Action research report for the Pioneers Online learning course.
The design of an online classroom and implementation of an activity.
Claire Spershott, Riverside Library,

1. TITLE
The title of my report is “You don’t have to go to the library : Giving Information Literacy street cred!”
The eventual goal would be to put most of the Information Literacy (IL) courses online. For now, I have put in to my classroom, a module on identifying information sources and their uses – it's a start!

2. CONTEXT
The motivation for my investigation in to the use of Blackboard as a tool for teaching IL is multi faceted, but the driving initiative is that if we don’t go this route, we could become obsolete.

In the international academic library world there are many changes taking place. Information literacy classes are run by libraries in order to assist students to effectively manage the vast amounts of information and their different formats that are now available. The IL courses are designed to enable students to " locate, manage, critically evaluate, and use information for problem solving, research, decision making, and continued professional development” (Orr, Appleton and Wallin as cited in Kasowitz-Scheer and Pasqualoni, 2002).

The current trend in information literacy instruction is to offer blended or online courses. This involves use of online tutorials and modules, Web 2 tools, podcasts etc. This has meant a big shift from traditional library instruction.

There is now a much greater collaboration between Library and Faculty as student performance is now much more dependent on their information literacy skills. Also the teaching of academic integrity, intellectual property, plagiarism, citation methods etc has become an important part of information literacy.

There is also a greater collaboration between the Library and IT Services as more electronic resources are used.

Within South Africa, the move to outcomes based education as well as the change from a Technikon to a University of Technology has meant changes in the type of education provision for students and a move towards their finding out things for themselves. This has
made it essential for them to possess the necessary skills to enable them to recognise the
need for information, locate, evaluate and use information in various formats.
The way that these skills are imparted needs to be done in a way that is meaningful and
interesting to the student.

Searching and locating information can be done remotely without necessarily coming into
the library which also poses the question why cannot learning many of the skills that enable
us to search remotely be learned remotely.

Also the large classes and varying abilities of students have made it impossible to carry on
with traditional teaching methods.

Within DUT for many years librarians have been trying to get IL recognised and integrated
into the curriculum. With the advent of the ECP course, IL became part of the course and
librarians had to rise to the challenge. With very little teaching experience we were thrown
in at the deep end!

The students at DUT are now much more computer literate when they enter the University
compared to a few years ago and those that are not are keen to learn.
We are also giving better access to computers and hopefully bandwidth will not be as much
of a problem from 2010.
Students are used to using different methods of communication such as cell phones and
computers and therefore we need to exploit this and use it to facilitate learning.

3. CHALLENGES
One of the main challenges that I am having in my information literacy classes is bad
attendance. One of the reasons for this is that it is not a credit bearing course although it
does have a test which is included in final marks and is part of an integrated assignment.
The bad attendance is compounded because I try and make the lesson activity based and
so if the learner misses a class it is not easy for them to make it up as I can’t just hand out
notes.

By putting the course online I hope to alleviate these problems. By offering an online
course to the students and putting many of the activities online, students would not need to
attend many face to face sessions.

Another challenge I believe is that the library still has a stigma of not being a “cool” place.
So attendance at the IL classes is not really given a priority by the students.
If students didn’t have to attend IL classes every week but could access the lessons
through an online environment, then more students would complete the IL course, (knowing
already from lecturers that the students really enjoy and flourish in this environment).

I also know that some aspects of the course are boring! I hope that making much of the
course online will allow learning to take place in an interesting and interactive environment.
Another problem is that the students have differing abilities and experiences and learn at different speeds. This can be problematic in that if you are doing hands on exercises it is difficult to keep everyone involved, i.e. the fast learners get bored and the slower ones get lost. By having web based learning I also hope that this will provide an enabling environment for learners of different abilities and experiences: allowing them to work at their own pace.

If I can try and integrate parts of the IL online course into the online academic course, it will really make it seem like an integral part of the students education.

I have only started doing the current IL format, as opposed to the previous library instruction, since 2008 so am still really a novice and going through a big learning curve. I think there are other more effective methods of equipping students with the right skills to use information.

Using Blackboard allows so much potential to make the course varied and interesting.

4. THEORY
The educational theories that are most relevant to my investigation are:
Blended learning.
Blended learning is an integrated method of learning. It is not a specific combination but rather a variety of methods and approaches, such as online learning, workshops, face to face, reading etc and the approach can be formal, informal, independent etc. The combinations or types of blended learning are not prescribed but should meet the needs of the learner or the course or the specific purpose and can be adapted to meet changing needs.

