

Asia-Pacific Library and Information Conference 2018 – Abstract submission

Abstract Title: Reinventing support for medical students – LibGuides as a pedagogical tool

Authors names: Cathy Burton and Tom Foley

Organisation: Hancock Library, Australian National University

Presenters: Cathy Burton and Tom Foley

Introduction

ANU Library, one part of Scholarly Information Services (SIS) at ANU, is one Library made up of five specialised branches, including the Hancock Library which covers all science and medical disciplines. Senior Information Staff from the Hancock Library, that are subject contacts for medical sciences, have traditionally offered hands on information literacy sessions on medical resources to ANU medical students. This session provides an overview of the medical E-resources available and provides a comprehensive handout that is updated each year. This has been complemented by a standard LibGuide.

With multiple teaching locations throughout the ACT, South East NSW and Northern Territory, there is a significant challenge in ensuring students have access to library based learning resources at their point of need; whilst also having skills and background to be able to correctly use the resources.

The move to a new ANU LibGuides format provided an opportunity to review the contents and the structure of the Medicine LibGuide, recognising that the LibGuides platform provided the capacity to be the primary pedagogical platform for subject specific Library information. The revised design structure facilitates the basis for repeated visits to enable students to undertake a task or action at a point of need in connection with a learning outcome.

Further phases of the LibGuide will be developed over the next year; development of ANU specific resource videos and embedding revised course content by teaching phase.

Background

The Degree

The ANU Doctor of Medicine and Surgery (MChD) is a postgraduate, four-year degree.

Medicine cannot be studied as an undergraduate at ANU.

Entry Requirements

There are significant minimum entry requirements to ANU Doctor of Medicine and Surgery.

Meeting the minimum entry mark does not guarantee an interview or entry into the program.

There are three components of the entry mark:

1. The minimum GPA for interview consideration is having achieved a GPA of 5.6 in an undergraduate degree - a credit average is 5.25, Distinction 6.25, HD 7 Pass is 4.25.
2. Graduate Australian Medical School Admissions Test (GAMSAT) must be undertaken, comprising of three sections of approximately 7 hours duration. Applicants must achieve a minimum overall score of 55 with minimum 50 in each section. An average GAMSAT score is often around 56-58 and a high GAMSAT score is over 65.
3. Offers are considered on a final ranking using a 50:50 combination of Weighted GPA (25%) and GAMSAT score (25%) and Interview score 50%.

Course Intake

There are 110 places available. The Commonwealth support 64 places. In line with federal government initiatives, 28 per cent of the ANU intake of medical students should be of rural background; ie have spent five or more consecutive or cumulative years study or work in a rural setting since primary school. This means applicants with a rural background may be preferentially ranked.

The Bonded Medical Places (BMP) Scheme supports 26 places. The scheme is intended to provide more doctors for areas experiencing doctor shortages.

There are 20 international student places available.

Course structure

The course is four years in duration made up of two phases which in turn are divided into blocks and rotations, each focussing on a different aspect of medicine.

Phase one covers years 1 and 2.

During the first two years of the course, the curriculum is built around problem based learning (PBL) tutorials. PBL sessions are designed to promote creative and analytical thinking through both cooperative and self-directed learning.

Phase two covers years 3 and 4.

From the end of the second year, students spend almost all of their contact hours in the health sector. During this time, they are immersed in all the major medical disciplines through rotations of four or more weeks.

During third year MChD students are given the opportunity to spend their third year in a rural community. This aims to give students both medical education and experience of a rural lifestyle.

At the beginning of fourth year, students undertake an elective term of four or more weeks at a worldwide location of their choice.

Locations

1st year students spend their first year almost entirely on the ANU campus.

The ANU Medical School Canberra Hospital campus is the principal teaching location. Its facilities are complemented by those of Calvary Public Hospital, Calvary John James Hospital, Calvary Private Hospital and National Capital Private Hospital. However ANU Medical School conducts teaching at many sites throughout the ACT, the South East region of NSW as well as in remote Northern Territory.

