Doing it for ourselves: a collaborative approach to building digital literacy tools and skills.

Abstract:

Introduction:

In March 2016 UTS Library launched a series of online learning modules called HeadsUp, which was the culmination of a year of intensive work by librarians in the Information Services Department in collaboration with support and academic staff in the University. HeadsUp is a series of nine modules which are made up of short animations, screencasts and quizzes intended for students' individual learning, as well as a tool academics can use for students' formative learning. They cover a variety of academic literacies and study skills relevant to first year students. Rather than hiring someone external to make these modules, we decided to take a more ambitious DIY approach.

Body:

The need for such a resource has been driven by external and internal factors. Externally, there has been a continuing increase in student numbers following the Federal Government's removal of the cap on student enrolments in 2009 (James 2014). This has meant that demand for our information literacy services increased to levels that are stretching our capacity to provide them in the traditional way of face to face teaching. Internally, the University's *learning.futures* strategy has revolutionised learning and teaching on campus. The learning.futures strategy applies blended learning techniques and recasts the focus of education onto the learner rather than the teacher. It's about spending less time in lectures where the "sage on the stage" delivers content in a one-way stream. The University feels that this time can be better utilised by students applying what they've

learned prior to class in smaller groups and with expert help. The students may watch videos, read relevant materials or watch pre-recorded lectures prior to tutorials, bringing what they've learned in their own time and applying it in class. The videos & quizzes in HeadsUp are being used as content for this style of learning by both librarians and academics.

Learning.futures has influenced the design of the campus in dramatic ways as well. Many more rooms designed for collaborative study have been introduced and large collaborative lecture theatres are being built in the new building coming online in 2020. This building will also house the new University Library.

The project was a multi-layered and multi-stranded exercise in collaboration, both within the Library and across the University. Some of the modules cover areas that aren't traditionally part of the UTS Library staff expertise so we tapped into the expertise of staff in related units on campus and kept development in house to build staff capacity. It also allowed us the flexibility to make adjustments down the track as needed. Staff from the academic literacy unit (HELPS) and learning technologists from the Institute for Multimedia Learning (IML) were consulted, and advised us at key phases in the project. They also provided training in using the animation software ExplainEverything, which they are teaching academic staff to use as part of the University's *learning.futures* strategy. The animations were made using simple 2D animation techniques to create a unique visual look and feel. We employed both current and recent graduate students from the UTS School of Digital Information Management to create videos and film the introductory "What's in it for me" videos for each module.

On an internal level, the whole of the Information Services Department was involved in the project. Everyone made a contribution. We used backwards design to ensure the best learning outcomes for our students as well as ensuring everyone had a shared understanding and worked towards a common goal. Using a backwards design approach meant that we started planning the modules and the individual videos with what the

outcomes of student learning were intended to be. Then we worked backwards from there, developing the content and assessments framed by what they needed to know at the end. We collectively critiqued each other's work throughout the scripting and video making process, with the overarching intention of making short, high quality educational materials that communicated in a simple straightforward way, with minimal library jargon. In doing so, the collective expertise of the department was leveraged and we were able to develop a new set of core digital literacy skills in our staff.

Conclusion/Results:

We achieved our deadline of the start of Orientation 2016. Academic staff have been embedding both modules and individual videos into the University's Learning Management System. The benefits of the modules have been recognised and praised across the University with staff in related student support units incorporating them into their services.

Relevance: This fits neatly into the Knowledge collaboration category and also has some synergy with Innovation in practice.

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Doing it for ourselves: a collaborative approach to building digital literacy tools and skills.

Introduction

The University of Technology Sydney (UTS) is situated on the edge of Sydney's CBD and is part of the Digital Creative Precinct. UTS has almost 32,000 EFTSL and is ranked the top university under 50 years old in Australia. Like many university libraries, UTS Library delivers a variety of services both online and face to face, including an extensive teaching program for students at every level. These numbers have increased dramatically since 2008 for a variety of reasons including enthusiastic librarians engaging with faculty, increasing student numbers, the development of a strong researcher training program and a long running university wide project embedding information literacy skills into the curriculum. This paper will explore the development of online learning skills within the Information Services Department at UTS Library and how these skills are helping develop digitally literate librarians of the future.

