

## **Making it real: information literacy and student engagement**

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### **Abstract**

In recent years Irish universities have expanded and diversified in response to a changing external environment. A key factor in this change is the increasing acceptance of the importance of lifelong learning. This drive to produce quality graduates, who can compete in a national and global market, combined with a parallel shift in the approach to teaching and learning within higher education means that the library and its resources are becoming fundamental components of the teaching and learning process.

This paper will share innovative practices currently taking place in both Dublin City University (DCU) and University College Dublin (UCD) and discuss their impact on learning outcomes; it will include feedback received from academic staff and students. This paper presents innovative ways that identify the information skills (IS) needed to meet the module learning objectives at all levels. It suggests ways IS can be delivered in a more quantifiable, coordinated, and planned way that can be incorporated - in a practical and effective way – into module assessments.

### **Introduction**

The sheer volume of information which today's student encounters is growing exponentially. As part of a shift towards a life long learning approach to education, many institutions are adopting a more student- centred approach, seeking not only to provide students with knowledge, but also with diverse learning experiences that equip them with a set of skills such as critical thinking, problem solving and information literacy.

In developing these skills the students are no longer simply provided with all of the information they need to learn, as would have occurred in a traditional environment, with the academic teaching/leading from the top of the room. In this new context they are expected to find information themselves in order to solve a problem or complete a project. By obtaining information in this way they recognise how to apply and integrate what they learn into their overall knowledge.

Most importantly, these skills are transferable across both their academic and professional careers. Indeed, many of today's employers seek graduates already equipped with critical thinking skills. Employees who can bridge the gap between what they think they know and what they need to know are highly valued.

Generic graduate attributes such as the skills, knowledge and abilities beyond disciplinary content knowledge, which are applicable to a range of contexts, are considered to be an important outcome of the higher education learning experience.

## **The importance of Information Literacy in Higher Education**

The literature provides many definitions of information literacy. A recent definition states:

Information Literacy is the ability to access, evaluate, organise and use information in order to learn, problem-solve, make decisions - in formal and informal learning contexts, at work, at home and in educational settings (Bruce, 2003)

Traditionally these information skills have been developed in very limited and fragmented way – often “one off” thirty minute inductions to the library, or individual academics asking for support within modules.

The need for students to develop information literacy skills has resulted in librarians, both developing closer working relationships with academic staff (consequently become more involved in academic programmes) and investigating new technologies which will engage the e learner of the future. This student centred approach to teaching and learning, means that academics must actively engage with librarians to ensure appropriate resources are available, and librarians as information experts are often called on to deliver the required information literacy skills to their students.

It is no longer enough to just provide our students with academic theory – the provision of skills to cope with and process information appropriately is absolutely necessary. Using this approach students are required to develop the ability to identify an information need, locate the information, critically evaluate it and then use it in an ethical way. These abilities are core to information literacy which is often described as ‘learning how to learn’. Equipping students with information literacy skills empowers them to learn rather than necessitating a dependence on the teacher for acquiring knowledge and skills. Furthermore by embedding these skills within modules and programmes, and thereby linking the information skills (IS) component to sourcing and retrieving of information required for a term paper/course work , the students become fully engaged from the outset, they see the relevance of the sessions, the skills are more effectively acquired, and once mastered support their work in other modules.

### **Case Study 1 – DCU**

In the summer of 2007 DCU library was approached by the School of Applied Languages and Intercultural Studies (SALIS) to develop a module on study and research skills for all first year students taking the Applied Languages and Intercultural Studies programme. SALIS staff felt that there was a demonstrated need for this module. Incoming first year students were missing fundamental research, information seeking and basic IT skills. Two other university partners were invited to contribute; The Teaching & Learning Unit, and The Computer Services Department. The library was fully involved in the design of the module and had significant input into how best to integrate the development of information literacy knowledge and skills into the module.

## **Collaboration**

As this module was a collaborative project with other units, we were eager to place our sessions in the context of the material that was delivered by our colleagues. We knew that SALIS would be providing instruction for students as to how to negotiate university life and that preparation for and assessment of the European Computer Driving Licence (ECDL) would also be covered. Our colleague in Teaching and Learning was to introduce reflective learning and would be asking the students to keep a reflective journal.