Because of the different modules and activities in the IL modules, blended learning is really an appropriate method for the delivery of the course and allows flexibility. Many activities can be put online and some of the more complex components could be done face to face. (Newton, Spershott, Ndlela and Giddings, 2008)
Blended learning is suited to teaching IL because a variety of approaches are used and adapted to meet those particular needs.

Learning styles
There are different interpretations of learning styles but the one developed by Dunn and Dunn (Allan, 2007:52) identifies 7 different areas of learning: perceptual, information processing, problem solving, environmental, physiological, emotional and sociological.
Another interpretation of learning styles is that people learn using a combination from the following list: visual, aural, verbal, physical, logical, social and solitary (Overview of learning styles, 2007).
What is important to note in this, is the fact that students do learn in different ways and using different combinations. So by offering them information and knowledge in differing ways you can meet the needs of the different types of learners (Allen, 2007:51). By using a variety of resources and methods in IL teaching we can make it relevant and suitable for all learning styles.

**Online assessment**
As technology is increasingly being used to enhance learning and communication, so it is increasingly being used in assessment. Online assessment involves using the computer to administer the assessment to students. Some of the advantages of using online assessments are: instant and productive feedback to the learners, flexibility of time and location to do the assessment and an easing of the load of the educator. (CSHA, 2002).
Some of the systems such as Blackboard have built in assessment tools making it relatively easy to set assessments. The assessments can either be summative with grades assigned or formative like a self test quiz.

**Online Facilitation**
Online facilitation is a process where the facilitator enables groups to work effectively and cooperatively. Using online facilitation has greatly increased the ways in which facilitation can take place. Before the advent of online methods, facilitation basically took place face to face in the classrooms. Now online facilitation offers; text or graphics, threaded discussions, chat rooms, videos, web links or other links, email, online drop boxes and 24 hour facilitation. (Elearnspace, 2002).
It provides a ‘safe’ space for learning to take place

**Authentic Learning**
For real learning to take place the learners must be actively involved and in order to be actively involved the learning must be meaningful, interesting and real to them. Some of the important features of authentic learning are that learning is learner centred and extends beyond the classroom and is based on authentic situations. The learners are engaged in active problem solving which require skills such as evaluating and analysing. For the Information Literacy course, in order to make it authentic I need to ensure that it is relevant and integrated in to the academic course. The students need to be able to see that the IL skills they are learning have a direct and positive impact on their academic course.

5. **METHODOLOGY**
Action Research is ‘learning by doing’. It addresses real problems and tries to resolve them. A problem is identified, something is done to resolve it, the result is looked at to see how successful it was and if it is unsatisfactory another process is tried. Action research is used in real life situations to solve real issues; usually when flexibility is required or people
are involved in the project. It is also used in pilot studies. It involves a holistic approach to solving the problem and uses various methods to gather the information.

Action research differs from other research in that its primary focus is on making the people involved into researchers as people learn best and apply what they have learned if they do it themselves. It differs from consulting or daily problem-solving because the emphasis is on scientific study, ie, the problem is studied systematically and is informed by theoretical considerations. The researcher spends a lot of time refining the methodological tools and on collecting, analysing, and presenting data on an ongoing, cyclical basis. (O’Brien, 1998).

Gilmore, Krantz and Ramirez (as quoted in O’Brien, 1998) state "Action research...aims to contribute both to the practical concerns of people in an immediate problematic situation and to further the goals of social science simultaneously. Thus, there is a dual commitment in action research to study a system and concurrently to collaborate with members of the system in changing it in what is together regarded as a desirable direction. Accomplishing this twin goal requires the active collaboration of researcher and client, and thus it stresses the importance of co-learning as a primary aspect of the research process.”

O’Brien (1998) describes action research as differing from general problem solving in that it is done in a scientific way. A lot of the research is spent refining the methods and methodology.

Susman, as cited in O’Brien (1998) says that the process of action research has a cyclical methodology consisting of the following phases: the diagnosis of the problem, the planning of alternative courses of action, the choice of a specific course of action and its implementation, the evaluation of the consequences of the action, the interpretation of the action findings which is undertaken to assess the relative success of the action. The problems are then re-assessed and another research cycle begins.

