

AN ADAPTIVE APPROACH TO RESKILLING OLDER 'FIRST YEAR' STUDENTS

ABSTRACT

INTRODUCTION

The age of lifelong learning is with us. It is not uncommon to change career once or twice in a lifetime and age is no barrier to gaining a university education. The traditional profile of a first year university student as a school leaver transitioning to higher education is no longer the dominant one. After 10 or 20 years in the workforce, people are enrolling in study either to upgrade their qualifications or facilitate career changes.

Unlike the school leavers that have been recently immersed in study, these mature students are often balancing work, social and family commitments and usually studying by distance. With years of work experience, good time management skills and an abundance of motivation, it is in the electronic research environment where their knowledge is lacking. Often the last time they were at university they were using paper and pen and totally reliant on printed material for research. With complicated demands on their time, information literacy instruction works best for these students as self paced delivery where the required skills can be chosen from a flexible model.

METHODS

Delivering information literacy skills to clients who may never come onto a campus presents unique challenges as online tutorials struggle to present the required information without becoming over long and text heavy. Complex searches are difficult to describe in text and screen capture software can be time consuming to use. Adobe Connect provided a platform for CSU Information librarians to record information literacy sessions that were tailored to individual subjects or cohorts, giving the instruction a personalised approach that replicated a face to face class. This was coupled with an interactive research skills tutorial delivered using Springshare's LibGuide software, where students could actively try the resources they had seen demonstrated.

RESULTS

Both the Adobe Connect sessions and the LibGuide tutorials were able to be broken into sections, or chapters. This gave the flexibility for students to pick and choose the areas where their skills were lacking, an affordance which was considered essential for this time poor cohort. A feedback form was incorporated into the Lib Guide allowing immediate comment from students and facilitating quick changes to the tutorial to align it more closely with their needs if necessary. The clients were thus able to shape the training resource to their needs in a way that had not been possible with past HTML based tutorials.

CONCLUSIONS

The new generation of mature, working professionals returning to study have different expectations and needs to the traditional first year student. Their situations demand that they be able to pick up the research skills they need while working in their own timeframes. This paper describes how CSU Information librarians combined two platforms already existing in the Library to deliver a personalised and flexible experience that met the complex needs of first year mature off campus students.

PAPER

Introduction

The age of lifelong learning is with us. It is not uncommon to change career once or twice in a lifetime and age is no barrier to gaining a university education. The traditional profile of a first year university student as a school leaver transitioning to higher education is no longer the dominant one. 41% of Australian higher education students in 2011 were aged 25-64 (Australian Bureau of Statistics, 2013)

The challenges faced by this group are often very different to younger students who have been immersed in study for many years in the secondary school environment. Balancing family and social commitments with study requirements can prove taxing and adding work demands to the mix can result in considerable time pressures. While 90% of younger students (aged 15 – 24) studied full time in 2012, this figure was less than half for more mature age students (Australian Bureau of Statistics, 2013).

Often with years of work experience, good motivational skills and a willingness to learn, it is in the electronic environment that these students flounder. In many cases their last experience of tertiary education was in the print era where pen and paper not screen and keyboard were the dominant model. With such an extensive and bewildering range of sources available, students often have no idea where to start. The need to balance complicated demands on their time mean self paced, flexible information literacy instruction tools work most effectively for these students.

Charles Sturt University (CSU) is a regional institution with a diverse multi-campus profile. CSU is one of the largest distance education providers in the Southern Hemisphere. 2013 statistics show that there were over 22 541, or almost two thirds of students, studying by distance education through various locations, including CSU campuses, study centres, TAFE partners, and offshore partner organisations. The diverse nature of our client group means a 'one size fits all' approach is ineffective and CSU Information librarians have begun to mix and match the technologies and pedagogies at their disposal to tailor information literacy options to student needs.

Literature Review

Distance Students

The American Library Association (2006) Standards for Distance Learning Library Services state clearly “the library's programs must be designed to meet not only standard informational and skills development needs but also the unique needs of the distance learning community”. This has long been a challenge for the academic librarian. Technology has dangled the promise of a solution before our eyes, however Barnhart and Stanfield (2011) warn of the pitfalls of simply replicating face to face class content online. Using focus groups and survey methodology, Combes and Carroll (2012) investigated the efficacy of online learning and discovered unsurprisingly that flexibility was ranked as very important by the majority of the participants in their study.

