme of teaching enhancement and pedagogical research
- Develop communities of inquiry: students, librarians, academics, L&T professionals





What is Inquiry-based Learning?

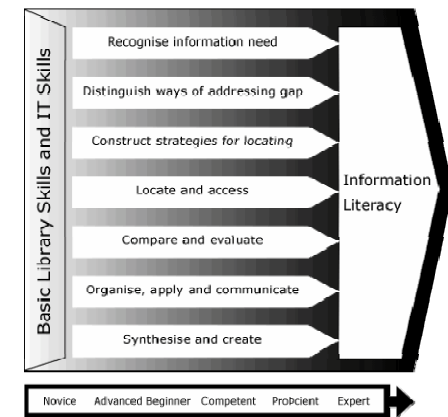
- **Student led** exploration, investigation and research
- inquiry is an active, questioning and critical approach to developing knowledge
- The stimulus for an inquiry could, be an intriguing fieldwork problem, a complex `real-life` case-study, or an interesting research question
- Can be small scale involving a single session within a traditional curriculum, or a whole module/programme could be designed to be inquiry-based



Information literacy and inquiry

- Information access and processing skills (such as using electronic resources to search for information) are a pre-requisite for students undertaking an IBL curriculum
- Information literate students have the means to conduct independent inquiry and the development of information literacy fundamental to successful inquiry
- Students build 'higher order' IL capabilities in critical thinking, evaluation, synthesis, communication and knowledge-creation through inquiry

SCONUL Seven Pillars Model for Information Literacy
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CILASS curriculum development projects

Departmental projects

Large scale projects developed through a phased programme of engagement with all Departments and Schools in the faculties of Arts & Social Science and the Library

IBL grant projects

Smaller scale individual projects taken forward by members of staff and students from across the University

My Delicious Tags

3rdyear acse activelearning archaeology assessment asynchronouslearning automaticcontrolandsystemsengineering based biblicaltudies blendedlearning blogging Caribbean cilass collaboration colloquia cpe desila disciplinaryprinciples discussion discussiontrials dissemination ebl Education educationalresearch elearning embedding english environment frenchstudies hcs hispanicstudies history humancommunicationsciences ibl il independentlearning induction informationliteracy informationstudies inquirybasedlearning intellectualproperty interdisciplinarily knowledgeconstruction lams law learningprocess learningspace learningstyles level3 library maturestudents modernlanguages modernlanguagesteachingcentre music oralthistory pbl peerassessment peermentoring philosophy podcasting posterpresentations postgraduates presentations problembasedlearning projectbasedlearning psychology questioning quizzes readingskills reflection researchdevelopment researchledteaching researchmethods russianandslavonicstudies schoolofclinicaldentistry schoolofhealthandrelatedresearch schoolofdevelopmentanddiversity

Templates
CILASS Case
Templates

Theory of Change evaluation methodology

- A collaborative and participatory process
- Develop a narrative for the project defining the key **outcomes** of the project, the **activities** required to achieve them and the **resources and enabling factors** needed to support the project
- Defines key project stakeholders
- Used to generate evaluation questions for the project