Background

A number of university libraries have experimented with how information literacy skills are provided to undergraduate students. Some years ago one major Sydney university library did away with information literacy training for undergraduate students altogether, replacing it with a series of online modules. More recently other Australian university libraries have done the same. While the reasons for these changes are not available to us, I assume that it was as a result of the ever increasing pressure on libraries to support research at their institutions, in a climate

of fierce competition for scarce funding resources. Very few libraries are adequately staffed to do all that is expected of them and the environment is one where expectations are getting higher without additional resources. UTS Library has deliberately chosen not to take this path. We believe that good information literacy training in undergraduate years, particularly in first year, form a critical set of understandings that once grasped by students, makes their life at university less stressful and leads to better scholarship and educational outcomes. This has been investigated increasingly over the past 10 years and at least one study has found a positive correlation between library instruction and student outcomes (Stemmer 2016). We also have anecdotal evidence from many lecturers that this is the case. The University has 5 graduate attributes and producing Information Literate graduates is one of them.

A few years ago the federal government uncapped the number of students who could enrol for courses at university (James 2014), this led to bigger demands on library staff for training. Large numbers of students come to the Library for face to face classes, one of the largest is about four hundred students for an hour tutorial, it takes three weeks teaching in multiple rooms simultaneously to deliver all of these classes. Adequately training new students in large core subjects has long been an issue for the Library. Some classes in first year have as many as one thousand six hundred students in first semester and six hundred in second semester. There is no way library staff can cope with this number easily in the Library. Usually librarians address lectures for the larger subjects, however this isn't optimal. Online learning modules offer us a way of delivering relevant content easily to these large cohorts.

At the same time as the information literacy program was building momentum, the Information Services Department had been using Captivate software to create online video tutorials. This was a strategic initiative as we recognised that videos were a format that could be easily shared and were also popular with students. We also thought library websites were very text-heavy and wanted to break away from this.

While the department has built up skills in online tutorial creation, we relied on one or two people to do the majority of the work in preparing them. In the early days there were no agreed guidelines relating to style and length of the videos created. An overall guiding framework covering generic and discipline content was also lacking. We recognised that video media was being used more and more in the education sector but also for personal information searching. Earlier in 2016, YouTube was the second most popular site used by those seeking information (FIPP 2016).

From around 2010 a concerted effort made started to encourage more staff in the Information Services Department to develop these skills. Along the way guidelines were created, documented and adhered to. The Library's YouTube channel was established in 2009 with generic introductory playlists, referencing tutorials as well as a few discipline specific videos. Like other libraries, we had pages on our website devoted to information on referencing, plagiarism and study guides.

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By 2014 we had a large and well accessed YouTube channel as well as great resources on the Library website. The problem was that there was not much connection between them. The YouTube channel which wasn't really being utilised in

a strategic way from the Library website. It was also confusing. What we needed was a one stop shop to lead new students through the information they needed to be successful in their first year at university and beyond.

We had wanted to do something like UNSW's Elise or QUT's StudyWell for some time and realised that it would take significant resourcing and learning design expertise that we didn't have ready access to. We learned that funds were available for projects within the Library over both 2014 and 2015. It was decided to use these funds to embark on a very ambitious home grown project to bring all of our skills together, combine them with the development of new skills as well as employ and collaborate with external staff to help develop skills we knew we were lacking.

The alternative was to outsource the production altogether, employing multimedia experts to undertake the whole project. We had observed that websites built by external experts with one off funding often seemed to be updated infrequently and therefore got out of date relatively quickly. This outsourcing also makes it difficult to update and review content when new funds aren't readily available. We decided against this option because we wanted to be able to amend the content whenever we needed to. We also saw it as a great opportunity to develop the digital skills of our staff.