Winter (as cited in O’Brien, 1998) describes 6 key principles of action research:

• A reflexive critique ensures that people reflect on the issues and action taken so that theoretical considerations may emerge.
• The use of a dialectical critique suggesting a need to focus on the unstable or opposing elements of the situation since these provide the impulses for changes.
• The collaborative resources principle presupposes that as co-researchers all participants’ views carry equal weight with insights emerging from the sometimes opposing viewpoints.
• The risk principle addresses fears that may arise because all participants’ views may be interpreted and judged.
• The plural structure of action research signifies that the report which concludes a cycle is a basis for continued discussion rather than the conclusion to the investigation.
• Action research has a transformative agenda where theory informs practice, and practice theory in cycles which continue for as long as necessary.
I have used the methodologies of Action Research in that I identified a problem in my teaching, which was poor attendance and because the course is activity based it is very hard for students to catch up on the lessons missed. I have tried to resolve this problem by putting aspects of the course online using Blackboard. I am currently evaluating the work that I have done so far in my classroom by getting feedback from some students who have tried out the classroom and am currently writing up these findings. This will be an ongoing cyclical process as it will need continual reflection and refining.

6. DESIGN

6.1 The vision
The vision for my online classroom will be to provide an online Information Literacy course which:

- is activity based, providing the students with interesting and interactive learning
- is flexible enough for students with different abilities and experiences and allows them to work at their own pace and which gives immediate feedback on formative assessments.
- can be continuously improved and changed as needs change
- is integrated in to the academic programme making it authentic learning for the students
- has inter-related modules which can also stand alone to be used individually when needed
- can be shared with other librarians
- operates in conjunction with face to face learning
- eventually is linked into lecturers courses at the appropriate time

6.2 Active learning
The online course will be conducive to the following aspects of active learning:

It will encourage interaction in that I plan to use a lot of interactive activities such as quizzes which will also be used as formative assessments. They will provide prompt feedback which will also be part of the learning process.

The very nature of the course will be interactive in that the resources are put online and have to be activated by the students.

The online course allows students to collaborate without having to physically meet frequently. Students can collaborate at any time of the night or day using online methods of communication eg discussions, chat.

Students in an online classroom have time to think about what they “say” in the online classroom and therefore the input will be better thought through.
Students enjoy using technology. They use it in their social networking. So by using it in their formal learning environment you are making the learning experience an engaging one.

Having an online course allows for diverse learning styles, eg visual, as the course can use different methods to deliver the course such as videos, discussions tools etc. The students have control over the pace at which they undertake the learning. In the tutorial the students are engaged in that they have to make decisions and are learning from their decisions.

Online learning encourages participation by allowing for online discussions which removes the obstacles of having to talk in front of the whole class.

The online course will eventually be linked closely to the academic course and students will use the IL skills they learn to assist with their assignments making it relevant to them.

The activities in the module require the students to perform certain tasks which ensure that they are actively learning rather than passively listening in class. The students are exposed to different tools which are in themselves new skills being actively learned eg web links which encourages them to search the internet, online tutorials which involves using different skills to a written assessment.

6.3 Working smart

Although a lot of work is required initially in setting up an online classroom, especially when one is a novice in software and web skills, once you have set up the classroom, it is comparatively easy to build on the foundation, change and improve it.

It also allows for a greater ease of sharing resources and lessons with other librarians as well as using resources which are already available electronically and which can be linked into IL lessons.

It will mean less contact time with students, which during the first term can be extremely busy. The online classroom would allow for students to do much of the information literacy lessons online and not have to physically come to the classroom every lesson. It would also allow me to provide many more activities as I won’t be restricted to 1 hour lessons.

Learners of different experiences and abilities will be able to work at their own pace and can go back through the lessons if needed.

Also it will save me time in marking if I can put assessments and quizzes online. I often used to use quick quizzes at the end of a lesson or beginning of the next lesson as a means of formative assessment. This took time and used up quite a bit
of the lesson. Putting this online means it can be done at any time. The students will also get immediate feedback.

6.4 **Blended learning**

There will be a big advantage to putting parts of the course online as they can be made more interesting and visual and interactive. I will be continually working to put more of the course online and assessing what works and what doesn’t.