Expected learning outcomes

In addition to understanding of normal human biology, the range of factors affecting health and disease and developing competency in patient history taking and clinical examination

ANU Medical students are expected to:

- learn and acquire skills and tools needed to obtain, analyse and apply information that is relevant to the prevention, diagnosis and treatment of disease.
- develop effective methods of knowledge and skill acquisition to meet the individual learning needs.

Course Accreditation

The ANU Medical School requires regular Accreditation from the Australian Medical Council, This process occurs every 4-6 years. The Accreditation requires consideration of Library collections, resources and services as well as the physical Library spaces. To ensure accreditation the ANU Library ensures that collections are accessible and relevant and works with Academic and teaching staff to consider services and spaces are appropriate and meet and exceed the needs of this diverse and disparate student and teaching cohort.

Methods

Hancock Library staff undertook a systematic approach to completely reinvent Medicine LibGuide, to develop a pedagogically sound LibGuide for the needs of medical students.

Methodology involved:

1. Reflection on current practice – what had we done before, what worked, what didn't and why.
2. Investigation of pedagogical concepts - we already used a variety of pedagogical concepts in our information literacy classes, what could we adapt and would be valid for a LibGuide?

3. Re-examining the requirements Doctor of Medicine and Surgery (MChD) to be certain we understood;
 - a. Entry requirements.
 - b. Course structure.
 - c. Learning expectations.
4. Medical resources available at ANU library and beyond.
5. Consultation and feedback– we talked to the ANU Medical School Education unit, what expectations did our Academic staff have?
6. More consultation and feedback – asked every student, years one to four, for their input.

Practice and literature

Investigating comparative practice involved a scan of Go8 Universities offering Medicine and key international Universities (based on the Times Higher Education World University Rankings for best universities for medicine including Oxford, Harvard, Cambridge and Imperial College London).

Literature review

Since SpringShare launched LibGuides just over ten years ago the LibGuide method of content delivery has become commonplace in academic libraries. There is an increased focus in current literature on redeveloping and redesigning LibGuides. Castro Gessener et al. (2015) consider how the University Library, Cornell University, approached the redevelopment of LibGuides to better serve the University's users. Of particular relevance to this paper is the key concept that LibGuide authors must have a knowledge of who is using the LibGuides. For ANU Library this was extended to include who should be using the Medicine LibGuide. Berić-Stojšić and Dubicki (2016) details the relationship between the Library and relevant facilities, with the inclusion of LibGuides within require reading lists. This provides evidence of the value of working with academic staff in using a pedagogical approach to construct LibGuides. This is supported by McMullin and Hutton (2010), whose development of LibGuides at the West Chester University Libraries filled the needs of faculties' and made collaboration more simplified and streamlined.

German (2016) puts forward information literacy elements which can be used to articulate a pedagogical structure for LibGuide re-development. Dodds et al. (2013) take theory and put practical processes in place to develop pedagogically sound LibGuides.

Questions regarding the place of LibGuides, with reference to the pedagogical context, in the Academic Library environment are highlighted by Giullian and Zitser (2015). They ask the question "Does the online research guide, in its current incarnation (LibGuide), really foster the kind of transformative educational experience that we, as library professionals, college teachers, and citizens of the world, deem important? Or does it serve as merely another tool of social oppression?"

Pedagogy

The concept of Pedagogy is broad reaching and "encompasses not only the practical application of teaching, or pedagogic, skills, but also curriculum issues and the body of theory relating to how and why learning takes place"(OED Online, 2018).

LibGuides as a pedagogical tool reflect the value of using LibGuides as a tool for teaching, for academic staff and for the teaching of library instruction.

There are many pedagogical concepts, however there were three pedagogical concepts which are common in library instruction sessions were identified within the initial literature review that were considered within the review and design of the Medicine LibGuide at ANU Library:

1. learning outcomes
2. lesson plans
3. Differentiated instruction. (German, 2016)

Using these as a basis we looked at the bigger picture rather than a just in-curriculum classes or individual information literacy sessions. As such these pedagogical concepts were refined, developed and incorporated for the teaching support provided to medical students.

1. Learning outcomes – the scenery on the journey on the way to the destination.

For the purposes of a LibGuide it was essential that staff had a knowledge of exactly what the ANU Medical students needed to know. For this we focussed on the course outcomes and expectations, the destination.