We are a "lean" department, with all staff performing multiple roles. We applied our nimble multitasking ethos to this situation too. We also leveraged the skills of others on campus and learnt from them while continuing to develop an already strong collaborative relationship. We are lucky to work in such a large

organisation as it would have been difficult to do in a smaller institution. That way we had control of the content and could easily update it when needed. We picked up future focused work skills in the process.

A few years ago a report was published titled *Future work skills 2020*. One of the top ten skills it predicted would be of critical importance was new media literacy, including the understanding of and creation of visual media (Davies, Fidler & Gorbis 2011 p. 10). This added the impetus for us to “do it for ourselves”.

Collaboration: learning design

We initially employed a learning designer in 2014 who helped us establish the framework for HeadsUp. He had worked in many roles within the university sector, including as a learning designer, tutor and lecturer. He also recognised the important role the Library plays in student learning. He left to take a permanent job elsewhere and as we were heading into the new academic year, HeadsUp was put on hold. In mid 2015 we picked it up again and started the collaboration with other support staff on campus. We identified relevant training opportunities, to develop the skills highlighted in the project initiation phase with the original learning designer.

The project was known at first as the Learning Pathways Project and later became known as HeadsUp. HeadsUp is a series of modules introducing students to the tools and skills they need to survive and thrive in their first year at university. It brings together the various strands of help available from the Library and other student support units, into a logical sequence delivered in a popular format. Quizzes are used after videos to test learning. With the issues surrounding student success under the banner of the First Year Experience, rather than simply provide information

literacy related content, we took a holistic approach to the skills needed by new students. More than just understanding how to find things, the skills needed are part of a complex matrix that include interpersonal skills as well juggling finances, making friends, facing anxiety, academic writing skills, time management and more. So we incorporated these into a “one stop shop”.

We were aware that the training of librarians didn’t include educational design practices or educational pedagogy. However, we had gained many valuable insights into teaching practices and the pedagogical theory underlying educational instruction by attending forums held on campus to share knowledge amongst academic staff, particularly around the First Year Experience and the Flipped Learning Action Group. Bringing these insights into the project was critical to its success. We also collaborated with the learning designers from the Institute for Interactive Media and Learning (IML).

In a fortuitous coincidence, the University was also embarking on an ambitious rethink of their approach to learning on campus. Called *learning.futures* it’s about placing the emphasis on learning rather than teaching. Lectures in large halls are being wound down where possible, and blended learning approaches to teaching are encouraged. Tutorials are fundamentally about students putting into practice what they’ve learned before coming to class. The “sage on the stage” is no longer the primary form of delivering educational content. The students may watch videos, read relevant materials or watch pre-recorded lectures prior to tutorials, bringing what they’ve learned in their own time and applying it in class. The videos & quizzes in HeadsUp are being used as content for this style of learning by both librarians and academics.

Learning.futures has influenced the design of the campus in dramatic ways as well. Many more rooms designed for collaborative study have been introduced and large collaborative lecture theatres are being built in the new building coming online in 2020. This building will also house the new University Library.

As part of this transition, lecturers are encouraged to create video overviews of their subjects and a small army of learning technologists were employed within IML to help roll out the strategy across the University. The Library has a close collaborative relationship with IML staff and we quickly made ourselves known to the faculty technologists and offered to provide library space for faculty training. The learning technologists began running workshops to teach academic staff simple video creation options using technology to hand eg iPads and mobile phones.

We attended as many of the classes as we could. We then went one step further and invited learning technologists to give us training in how to use the software they were promoting to faculty e.g. explaineverything, touchcast, pencasting and more.

Training

In 2015 we started using Library Juice Academy to do short online courses. It's a company offering continuing education for librarians and is based in the USA. It provides a good standard of tuition and has been a great boon in developing skills used in all of our work as well as in developing HeadsUp. The courses allowed us to build on what we had already learned with the original learning designer and allowed us to continue developing skills independently.