The trends and challenges of delivering services to distance students are discussed by Whitehurst and Willis (2009) and while the technology itself was identified as an enabler, success depends greatly on both the technological and instructional skills of the librarian and the collaboration with academic staff. The involvement of faculty was also highlighted in a study at Marywood University where it was determined that there was a link between distance students' awareness of library resources and the lecturers' knowledge and promotion of the same (Ismail, 2010). A web survey conducted by the University of Illinois in

2009 investigated how off campus students experienced a range of resources and services, the results suggesting that there were gaps in information literacy provision that required the library to take a stronger and more proactive role (Hensley & Miller, 2010).

While the flexibility of distance study is undoubtedly appealing for those students that are also engaged in employment, managing complex demands on time along with the technologies needed to navigate online spaces can prove too much for some. This theme was investigated by Kahu, Stephens, Zepke and Leach (2014) in a study of first year distance students in New Zealand. Although small, the research revealed that more targeted support was needed to address the higher attrition rates in mature age distance students.

Mature Age Students

Student engagement in the first year of study has been identified as an indicator of retention and success. (James, Krause, & Jennings, 2010). Motivation to study is rarely an issue for more mature students, and research into the first year experience shows them as willing and enthusiastic students (James et al., 2010). This may be the case, however Haddow's investigation into newly enrolled students at Curtin University discovered mature age students withdrew at a much greater rate than their younger counterparts (2013).

Exploring the first year student experience in a UK university, Trotter and Cove (2005) suggest mature age students are less forgiving of activities in which they see no benefit, due to the competing forces in their lives. Whitehair (2010) discusses a progressive and collaborative model of library instruction for returning graduate students that meets their diverse needs and backgrounds.

The progression from face to face library instruction to online provision is a well explored concept in the literature, however it is worth giving particular mention to the difficulties faced by what De Ruiter (2002) describes as 'mature novices' online. Focusing on information literacy support to higher degree distance students, Kumar and Edwards' study provides an example of embedded instruction and posit library-faculty relationships are essential to adequately support students in an online program (2013). An investigation into student satisfaction in an online class found the best outcomes to be reliant on learner-content interaction, suggesting content design and appropriate delivery technologies are paramount for the most effective learning experiences (Kuo, Walker, Schroder, & Belland, 2014).

Information Literacy

Using a pre and post-test methodology, Shaffer (2011) demonstrated that information literacy instruction can be delivered effectively online by using various strategies such as linking to videos and mini tutorials. An analysis of a virtual learning environment (VLE) designed through collaboration between the Library, Learning and Teaching Support and the Faculty of Business and Law at the University of Southern Queensland, highlighted the advantages of presenting research skills in a visual format. Students used the resources as "just in time" tuition with many commenting their confidence in the research process had increased as a result (Stagg & Kimmins, 2012). New models of instruction are emerging as technology affords the librarian opportunities to reach out to students and in some measure replicate a face to face experience. Web conferencing tools such as Adobe Connect are providing instructors with the ability to screen share and explain search strategies in a live interface which bridges the gap for students off campus (Swarm, Vincent, & Gordon, 2013; Weissman, 2013).

Accessing online content via mobile devices is the norm now rather than the exception. 7.5 million Australians used the internet via their mobile phone during June 2013, an increase of 33 per cent from June 2012 (Australian Communications and Media Authority, 2013). These numbers cannot be ignored and library initiatives must be tailored to meet the needs of the mobile user as well as the desktop one.

It is into this dynamic and challenging environment that CSU Information librarians ventured to satisfy the information and research needs of a group of older 'first year' students.