Whilst the library had been delivering embedded sessions to students that were context appropriate and had an inbuilt assessment with marks contributing to programme grades, this was the first time we had been asked to co plan a module that had input from both academic and non academic colleagues. Initially we had a series of round table discussions about what content to include; as time became scarce, we collaborated via email.

Our face to face meetings concerned the logistics of scheduling the sessions. Some components of the module required sessions on a particular date - for example the ECDL exam which was organised by our computer services department. The remaining time slots were allocated evenly to the other units.

## **Planning the Programme**

In total, the library provided five contact hours to each student. We planned the sessions paying close attention to the module aims which included:

- Introducing students to technologies and resources that would underpin their work at university
- Enabling students to gather, interpret and present information
- Introducing students to academic writing skills (writing, reviewing, editing, referencing)
- Enabling students to reflect on their work practice and progress

The library was well placed to facilitate first year students' transition into and advancement within, their university career. Our three level information literacy framework had been in operation for a number of years and this module provided scope for us to deliver and expand on level one objectives of this structure. Level two objectives include accessing resources outside our institution, advanced web searching, compiling a bibliography and are typically delivered to second and third year students. Level three objectives include understanding the literature review process, developing a deeper knowledge of subject specific resources, managing and organising citation using bibliographic management software. This level is usually delivered to final year or postgraduate students.

## **Delivery of Sessions**

Whilst we were able to expand on the level one objectives of this framework, we made sure that our session learning outcomes were closely aligned to the overall aims of the module and that this was communicated to all students from the start. This was

important as the students were much more likely to learn well if they knew exactly what learning outcomes they would achieve, from session one.

### **Learning Activities**

There were many opportunities for students to examine and reflect on their own level of information skills and identify areas for further development. Group tasks were set which allow students to engage with print and online sources of information and reflect on their value and use in specific contexts

The remaining sessions covered use of the catalogue, planning a search strategy and citing and referencing. We were keen to ensure a strong element of interaction and reflection by the students and encouraged them to provide alternative solutions to queries. Breaking them into groups and getting them to evaluate the 'how' and 'why' of their peers' approach to finding and evaluating information was extremely effective in getting the message across.

### **Assessment**

Conscious that the majority of our students were coming to us directly from secondary education, we wanted to carry out some diagnostic assessment, which entailed a short ten question worksheet in session one. This proved a useful ice breaker and enabled us to get an idea of where they were coming from in terms of information searching skills. It was also vital in informing our planning for the remaining sessions. We also used this session to introduce them to an academic library and broke them into groups for hands on sessions.

Throughout the library sessions, we were determined to provide ongoing formative assessment so students could improve their learning and we could diagnose their strengths and weaknesses. They were also required to produce an essay at the end of the entire module. The assessment criteria include marks for effective information use.

### **Lessons Learnt**

When this module had been completed, the students provided feedback as to how they felt it had gone. We received a huge amount of support for our contribution, with just some suggestions for improvement - one of which included assigning more time to citing, referencing and plagiarism. Other comments included:

“The library skills seminars in weeks 4 & 5 were extremely beneficial. The librarian who gave the seminars was very patient and extremely resourceful”

“The library makes a huge amount of information accessible to students. A library skills course we did as part of the Information and Study skills module was hugely helpful in learning about how to properly use all resources”

After completing the first year of this module, we in the library have come to realise that there are definite synergies to be made around content preparation in collaboration with all colleagues involved in the delivery of the programme. I am

happy to say that planning for the second year of this first year module has begun early. The remaining departments have changed personnel and I am in the fortunate position of being the only person with experience of what worked and what didn't last year. Each department involved will also now have an opportunity to formally assess their component.

It is becoming increasingly important to liaise with colleagues from units across the university - both academic and support staff - to ensure that delivery of information literacy sessions is both content and context appropriate. Nurturing this liaison relationship is even more of a challenge when there are three to four partners involved however, the rewards for both students and teacher can be substantial.

## **Case study 2 - UCD**

In June 2006, UCD library convened a Teaching & Learning of Information Skills group (T&LIS)<sup>1</sup> to focus on the delivery of information skills (IS) within programmes and modules for students. This case study gives an overview of how IS sessions were delivered to 3rd year undergraduate students in the School of Economics over the 2006/2007 and briefly outlines changes made to the module in the following year.