The HeadsUp project offered us a unique opportunity for experienced staff to hone their existing skills as well as an opportunity for inexperienced staff to gain skills in this area. We ensured that the skills were spread among interested staff and that everyone in the department contributed in some way, large or small.

This approach was also a strategic one. One of the issues we and many other libraries face is brain drain. When one person is the expert, when they leave the knowledge goes with them, then a void is left. We now have a level of insurance against brain drain in this area. Staff have learned new skills and have been able to use their unique talents in an innovative way. The whole is greater than the sum of its parts.

As the time drew near to start the creation of the videos, we recognised that we might need some extra assistance. We employed two staff to assist with the production of the screencasts for the three month period of production. One was a recent UTS graduate and one in her final stages of her Masters degree also at UTS. Both aspiring librarians. We trained them both in using Camtasia and they've continued working for us through 2016, gaining broader library experience and assisting on the next major project HeadsUp: Researchers.

We also employed two current and recent graduate students from the UTS School of Digital Information Management to film the introductory "What's in it for me" videos for each module.

Backwards design

One of these key skills picked up through a Library Juice course was in using the backwards design technique to develop curriculum content. Often when designing content for classes, librarians are asked to show students procedural steps through a database and may include something like a quiz at the end. Backwards design reverses that process, instead starting with what skills and knowledge is desired for students to have achieved by the end of the class. This allows librarians to focus instruction on what students really need, rather than teaching a particular process. Backwards design would help us ensure that the final product would be targeted and useful for our students. (Wiggins and McTighe 2005).

We also decided that the HeadsUp project was an excellent opportunity to upskill staff in this technique for use in future training. For the project, we followed the steps from Wiggins & McTighe (2005):

Step 1: Identify desired results What skills and knowledge to you want your students to have? We then ranked these skills based on if they were essential, good to know or background information and cut out content when necessary. What remained was turned into learning objectives using active verbs taken from Bloom's taxonomy (Oakleaf, M. 2014, p. 512; Center for Innovative Teaching & Learning 2015)

Step 2: Determine acceptable evidence How will we know that they have acquired the skills? By assessing them. We tried to make assessment as authentic as possible, ensuring a quiz question for each learning objective.

Step 3: Plan learning experiences and instruction: Here we planned the content of the modules, breaking down content that needed to be covered to meet the learning objectives.

Developing the content for the videos took rigorous planning. Before using backwards design the material was broken up into several modules which were assigned to the three teams within the department. After the backwards design process, these teams worked to develop the video scripts working in pairs. The scripts went through multiple stages of review. The first review was by the module leaders often involving a group read through of the script. This was followed by a member of the international team to check for colloquialisms or other difficult language. When all the scripts were finished, they were reviewed by a casual staff member who is also a writer, to check for consistency in length, tone, voice and terminology. While this seems like a lot of work, each review resulted in significant improvement to the scripts, particularly around consistency in language and the feedback helped improve everyone's script writing abilities.

Collaboration: animation, screencasts and films

The animation group was established to produce high quality learning videos for the HeadsUp project. As content and scripts were developed for the modules it became clear that many of the videos would be conceptual rather than screencasts, as had usually been done in the past. This required a rethink of the way these videos

would be created and made use of digital literacy skills outside the traditional librarian job description.

The group met weekly to plan, review drafts and provide feedback. Google Drive and a shared internal drive were used to collaborate and store files. A range of video making software and tools were trialled including: Camtasia, Screenflow, *explaineverything* and Sparkol. In the planning phase, the group developed a visual style guide so all videos could achieve a consistent look. This included colours, fonts and other style elements. This was important because members of the group had previous experience making screencasts using a range of software and we decided each member could use the software they were experienced with rather than all group members only one software.