The Program

Two groups of CSU postgraduate management students studying first year subjects by distance were the focus of the reskilling program. As previously discussed, these students are notoriously time poor due to complex work, family, social and study commitments. Yet these are the very students likely to require support when adapting to the online research environment. Digital or online library resources can be an unfamiliar or uncomfortable concept for students to absorb and lack of human help can present even more barriers (Liu & Luo, 2011). Online tutorials can fill in some of the picture, but without care there is a risk of creating long and onerous text resources as the information needed to describe the many search tools and strategies can be quite complex. In consultation with the lecturer of the Management course we decided to employ a staged approach that combined an activity based learning tutorial with subsequent group discussion sessions using chat software and web conferencing. Employing some elements of the flipped classroom, the learning material was delivered as a self paced resource where students were given responsibility for their own learning, early in the subject. A quiz delivered through the student online learning environment software tested their skills and was allocated a small percentage of the subject marks. This was followed up by group chat sessions where students could reinforce their learning by discussing particular examples with their peers and asking questions of the librarian. Extending this concept to a web conference seemed a natural progression, and in an hour long session more complex skills were able to be introduced and considered.

The Technologies

CSU Library has used library research skills tutorials for many years and librarians have had good success liaising with academic staff to embed these in course subject sites. Historically the tutorials, although interactive, were created in HTML with changes or additions requiring support from the Library Web Team. LibGuides by Springshare offers libraries an easy to use content management system that is flexible and simple to maintain and adapt (Springshare, nd). The functionality and convenience of LibGuides made them a natural choice when the Library was looking for a new container to house their research tutorials.

There are many elements that make up the research process and describing these in a linear fashion can result in a long and text heavy tutorial. Because of the time poor nature of this student cohort it was considered important that they be able to pick from a menu of skills, and take only the bite sized chunks of instruction that were immediately necessary. This accommodated the students' need to engage with the information on their own terms, an essential component of an online tutorial (Su & Kuo, 2010).

By breaking the library tutorial into 4 sections or topics the research process could be displayed in a continuous flow from one broad topic to the next, while links within each topic allowed individual skills to be chosen.

- Identifying Information
- Finding Information
- Evaluating Information
- Using Information

Each broad topic incorporated one or more sub-topics that were either explanatory or active learning tasks. Explanatory elements of the tutorial, for example showing search strategies,

incorporated visual content such as short videos and minimised the use of text. Once a concept is explained it is effective to reinforce that learning by actual use. To facilitate this, widgets were used to embed live search tool interfaces into the tutorial providing opportunities for students to conduct their own searches without leaving the page.

Adding informational value wherever possible is a concept familiar to librarianship and the layout of the tutorial allowed the insertion of a page featuring subject specific resources such as links to databases, journals, online reference resources and eBooks. Without becoming an intrusion into the instruction process, this provided the students with a tailored set of resources as a possible starting point for their research. Embedding librarians into academic course structures is now a well known approach and when used within online courses a relationship with students can be developed that helps mitigate the disadvantages of distance (Edwards, Kumar, & Ochoa, 2010). Locating a "Help from your librarian" box on each page of the tutorial promoted the Library's virtual reference services and gave options for synchronous or asynchronous assistance without the user leaving the tutorial.

Placing the emphasis firmly on user needs when designing learning material is essential, and evaluation and assessment are vital tools to determine these needs (Chen & Pei-chun, 2011). Here, timing is important as after the conclusion of the subject there is a risk that students are no longer engaged enough with the content to offer constructive critique. By embedding a feedback box in the tutorial, the efficacy of the instruction could be assessed "on the run" while the content was in use. Indeed many student suggestions were incorporated immediately and the tutorial developed naturally over the session into a resource that truly mirrored the requirements of the students. Leaving a comment and an email address was voluntary but many of the cohort took advantage of this function to make either suggestions or observations. The positive nature of the comments showed the tutorial was on the right track.

Acknowledging different learning styles plays an important part in designing effective instructional resources (Mestre, 2012). Although many studies have shown there is little difference between the learning outcomes of online or face to face instruction, individuals often preference one form of communication over another (Woolsey, 2013). The flipped classroom approach, where students are expected to engage with learning material on their own time and then use group time for discussion or activities, is finding success in many educational situations (Davies, Dean, & Ball, 2013; Herreid & Schiller, 2013). To explore this concept with distance students, the chat room tool in the course management software was used to facilitate a discussion session centred on the tutorial content. This tool was already employed for regular discussion sessions with the lecturer so the librarian was able to slot a question and answer session into the student's schedule in the weeks before an assessment task was due. Students had already engaged with the tutorial and were receptive to extending their knowledge and clarifying concepts.