An example departmental Theory of Change

Departmental TOC for IBL – Name of Department: Psychology Names of TOC contributors: Jon May, Myles Jones, Richard Rowe				
Current situation <i>What is the current situation (date)?</i>	Enabling factors / Resources <i>What is needed to do the activities leading to the desired outcomes in 2010?</i>	Processes / Activities <i>What activities are required to achieve the desired outcomes by 2010?</i>	Desired outcomes <i>What will be the outcomes of your departmental IBL strategy by 2010 for your students and staff, your department, the University and beyond? What will individual projects have achieved by 2010?</i>	Longer-term impact <i>What long-term changes will your department's IBL strategy achieve?</i>
<p>Summary of current situation</p> <p>Students</p> <p>a) Lack higher order Information Literacy skills of critically evaluating information.</p> <p>b) Some have a poor understanding of the cumulative dialogue process of scholarly research and publishing and don't have a developed conception of the research process, leading to weak experimental research design on their part.</p> <p>c) There is a perception among 'external' students that psychology is an 'easy' subject which is in part due to large numbers taking psychology A-level. The department has to meet the challenge of providing a stimulating curriculum for these students while accommodating those who do not have this experience.</p> <p>Assessment</p> <p>a) Students are assessment driven, do not always see the value in formative assessment, and lack engagement with faculty that isn't summatively assessed.</p> <p>b) The department has had poor student feedback on existing collaborative work, yet this is an assessment strategy favoured in the department due to economies of scale in large student cohorts.</p> <p>c) The course accreditation body for Psychology does not favour assessment through collaborative group work.</p> <p>Teaching</p> <p>a) Level one tutorials are student centred.</p>	<p>1. Training and development support for PG tutors</p> <p>a) Effective support structures are developed for PG tutors to help them lead IBL-based tutorial sessions and choose appropriate resources for student work.</p> <p>b) Links are created between the teaching aspect of the Research Training Programme and the teaching activities PG tutors engage in with the PEBBLE projects to reinforce and extend tutor approaches to learning and teaching.</p> <p>2. CLASS</p> <p>a) Provides support from LOBBs with the curriculum development process.</p> <p>b) Provide opportunities to share learning with and from other IBL projects in the University.</p> <p>c) Provides access to generic resources to support IBL development in the department.</p> <p>d) Provide support with developing approaches to assessment of group projects through investigations with internal and external departments and agencies.</p> <p>3. Information Technology</p> <p>a) The interactive whiteboards and laptop computers enable greater staff and student interaction with networked learning technologies.</p> <p>b) LDMU provides support with developing WebCT environments to meet the needs of teaching in the department.</p> <p>c) There are sufficient computer resources in the department and the university to enable students to use WebCT and other networked resources when needed.</p> <p>4. The department</p> <p>a) Strategically supports the development of approaches to collaborative inquiry and assessment of collaborative learning and works with the accreditation body to find appropriate solutions to issues to do with assessment of groups.</p> <p>b) Supports the development of the teaching role for postgraduate tutors.</p>	<p>5. Students</p> <p>a) Use collaborative learning approaches outside the tutorial time work to support their approaches inquiry-based tasks.</p> <p>b) Develop approaches to independent study.</p> <p>6. Postgraduate tutors</p> <p>a) Receive appropriate training in using WebCT as a teaching tool and in developing their Information Literacy skills.</p> <p>b) Develop experience of leading inquiry-based small group teaching sessions through active and self-reflective learning.</p> <p>c) Will give support to students in developing approaches to literature searching and evaluation of results.</p> <p>d) Will give support to students in developing research questions for statistical analysis.</p> <p>7. Staff</p> <p>a) Will give students the opportunity to develop skills in formulating and communicating an academic argument to their peers through interactions in class and online.</p> <p>b) Will receive appropriate training in the functional use of information technology.</p> <p>c) Will have opportunities to link teaching with their research interests.</p> <p>8. New approaches to learning</p> <p>a) New tutorials at level 1 semester 1 will feature an inquiry-based task that requires students to build information searching and evaluation skills, reflect on the skills they have gained; work in collaboration with their peers and develop presentation skills.</p> <p>b) New inquiry-based exercises at level 1 semester 2 will require students to formulate meaningful research questions, carry out appropriate statistical analysis and critically evaluate the relevant literature.</p> <p>c) At level 3 new approaches to the study of the mind will require students to develop an awareness of the differences of opinion surrounding the topic.</p>	<p>10. Students</p> <p>a) Will have developed Information Literacy skills in terms of being confident in interacting with electronic information resources for Psychology and be able to critically evaluate information that they find.</p> <p>b) Will have developed independent research skills that will lead to the ability to be able to design meaningful and statistically measurable small scale research projects in years 2 and 3 that link with the research interests of staff.</p> <p>c) Will be able to accept, work with and effectively question the ambiguity and differences of opinion inherent in the literature surrounding the study of the mind.</p> <p>d) Will demonstrate increased skills (presentation, communication, negotiation, organisation), to work collaboratively and demonstrate greater satisfaction with collaborative learning.</p> <p>11. Postgraduate tutors will have a more developed role in learning and teaching in the department and will have developed skills with using networked learning technologies.</p> <p>12. Staff</p> <p>a) Will be more confident in using Information Technologies to support their teaching of IBL to large cohorts.</p> <p>b) Will be creative in developing technology based solutions to supporting large cohorts of students.</p> <p>13. Approaches to learning</p> <p>a) Innovative, imaginative and diverse forms of student assessment are adopted through the curriculum, including fair and equitable ways to assess individual learning arising from group projects.</p> <p>b) The curriculum is designed to cumulatively build on the knowledge and collaborative, information literacy, technology and independent learning that skills students develop through the related level one modules.</p> <p>c) Collaborative learning will be employed as an effective strategy for student working throughout the curriculum.</p>	<p>Summary of planned impact</p> <p>Students will be independent learners and researchers, who have a developed conception of themselves as 'Psychologists', including as psychology researchers. They will be confident in interacting with the information environment and will have the skills to work in collaboration with each other.</p> <p>Staff will be more confident in using technology to support new and innovative approaches to learning and teaching, with particular reference to psychology IBL with large cohorts.</p> <p>The Department will extend the learning of the PEBBLE project and develop a systematic approach to IBL, information literacy and collaborative skills development through the undergraduate programme from level 1 upwards.</p> <p>Graduates from the programme will be recognized externally as excellent candidates for professional qualifications and courses in other institutions.</p>