### **Planning the Programme**

In partnership with the School of Economics and after identifying the IS competencies required to meet the module Learning Objectives, we produced a template for the delivery of information skills, that, depending on the time allocated to the library, could be adjusted to meet the identified IS needs, at the level required, for any discipline. A significant amount of time and commitment of Liaison Librarians on this T&LIS group was required, in terms of coordination, planning, and delivery of the IS training sessions. Depending on the venue, time allowed etc., the style of delivery of these sessions varied - from classroom with laptop, to lecture theatre, to computer workshop.

The aim of the IS sessions in year 1, (2006/07), was to equip students with the skills necessary to write a research proposal. Lectures 1-6 were delivered by academic staff in the School of Economics, on a wide range of research topics. These sessions provided students with information on the nature of the research to be undertaken, and the framework within which the research project in Semester 2 should be written. Lectures 7-14, provided by library staff, demonstrated the range of resources available to students and looked too at developing a research question, plagiarism/ethical use of information and using the bibliographic software product, EndNote.

### **Delivery of Sessions**

There were 53 students registered for this module, and an attendance sheet was filled in at each session. For this programme we used a mobile laptop cart in the classroom. This cart contains 25 Dell D600 laptops, which are connected to a wireless network built into the cart. Workbooks, produced in the library, were provided to students at the first library session, with one worksheet for each session. Delivery of IS in the

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<sup>1</sup> Outlined in : *Strategy for coordinating Information Skills Activity in UCD Library* ( C.O'Sullivan, 2006)

library sessions comprised of 30 minutes of lectures and a further 30 minutes for students to fill in the relevant worksheet – with assistance given by the Librarian. The information that students compiled in their workbook was based on their specific research topic, and they then used this information to “populate” their EndNote Library. The information gathered also formed the basis of their research for the project in Semester 2.

Developing the necessary skills to exploit information effectively and efficiently; the ability to critically evaluate the information found, and to use this information in an ethical way are – as mentioned above - skills that enable students to master content, extend their investigations and become self directed in their learning.

### **Assessment**

Attendance at the library sessions was excellent through-out, with the average attendance at the sessions being 80%, (with a high of 93% and a low of 60%). Attendance/participation in class was worth 15%; the worksheets made up 40% and the detailed project outline was worth 45%. Of the 53 students registered for the module, 98% submitted their workbooks for assessment and of these 83% scored a mark of 36 or higher. The average mark achieved on the worksheets was 37, with a highest possible mark of 40.

### **Evaluation**

Evaluation forms were used to assess the content and delivery of the modules. Forms were handed out at the last session. From these we could assess whether students believed that the learning outcomes had been met, found the course to be well organised and logically presented. We also wanted to assess whether the material was presented in a clear style, and whether the users could take the skills learned and apply them to other courses.

### **Lessons Learnt**

In the evaluation of the library involvement within the module, 36 feedback forms were received back, from a possible 53. With this 68% response we believe is possible to draw conclusions on the overall impact of the library sessions in this module.

The overall feedback we received was very positive. Of those who responded, 87% agreed, or strongly agreed that the module was well thought out and organised. 94% strongly agreed, or agreed that they now know how to use library resources more effectively. The vast majority (83%) believed that the material was presented in a clear and logical way, and of those who responded, 75% believe that they will take what they have learned and use it in their other courses.

Of those who responded to the feedback form, 75% found the worksheets helpful, 11% found them too difficult and 3% found them too easy. Also 87% of those who responded, agreed, or strongly agreed that the module was well thought out and organised (81%, 6%). 94% strongly agreed, or agreed (25%, 69% respectively) that they now know how to use library resources more effectively. Of those who

responded 75% believed that they would take what they have learned and use it in their other courses.

In the evaluation we asked about aspects of the course that students found most useful. Those highlighted include: information on journals (14%) online resources (22%), library facilities (14%), EndNote (11%), worksheets (3%), and laptop usage (3%), with one interesting comment *“laptop usage was useful but should be monitored more carefully”*

We also asked for feedback on the aspects of the course where students would have liked **more emphasis/teaching placed**. The highest response from those who replied was for emphasis to be placed on writing skills and on how to write up the project (17%). This was the first time they had to do a piece of research, and write a research proposal. They struggled with the concept of what a research proposal actually is. Of those who responded 6% would also have liked more emphasis on EndNote (6%), databases (6%) and on one-to one-teaching(6%). 3% of those who responded would have liked more time spent on effective citing of resources, and more assistance with the worksheets.