Once the style guide was developed and software decisions made, we needed images and icons. Normally we would ask our graphic designer to do this work for us. However, the numbers we needed were so large that we decided we would create them ourselves, thus developing our skills further. We created a shared image library of hand drawn icons using the *Paper* app and *Photoshop*. These included: a book, laptop, tablet, person, pencil, phone, journal article and many more. The image library continued to grow over the duration of the project and we now have over one hundred to use in other projects as needed.

We planned who would make each of the twenty-eight videos and who would be the voice talent for each module. Then recorded the scripts in audio booths using

Audacity and edited them using Garageband. Once we had a timeline to work from, the animation began.

Storyboarding was done and then reviewed in weekly meetings to ensure we all had a consistent visual language. We were conscious of creating content that would not need frequent updating and built this into our storyboarding review. Then draft videos were created and reviewed weekly. During our weekly review we looked at:

- Audio quality and language consistency – recommended rerecording some scripts.
- Visual consistency – did the videos have a similar look and feel.
- Visual language – did the visuals and audio ‘make sense’ together?
- Timing – did the visuals appear as the words were spoken or at the right time.

A range of original soundtrack loops were created in Garageband and added to all videos. Front and end slides were created and included the Creative Commons license. In the final phase of production, we decided that two of the videos could be cut as they were repeating information covered in previous videos. We ended up creating 26 videos in total. Some were entirely animation and some were a combination of screencast and animation.

Final draft videos were added to Google Drive and reviewed module by module by the whole department. We checked:

- Consistency and style across all videos

- Added extra visuals as needed
- Improved timing as necessary
- Adjusted audio levels and soundtracks as necessary

Videos were finally uploaded to YouTube in unlisted playlists as completed. Final checks were completed including: description, titles, creative commons notice and playlist order. Playlists were made public and YouTube ‘cards’ added to increase referrals between videos.

The animation group were very successful as a collaborative team due to a shared understanding of expectations of the project. This was fostered during weekly meetings when we agreed on elements of the visual style guide and developed our visual language. Giving and getting weekly feedback assisted the process of creating a consistent look across the team using different software. The feedback process and peer to peer learning created a hotbed of experimentation which led to a huge improvement in skills from project start to finish. This ultimately led to the development of a collection of high quality learning videos.

The Higher Education Language and Presentation Support (HELPS) staff provide English language and academic literacy advice to students on campus. The Library has collaborated with HELPS staff on a variety of projects over a number of years. HELPS also run workshops in the Library on a regular basis. Our two units recognise the value of leveraging each other’s skills to benefit students. While there is a lot of textual information available to share, as it is a video based project, we decided to develop a series of short talking head videos, delivered by HELPS staff, who would be familiar to students. The videos covered academic literacy issues as

well as preparing for presentations, reading and writing critically and more. We believed this helped round out the skills being addressed in the project as a whole.

Collaboration: pulling it all together in Captivate

We were confident in our ability to produce engaging and pedagogically sound multimedia content, but less sure about how to pull it together and package it into a coherent series of online learning modules. Adobe Captivate had been recommended to us as a well-established software package for rapid eLearning authoring. The Production Team had some familiarity with other Adobe software such as Photoshop, Premiere and Director so it was felt that these skills could be transferred to Captivate.

Captivate produces tutorials in Adobe Flash (swf) and html5 formats, and can export SCORM packages for embedding in a Learning Management System. Captivate can produce multiple versions suitable for use on different screen sizes (eg desktop, tablet, mobile), so-called ‘responsive design’ (Adobe 2016). Tutorials produced by Captivate detect the type of device being used and serves an appropriately sized and laid-out version. It should be noted that choosing to create a responsive Captivate project limits the functionality and design features that are available, especially the kinds of content which can be inserted into the Captivate project and what can be done with it in Captivate. Also Captivate cannot be trusted to design for various screen sizes automatically. Every slide must be checked for each screen size and the size and position of elements adjusted at design-time.