Evaluating curriculum development projects

1. Create your project Theory of Change (ToC)



2. Define your plan for collecting evaluation data



3. Collect evaluation data from students and other project stakeholders



4. Engage in reflection with a buddy



5. Synthesise your evaluation and reflective data into the Project report/case study document



6. Refine and approve the final CILASS case study



Meta analysis research

- A purposive sample of 12 CILASS curriculum development projects selected for their particularly strong information literacy flavour
- Both Departmental and IBL grant projects
- All project documentation and evaluation data included in the data set (initial proposals, Theories of Change, evaluation data, progress reports, case studies)
- Qualitative analysis using Atlas-ti software

Student related drivers for projects

- Students lack “basic” information literacy skills
- Preference for Google over Library resources
- Inability to critically evaluate sources
- Unfamiliar with library conventions
- IL development patchy

Staff related drivers for projects

- The importance of IL is not well communicated to students
- There is no commonly agreed framework for the development of IL across modules and programmes
- IL does not feature in learning outcomes
- The curriculum focuses too much on developing subject knowledge rather than in developing transferable skills
- Lack of standard terminology for referring to concept of IL

The value of specialist IL support in CILASS

- Facilitate links with Library and external partners
- Recommend IL resources e.g. online tutorials
- Advise on inquiry-based pedagogy for IL
- Advise on methods of assessing IL
- Facilitate dissemination of project outcomes

“having entered the world of information literacy [I realise] how much stuff is out there, both in terms of material, online packages that are available but also expertise. Going to the LILAC conference was just incredible”

The value of specialist IL¹⁴ support from the Library

- Librarians praised for information literacy expertise, training and resources offered
- Librarians acted as consultants in the implementation of pre-project investigations and design of project activities
- Librarians teaching information literacy using inquiry-based pedagogies
- Librarians offered project consultation sessions with students
- Librarians contributed to course discussion board

“Specifically for CILASS, Lyn Parker has been helping us to develop the quizzes, web based searches etc. Clare Scott has been involved in one of the CILASS things for the dissertations; she has actually come and spoke to all of the 3rd years dissertation students last week. It was extremely helpful – we’re now going to incorporate that permanently in what we are doing. Absolutely specifically in terms of inquiry-based in that she is giving them more expertise than I can give them in doing the inquiry literature searching.”