Contact time in the library could be greatly reduced and used when the physical contact is really necessary. Lessons such as learning about Dewey Decimal could easily be put online and quizzes provided as formative assessments to test their knowledge.

At the start of the course there would need to be a bit of contact time to introduce the course and also if the students were not yet using Blackboard and had to be taught. Further face to face contact time could be for activities such as physically retrieving books and journals from the shelf and identifying sections within the library.

Although online tutorials could be used for learning to use the catalogue, it may be necessary to also have some contact time in this to assist those who are struggling and perhaps when we are going through the whole process of research, it would be useful to do that in a group situation so we can try different words and terms and see the varying results.

This would apply to the IL courses that run for a certain time such as the ECP courses. What would be more challenging will be when we have to do short ad hoc sessions such as 2 lessons with first year groups which need to cover specific aspects or for a particular assignment. These have to be tailored round very specific requirements and in a short space of time. These would probably require a couple of contact sessions but what would be useful would be to put exercises, revisions, tutorials etc online which would provide back up and extra support for those that need it.

Although I have not worked out yet how it will be best put online, what will be a great help for all librarians and academics will be to have online IL classes which cover the aspects of referencing. All students (and staff) from foundation level to doctorate require help with referencing. Even if they have done it previously, I often find they forget and come back for help or else they haven’t really understood the process in the first place. To have an online course on referencing, with different modules covering different aspects, which students could use either as a whole course or just use various modules as refreshers could be a really useful tool. It could be linked to the online referencing guide on the library webpage and could be linked in to the academics’ courses for the students to use when required.
Even with my current contact courses, I always stress to the students that they can come to me in person if they have a problem with any particular problem or are having problems referencing as I am usually in the library and my door is always open.

7. IMPLEMENTATION

7.1 Pilot activity

I asked 5 students from my ECP Management class to test out my module on “Identifying Information needs and information sources”.

I gave them a printed set of instructions on what was required and a feedback form. Unfortunately I left this a bit late and only gave them a week to do the module.

Prior to this module there was an introduction to the course (and me).

The module included:

- An assessment rubric
- Previous discussions
- Sources of information
- Uses of information
- Communication of information
- An online tutorial

Learners were asked to list sources of both print and electronic information. Assistance was given in the form of pictures and links to the “Media Library”. They then had to describe the different uses for these sources.

They were then asked to list some of the ways that information is communicated. I also put in a link to a video of an example of how information is “miscommunicated”.

The last part was a link to an existing online tutorial and online quiz covering the different types of information sources and their uses which took them beyond what they had just done themselves.

Some terms were identified in the “Glossary” and there were several links to useful sites in “Web links”

7.2 Relevance

One of the main challenges I identified was bad attendance, compounded by having activity based lessons, which meant it was difficult for the students to catch up with missed lessons.
With the module I used for my pilot, the students wouldn’t have to attend a face to face class but would work in groups, online, to identify the information sources and how information is communicated and for what purpose.

I asked them to work in groups because they can then support and assist each other and brainstorm in coming up with ideas. An alternative to working in groups could have been getting them to use the discussion tool to assist each other.

They could still be exposed to the content that we would have done in the class but without having to physically attend. The module would remain online for them to complete with a certain time period.

Although students would not be able to listen to the other groups’ findings as they would in the classroom, they have other sources such as the Media Library to assist them and give them ideas. The module is still an activity based in that the students have to think about things and use their current knowledge and build on it. By doing the online tutorial it takes them farther than I would have covered in the class.

The online activity allows the learners to work at their own pace which means not having to worry whether some of the students are getting bored or others lost.

Another relevant feature of my online module is that it offers a more “cool” working environment for the student. The student doesn’t have to be in the library class to do the activities but can do them online.

Instead of going through what could be a fairly boring exercise of explaining what periodicals are used for or what an index is, the students could do this activity online as part of the online tutorial in an interactive and interesting way.

7.3 Feedback
Firstly, having set up the passwords I gave the 5 students who were piloting my site the wrong passwords! Fortunately I had given my contact details and told them to ask for help or clarification.

The feedback I got from the students who did the pilot exercise was:
- there weren’t enough definitions in the glossary and they required more help in identifying other sources.
- there needed to be more activities and tutorials
- difficult getting to the online tutorial
- didn’t understand some of the words or concepts
- couldn’t use the computer
- not challenging enough
- can’t type, need to be taught
it was better seeing things than hearing it in a class
enjoyed the visuals
quiz not challenging enough
more classes
it was simple and short
Blackboard is a fun way to learn and makes learning easier rather than being bored in the class!