Information Literacy is not a static concept and skills can range on a continuum from basic to advanced. While the Library tutorial and chat session had imparted some basic skills, students indicated that they would benefit from some more advanced training. It would have been possible to add some extra elements to the tutorial, but the result would have been a more complex resource than was needed for an initial introduction. With a finite number of staff and a wide teaching profile in the University, sustainability of any initiative is important. To add considerable advanced content to the tutorial would change its focus and make it inappropriate for the students requiring basic assistance. Instead of being reusable, the tutorial would require further alteration before being offered to the next cohort of students.

Web conferencing software is now a standard item in many educational toolkits and CSU uses the Adobe Connect software to connect with, and deliver instruction to, distance students. It allows live meetings and training sessions to be delivered on any device or

platform and the interface can be customised to meet the needs of the presenter (Adobe Connect, 2014). To expand the level of support offered to the students, the idea of a web conferencing session with a librarian was suggested. The take up was good indicating a readiness to build on the basic skills imparted by the tutorial. The session was used to extend the research skills of the students while still maintaining a very specific subject focus. The synchronous nature of the instruction meant that more complex searches could be demonstrated in a live database interface and questions taken during the process. The sessions were held in the evening and well attended but competing commitments meant not all students were able to be present. However by recording the research skills class, students were able to access the class at a time of their choosing. Using the approach adopted by the tutorial, the recording was broken into chapters allowing students to select the information that met their particular needs.

Adapting available tools and methods to suit the diverse needs of the cohort resulted in a program of instruction that was individual and yet sustainable for the library. During the session the Library had three opportunities to engage with the students through the online tutorial, the chat room session and the web conference. Extending this prototype to other subjects and courses is an achievable goal within current staffing levels and workloads. This personalised model of learning provides more learner control and choice, and will be an important component in the challenge to direct students toward authoritative sources of information (Johnson et al., 2013).

Evaluation

Assessing the efficacy of online instruction is challenging. Pre and post tests are difficult to conduct with off campus students and packed curriculums leave little room for extra assessment tasks. The feedback box in the Library Tutorial provided a simple and easy method for students to indicate if they found the resource useful. The ability to simply click a radio button meant students could indicate satisfaction at a very basic level, and a comments box with email field afforded them the possibility of more detailed feedback if desired. Many indicated they found the tutorial useful and comments received were gratifying, such as the following:-

“For someone taking up study after a 19 year absence this has been particularly helpful. Thank you.”

“Very useful, particularly the comparison between the different search engines”

While this feedback indicated a good overall satisfaction rate, there was no real data on what tools or concepts the students had taken into their own research practice. The solution was to deliver a survey into their learning management space after they had completed some assessments, asking the students how the tutorial had subsequently impacted on their research.

Results

About 10% of students enrolled in the subjects responded to the survey and while this number wasn't large, the specific nature of the comments made the results very useful in planning future interactions. 75% of respondents indicated that the Library tutorial had improved the way they found and used information in their studies, and 89% felt that learning how to use library and information resources helped them to complete their assessments. Students also indicated which section of the tutorial they found more effective, and why. Conducting a topic analysis and using appropriate search tools were the new skills most

widely used as a result of completing the tutorial. The comments section identified a number of pain points for the students when starting their research – indicating new areas that can be addressed in the future. The web conferencing session also received positive feedback indicating that the mixed methods approach had been a successful one.

“Very useful. After 20+ years I was "primitive" in my approach and was unaware of EndNote. The journal databases were initially confusing, but make sense now and help a great deal.”

“I found it very useful and think it would be a good addition to all Masters courses as many students have not studied before or in years. I hadn't studied in years so the tutorial was good for introducing me to google scholar and EndNote.”

Conclusion

While educational paradigms shift from the traditional into an era of flexibility and online connectedness, academic librarians are faced with the challenge of providing information literacy support and instruction to a diverse range of clients. As the diversity of the student body extends so does the myriad of information sources available to them. Teaching information literacy skills to mature, time poor students is a delicate balance of giving just enough information to be useful at each stage of their development through their first year. CSU librarians have combined existing technologies in an adaptive and sustainable approach to build relationships with students and to deliver just in time support. This model has been a successful strategy in a first year postgraduate management cohort.

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