## **Discussion**

This was the first time the School of Economics had invited the library to participate in delivering IS *in this way*. In previous years students used reading list recommendations to complete projects/assignments.

Feedback received from academics in the School reinforced this, highlighting that the embedding of IS within the Economics module has resulted in students having *“a better understanding of the range of economic resources available, and how to cite these resources correctly”*; *“Because the skills were linked to credited course work, the students were more engaged in the process”* and finally *“They’ll apply what they have learned to other modules they are taking in Economics, ... and have also gained skills that’ll be of benefit in the workplace when they leave [university]”*

In the 2006/07 module, students also stated that they would take what they had learned and apply it to other areas of their studies – 75%; this will result in a greater use of library resources –in terms of both quantity and quality of access. We also looked for feedback from students about the library’s involvement in the module, and whether they thought it was effective. Of those who responded to this question, 54% believed that the module was run *“very well”*. Of those who responded to this question 39% commented on the project in some way. For example they found it difficult to come up with a research topic, found the task of writing up the project difficult - *“people in this class have very little experience in writing essays..”*, and would have liked *“examples of previous projects, “ and “more emphasis on the actual writing of the proposal, as a lot of time was on research”* . In light of the feedback we received we looked again at the resources covered, the time/emphasis given to each, and the content of the worksheets.

In the following academic year, 2007/08 the School of Economics decided to take a different approach to this module. Instead of running it over two semesters – a research proposal in Semester one, and writing up that research in Semester two – it

was delivered in Semester 2 only. Library sessions were delivered for the first nine weeks, after which individual academics spoke to the class about their projects. In 2007/08 the grading also changed, with the information skills component not being awarded 30% of the overall mark for this module. (a workbook of worksheets (20%) and an Endnote library (10%))

With this approach, as the students hadn't chosen their area of interest in advance, the library sessions took on a more general approach to resources in economics. Librarians delivering the sessions felt that students were sometimes a little confused as to the content of their projects and it would have been more helpful if the library instruction had come after the academics spoke to the class about their topics.

Aside from these reservations, the module was extremely successful. Thirty four students were registered for this module, the attendance rate was 76%, and the average mark achieved on the library assignment was 76%. As with the previous year, the majority of students taking this module agreed that the course was well thought out, presented clearly and that could now use library resources more effectively.

Feedback forms confirmed that students believed that they would apply what they had learnt in the Economics module in their other classes. Students are ultimately engaged and motivated by their ability to achieve high grades and qualifications. The library partnership with the School of Economics in the delivery of these sessions was very successful because the students fully understood the benefit that acquiring these skills would be, and how applying these skills facilitated them in the achievement of higher grades.

## **Conclusion**

A key factor that contributed to the success of both of these programmes, in DCU and UCD, was that the library's involvement in them was directly related to the students' work. The library sessions were focused on retrieving and using information required for their area of study, so the students were therefore fully engaged from the outset.

Our overall impression from initial discussions with the academic community while planning these programmes was that there wasn't a clear understanding as to how the library could support their teaching and learning endeavors. As seen from these two case studies however, the use of a workshop setting to facilitate students' development of information skills and in particular, - that it was a discipline based approach - was highly effective.

The active "hands on" approach also ensured that the students practiced these skills and were able to get assistance when they encountered any problems. Students are ultimately engaged and motivated by achieving high grades. They fully understood the purpose of these IS sessions and why acquiring the IS skills would help them in achieving such grades.

For us, information from the evaluation forms ensured that we could identify the areas within the course where users had difficulties: using a specific resource; coming to grips with an abstract concept; or completing the worksheet in the designated time. In turn this allows us, for future sessions, to revise the worksheets accordingly.

Critical to the success of this approach was communicating to our academic colleagues **why** this method could be more successful than the traditional approach and identifying with the academic, when the best time within the module was to teach these skills. To facilitate this understanding we used a similar model, in terms of layout and language, to that used within the academic community. This made it easier to promote the benefits of our involvement in the delivery of IS within the programme, and easier for the academics to see clearly how it would fit into their own work plan.

Engaging the Library as a partner ensures that appropriate learning experiences and activities are created within which students learn to negotiate the increasingly complex information environment. Higher education teachers and librarians need to collaborate more on developing students' information skills. This can only be achieved through a common understanding of how these skills (IS) are most effectively taught, and of the processes that facilitate the development of these skills as part of the learning outcomes identified within a module.

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