Value to the Library of the¹⁶ CILASS programme

- Helped to raise the profile of librarians with academic staff
- Facilitated the advancement of existing Library projects
- Faculty Liaison Librarians have developed their Inquiry-based approaches to the teaching of information literacy through Library CILASS project
- Identified a need to share pedagogical practice for using IBL effectively in one-shot sessions

IBL pedagogies to build IL

Peer support

- Student guides for induction week IBL activity
- Student mentors for inquiry activity in level 1 semester 1
- Peer feedback on module discussion board
- Student led discussion seminars



IBL pedagogies to build IL

Reflection

- Students reflect on the IL focused inquiry task regarding their search strategy, evaluation of the sources used and differences in information found in different sources
- Students complete a reflective learning diary for the module incorporating reflections on their IL development
- Students use 7 Pillars model as a framework for reflective diary



IBL pedagogies to build IL

- Conduct small experiments and compare their results with published material, requiring them to search for similar experiments in the literature
- Search for information for a particular brief, construct a bibliography and discuss the validity of the information they found in seminars

IBL pedagogies to build IL

- Search for and review a journal article
- Conduct information needs interview, search for information .
- Develop research questions from a passage of text and search for resources that would help them answer their research question. Construct a bibliography of relevant resources and discuss online and in class

Peer support

Mentor perspective

- *“If you are teaching somebody else, you are improving your own skills for your own benefit”*
[English 2]

Mentee perspective

- *“So rather than just giving us information, she was helping us with the way we would do it later on in the course”*
[HCS 3]
- *It helped to have a different perspective from someone more experienced on many issues of which we as a group enquired about. [Law 7]*

Student feedback

Peer / Librarian / Academic facilitated discussion boards

- Students liked the 'rapid response' nature of the discussion boards
- Built confidence to see that others were having similar problems
- Librarian support received very positive feedback

Student feedback

Timing of IL interventions

- Important to relate IL development to timing of assessed tasks

I think the second task was set much too late in the semester. By this point many of us already had experiences of using e-resources from other modules

[English 1]

- Mixed response to intro week inquiry task: some found it a good opportunity to meet peers and build familiarity with resources,

others found it daunting and overwhelming

Positive

- *I found the actual task of finding and evaluating corresponding journal articles interesting and helpful to my knowledge and understanding of psychology in a wider sense.*

[Psychology 5]

- *I found the research tasks encouraged me to seek out further texts than those supplied on the reading list by providing me with new formats to searching for texts*

[English 1]

Student feedback

Ambivalent, but acknowledge value of task

- *They [the tasks] were tedious but they did provide me with the skills needed for the assessments*

[English 1]

- *I didn't see the point of it, as it did not appear to be benefiting us. as well as this, the assigned task was not stimulating. However, it did enable us to try using WoK [Web of Knowledge], which will be useful throughout the degree.*

[Psychology 5]

Student feedback

Preference for more transmission style of teaching

- *Tasks quite useful, but a sheet/ instructions on how to reference would have been more useful* [English 1]
- *Inquiry-based learning, it can help, but I'd like to say - don't go too far, don't move away from actually teaching - it can complement, like, it can help* [HCS 3]

Did students develop better IL?

- Better standard of referencing, greater range of sources referenced [English 1]
- Students used more sources & showed greater confidence going beyond the reading list [English 2]
- Students displayed significant reflection on search strategies, and demonstrated evaluative skills [Psychology 5]
- *I learnt how to refine searches not only for my course, but for everyday life.*



What we've learnt about²⁸ using IBL pedagogies to develop IL

It's a balance between giving them the framework, the scaffolding as we call it, but being able to do that within a context so that they recognise the value of doing it, and that is still the difficulty I think. I don't think you can just dive into inquiry-based learning, well you can... without framework and scaffolding but it's a lot easier if you've got that.