8. REFLECTION

8.1 Assumptions
In retrospect I did the activity in too much of a hurry. Giving the students only 1 week was too short a time.

I assumed because the 5 candidates were using Blackboard already that they were computer literate and familiar with all the Blackboard facilities which was not the case.

I also assumed that because we had done a similar exercise in class in February that this would all be familiar to them and they would already know the concepts but for some of them this was not true.

I don’t think that some of my instructions were clear enough. Even some of the terms and words that I had used were perhaps not clearly understood. I should put many more terms into the glossary but because this was still a work in progress I didn’t really consider the immediate needs of the pilot group.

I had thought that the online quiz at the end of the module would have been quite difficult for the students but 1 comment said it was really not challenging enough. I need to ensure that there is enough range in the online classroom for those who want to advance a bit farther than the others, yet make it simple enough for those who do find it challenging.

Although I explained that it was a pilot project and that I was still learning, I think that some of the students felt that there should have been much more to the course.

Having stated one of my main problems as being non attendance and a general resistance to an information literacy course, one of my respondents asked for more classes and not just 1 a week!

On the whole the comments from my pilot study do say that students enjoy learning through online means and find it more interesting than the “chalk and talk” approach.
8.2 Future adjustments
I think I need to be very careful in setting out instructions and remember that the students are English second language learners. I also need to make sure that I put a lot of terms in the glossary, especially if they are library jargon.

I will try to make the lesson more interactive with the activities giving immediate feedback, whether it is tutorials or quizzes or other methods.

I would try to keep / increase the amount of visual stimuli, eg. include pictures, graphics etc in activities as I think this does make it more interesting and one of my pilot group commented on this.

I also think that until I become more proficient, it would be a good idea to ask students to test things and give feedback from a student’s perspective before trying it out on whole classes.

I need to remember that many of the students, although computer literate may not be familiar with all the options on a computer and to take cognisance of the very SLOW internet speeds and capacity of some of the computers that the students are using at DUT!

I didn’t use the discussion tool with the students but I see that as a good method of getting the students to interact in a “safe” way.

8.3 Impact
I can spend less contact time with students, although it may take a long time to prepare lessons and set up in my classroom, especially initially. It will also allow me to handle large classes and yet still be able to give them activities and interesting ways of learning things.

It has made me really look at what I am doing in my lessons and acknowledge that this is not necessarily the best way and that they can be just boring!

Learners can learn when it is suitable for them and in different ways and at their own pace. It will also be teaching them various new skills eg computer skills.

Although not quite there yet, I envisage that IL can be much more easily integrated into the curriculum, by linking in from the lecturers classrooms at the right time and when the students have a real need and without it seeming like going for “Library instruction”.

If other librarians were to use online learning, we could really build up a really good collection of resources and share with each other and other libraries.
It also gives credit to the institution that we are at the forefront of innovation in our Information Literacy programmes.

8.4 Lessons learnt
The potential for using Blackboard is huge. Seeing the different ways in which people use it and for the different purposes has really encouraged and motivated me.

Initially I felt that that Blackboard was simply an online teaching tool, primarily for lecturers and that as a librarian I would not quite “fit”. I now know that that not the case and the possible uses for Blackboard are great.
I now feel more confident about using Blackboard to address my needs. There is no right or wrong way but rather a variety of ways and methods depending on what problems you want to resolve. Even the writing this report has made me look at future possibilities for the library.

I have had to read up on several education theories which has made me look at what I am currently doing, how I am doing it, is it learner centred and if not then how can I make it learner centred.

I have looked at how international libraries are using online learning and see that we are on track at DUT as far as out IL programmes are going and with our intentions of online tutorials we can use Blackboard to really integrate the programmes I think we would really be at the forefront of what is happening in Academic libraries.

On a practical level I have learned how to write for an online page eg how it differs from print, how users read it, use of headings, fonts etc. and the need for clarity.
I have also learned to use Front page and Picture Manager

Finally, setting up an online classroom is not an easy or quick process but rather a slow and continuous one. It allows you to plan ahead so I can use the times when I am quieter to work on the classroom to make things easier and more efficient for when I am really busy.
9. BIBLIOGRAPHY