As information professionals and subject experts we could ascertain which course outcomes can be met by the Library and understand where students need needed to go to meet these outcomes.

For the information and Library related outcomes the LibGuide was to be that somewhere that was to help students towards that end.

2. The lesson plan – a road map.

In understanding the outcomes above we were then able to then blend the expectations with the recently revised ANU LibGuide Template to develop a road map of where to go. The revised LibGuide template enables content to be 'chunked' - content is arranged by tabs and subtabs – indeed the concept of chunking is a ubiquitous part of pedagogical practice to address cognitive load (German, 2016, p. 181), otherwise known as “information overload.”

We had a destination, a road map and a structure that could make the content digestible – now we just had to add subject specific information.

Students need to meet the outcomes and they want to be able to find somewhere that can help them towards that end – the structured and chunked guide.

At this stage we stopped and asked *Why would a medicine student come to a LibGuide?* Simply because they had to find information to work towards an action (by aiming to complete task/s) towards a learning outcome. This then became the question *are we providing the task or action that assists that outcome?*

3. Differential instruction – how do different drivers read the map

Embedding the third pedagogical concept of differential instruction, recognising not only different avenues to learning but also tailoring as much as the LibGuides structure will allow to meet individual needs. It is these elements of this concept that we aim to address as part of future developments outline later in this paper.

Students need to meet the outcomes so they want to be able to find somewhere that can help them towards that end – the Structured Guide, tailored for the students' needs.

Consultation and feedback

The survey was undertaken as part of a broader rethink of information literacy offered by the Hancock Library. Different subject areas have different requirements, and it was recognised that the unique needs of the medical school cohort would benefit from a more detailed review of their information requirements. In addition to asking students about their views on current information literacy offerings (eg face-to-face classes in Year 1), the survey also explored teaching modes that would suit the off-campus nature of the broad cohort, such as online information and short instructional videos.

The survey was offered online and advertised widely to the full medical student cohort regardless of location. We had extraordinarily high support from the Dean and Associate Dean Education of the Medical School who particularly urged students to complete feedback and also gave us strong backing throughout the whole process.

Student feedback

25% of the total Medical Student cohort responded.

Feedback was particularly sought on topics for training and the type of training. The online survey offered options for the students to say what they currently liked and they responded with saying they wanted continued face to face learning, that we provide in year one, but also online training materials and guides and short instructional videos.

Design

Our approach to use the approved LibGuides framework to embed our designed content.

Some fundamental design elements underpin all Hancock LibGuides:

- All Hancock LibGuides contain some common content to ensure such content is managed simply for accuracy a Hancock Library Template has been developed.
- Changes to Generic information only require one update – for Medicine or any other guide.
- Uses mapped assets that can be reused.
- Use of database list for all databases.
- Embedded documents from in curriculum teaching to support students are included in the most appropriate content boxes

Having this basis enabled us to consider the pedagogic concepts discussed earlier within the framework of medicine as a subject. Knowing the student's learning outcomes, the students themselves and the different ways students learn and access library information was all incorporated into the design elements.

Other consideration we had to make was remembering that "LibGuides do not live in isolation" (German, 2016, p. 186). The LibGuide is part of the broad suite of resources, services and facilities provided to medical students at ANU. With the LibGuide being the central focus of obtaining relevant information at the point in need we could not forget to ensure that the content within the LibGuide was relevant and accurate. This in itself is an ongoing process and requires continual consultation with academic and teaching staff.

Results

Phase one.

Phase one LibGuide was launched in Semester 2 2017 with our key imperative being delivered – the reinvented Medicine LibGuide was a digitally transformative exercise that achieved relevance to students who were not on campus, as well as those on the ward and at home.

As such it was decided that the focus of the LibGuide was to assist early year medical students have direct access to relevant resources with explanatory 'how to' and 'what's that?' information provided. Additionally, to provide support and information to medical students at all levels, particularly for those working remotely.

By taking into account design elements and the focus of the guide we reinvented the formula we had used for the last guide. The revised guide in the new template with the new design was given a soft launch in August 2017.