[Law 7]

What we've learnt about using IBL pedagogies to develop IL

- The inquiry task needs to be planned in detail, and getting feedback on this planning from colleagues, librarians or from other members of a teaching team is seen as beneficial [Law 7, English 1]
- staff need to be explicit about the links between IBL activities to build IL and the rest of the curriculum or students can fail to make the connections themselves

What we've learnt about using IBL pedagogies to develop IL

- It is good practice to guide the students with appropriate questioning and provision of support materials to discover their own path through the inquiry.

We don't use the discussion boards necessarily to give answers, they do use it to encourage, well think about what we did in week whatever, or think about, or have another look at. It's this kind of encouraging, you know, you can work this out, you can do this.

[Law 7]

Conclusions & recommendations

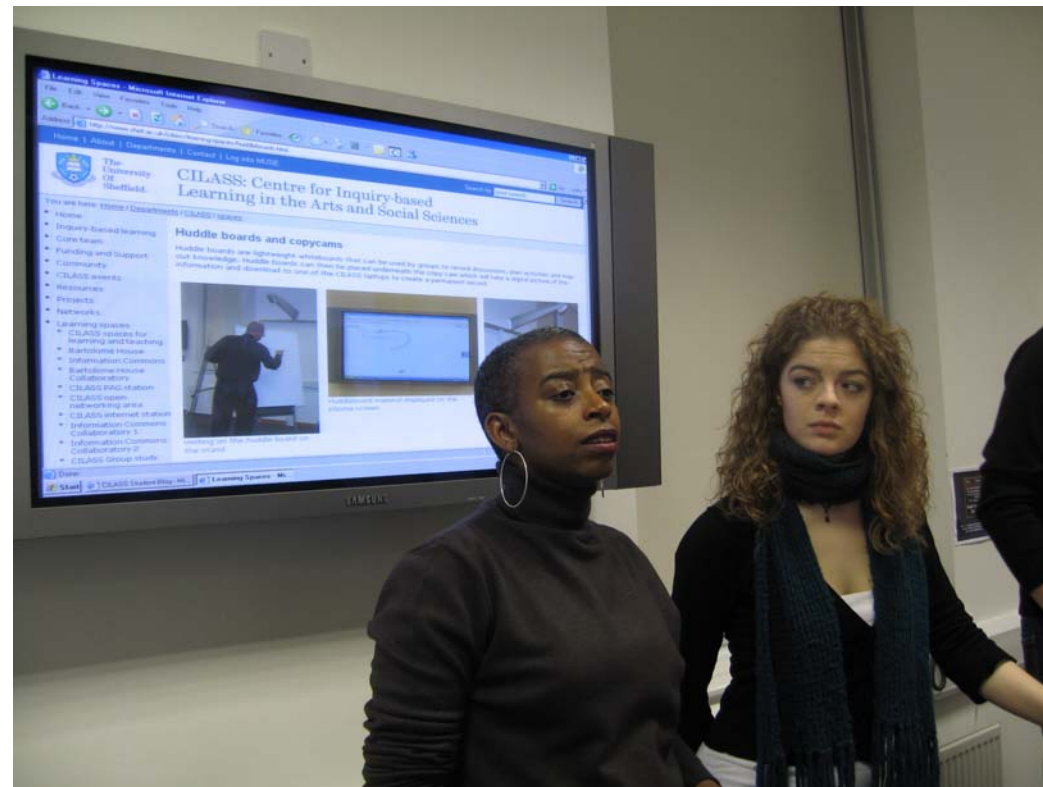
- Models of information literacy are an effective means of introducing both staff and students to the broad scope of information literacy.
- It is beneficial to consider IL development strategically across a whole programme : IL audits found to be very useful, particularly with librarian involvement
- Peer support and reflection are beneficial for IL development & help students recognise the value of IL

Conclusions & recommendations

- Librarians should be seen as vital partners in the educational development process in terms of information literacy
- Involving librarians in Theory of Change evaluation helped embed IL in the heart of projects
- Librarians are well placed to offer advice on embedding online support for information literacy in the form of VLE and internet-based tutorials.



Questions?





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To
Discover
And
Understand.