A point of confusion amongst Captivate users is how to provide a consistent look and feel across a number of related Captivate projects. The terminology is

confusing: Captivate uses both ‘themes’ and ‘templates’ to achieve this but also ‘skins’ and ‘Master Slides’. Advice varies from ‘use themes not templates’ to ‘use templates not themes’ to ‘use neither just copy the master slide from one project to another’.

The Production Team used a trial of version 8 to experiment with the software. These tutorials were available to us from Lynda.com:

- Captivate 8 Essential Training (2 hrs 40 mins)
- Captivate 8 Advanced Techniques (4 hrs 20 mins)
- Captivate Projects: Quizzes (3 hrs 15 mins)
- Captivate Projects: Software Simulations (2 hrs 45 mins)

We didn’t sit through the entire courses, just the modules which looked relevant to HeadsUp. By the time we were ready to start production version 9 was available so we used it. The plan for each HeadsUp module was maintained on the Library intranet. This outlined the content of each HeadsUp slide: text, scripts, quiz questions, and links to video and image content in Google drive or YouTube.

From the beginning we realised that HeadsUp would rely heavily on video content. It is possible to embed videos into Captivate but the resulting Captivate files can be very large, so it was decided to host video content on YouTube, keeping our Captivate files lightweight, relying on YouTube to do what it does well, that is to stream videos efficiently. Captivate 9 includes a YouTube widget for embedding YouTube videos and we relied on this extensively. This also presents some dangers: Captivate produces html5 and swf files; YouTube and Adobe are independently discontinuing support for flash; there have been reports of problems with YouTube

videos embedded in Captivate-produced elearning tutorials; to cope with this Adobe has produced updates to its captivate YouTube widget. Potential problems depend on decisions made during the creation of the Captivate project and the way the YouTube widget is used.

From a special needs perspective, conveniently, the captions generated in YouTube flow through to Captivate.

We investigated Captivate themes and templates and planned on producing our own custom theme but this proved unnecessary - our Captivate projects were really only to provide a container for the rich media content being produced by the other teams. So the Production Team chose a simple standard theme with a web-safe font and a plain background. In the end we weren't entirely happy with Captivate. There are issues with how the modules play in browsers which make it awkward. Chrome seems to be the best with fewest hiccups. We also find the navigation somewhat unintuitive.

Reactions and implementation

HeadsUp was launched at the start of semester one 2016. Optimally it would have been better to launch it before then, however it wasn't possible given the inevitable delays that come around in managing such a large project. Uptake has been reasonably good, SCORM packages have been released to academic staff and embedded in UTS Online subjects across a variety of faculties. We've had good feedback from academic staff, some have used it to augment and in some cases replace our information literacy training. Staff who work in student support units have praised it and recognised the gap that it fills for new students. The views of the

videos in YouTube are not as high as we would like however we believe this is due to the lack of adequate promotional window in first semester 2016. We're planning a big promotional campaign in semester one 2017. First semester is the key time of year to reach the biggest intake of new students.

Where to next?

We're now building on the skills attained and benefitting from the lessons learned in the project, to embark on another ambitious set of modules aimed at assisting researchers. It's called *HeadsUp: Researchers*.

We decided to try another elearning tool called Elucidat to host the modules. It allows us to bypass some of the issues mentioned previously and is available via an online portal. Our materials are stored for us by the company. It has been used by other units on campus to build training modules and we've been invited to be part of a community of practice. One of the reasons this is a good idea is that we are developing a pool of local expertise to draw on. This is sadly not available for Captivate. Elucidat comes with its own issues, however at this stage we're not unhappy with it and it has a more intuitive, better designed interface. On the downside Elucidat doesn't support captions particularly well. We're intending to add a text file to each module as the file size for captions is quite small for video.

Conclusion

The HeadsUp project has been a great experience for the Information Services staff of UTS Library. It was a real experiment and a pushing of our boundaries as librarians. Equipping staff with transferable skills around video creation is an absolute asset to any forward thinking library.

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