The key result was beyond that of simply a list of key resources, rather we developed a LibGuide built for student need based on us knowing what the students need, students telling us what we need (as well as academics telling us what they need).

Important in this is a key pedagogical imperative is to assist Library users –our students – to deal with information overload (Giullian & Zitser, 2015, p. 171)

We have embedded the revised LibGuide as a key element in our teaching as both a supplement to in curriculum sessions but also in its own capacity as anytime, anywhere support for Medical students, the design structure facilitates the basis for repeated visits as a student may require to undertake a task or action in connection with a learning outcome.

The LibGuide matched the need of the students being geared towards independent-based learning where students can now jump directly to sections or checked pages from the more comprehensive handout. These smaller more accessible sections, eg How to use PubMed are now one page pdf's, rather than part of a much larger handout. Page content is now appropriate for the audience - Rather than including the entire in class handbook in one PDF we have cut the handbook into chunks.

One criticism of LibGuides from a pedagogical view is that LibGuides fail to connect the research process required to be undertaken by isolating the tools and resources (Hicks, 2015, p. 2). In other words they don't join the dots between the research questions and the context of the use of the resources. With that in mind we also took into account the communication language used as a pedagogical approach to our reinvention of the LibGuide. As a

profession, we often have a standard of librarian communication habits and tools resources (Hicks, 2015, p. 2) that we use to engage our target audience. LibGuides let us do what we as librarians love most, the ability to create lists and organize things which leaves the user to make the connections. We designed the LibGuide around the nature of the medical students place in time in their course, so they can easily link course requirement to methodology. They can use and interact with the LibGuide based on their own position in their pedagogical journey through their four year course. Our communication engagement was designed to centre on the user not the information. (Hicks, 2015, p. 3)

Finally worth remembering that the LibGuide is not the be-all. Rather the guide enables users to become more familiar with the basis of tools for conducting research in medicine.

By engaging the students and academics in the feedback process we were able to highlight the new LibGuide to them as *your new guide based on both student and academic feedback developed with ANU Library's information expertise.*

Benefits to ANU Library

The reinvention of the Medical Subject guide using a pedagogical framework helped to develop a focussed approach to methodologies in Information Literacy which benefited in library staff having closer communication connections with teaching staff and all cohorts of medical students which provided a benefit of producing an instructional guide that will help students to better understand how to connect course material with research tools. (Bryant, N. P. & Hooper, R. S (2017).

Future developments

From our research there are further pedagogical enhancements we are continuing to work on that we expect to incrementally add to the guide

Structure content to specific course requirements and based on phases

- Create ANU-specific database videos
- Access points directly to course reserve materials

From a view to reinvent support for our medical students, additional factors are ongoing that will impact on a requirement to continually revise and review our LibGuide including:

- Reserve materials currently under review.
- Review of A-Z medicine database listing.
- Continued liaising with the medical school as they review their teaching and content structures.

Whilst we have launched the LibGuide without much fanfare we now need to consider promotion of the LibGuide via:

- New College of Health & Medicine
- SIS – Communications
- Other avenues

Conclusions

A reinvention of the LibGuide provided the opportunity to critically reflect on the approaches previously taken and to consider relevant literature and practice.

Engaging key stakeholders and structuring a pedagogically sound LibGuide has ensured that the LibGuide is a resource which teaching staff are confident to send their students to, and a resource that students wish to use. The Medical School saw themselves as partners in the project and very much appreciated the opportunity to provide insights into the medical program at ANU, particularly around the different needs for Year 1-2 students who are on the ANU campus and the Year 3-4 students who are based in the hospital with regional hospital stints.

The feedback we have received from students and academics was instrumental in enabling us to evolve our new approach to designing LibGuides. The conceptual framework we

developed provides an underpinning to the development and review of all our LibGuides for all subjects.

Relevance

The paper is relevant to the conference themes in that it considers current library practice in connecting to geographically diverse users. ANU Library connected with the ANU Medical School to create an online Library space for medical students. Evidence of stakeholder needs was gathered and used together with pedagogical concepts to develop a resource that students could want to and could use at their point of need.

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