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## **Librarians promoting and driving change across the academic campus: digital transformation at The University of Queensland**

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### **Abstract:**

*“All members of the University of Queensland community will develop the information and digital literacy skills they need to thrive and lead throughout their personal, academic, professional and civic lives.”*

*These words present the vision for the Strategic Framework for Information and Digital Literacy 2016-2020 developed by the University of Queensland Library (UQL). This framework is a future-focused information and digital literacy strategy designed to support the University’s mission to create change which positively influences society and advances ideas that benefit the world. The pursuit of excellence through the creation, preservation, transfer and application of knowledge is a central tenet for the academic community.*

*When the University engaged in a consultative process to explore and address the disruptions that have occurred in education and the workplace due to the increased use of digital technologies, Library staff stressed the importance of information, digital and data literacies as critical skillsets in a world where ideas, innovation and integrity can flourish. In response to concerns about a patchwork pattern of information and digital literacy skills across the institution, “a university-wide approach... which attempts to involve all faculty and students” (Alexander et al, 2016, p.11) was recommended.*

*The UQL Strategic Framework for Information and Digital Literacy has offered a coherent and comprehensive approach to skills development, underpinned by the appropriate infrastructure required to deliver consistently high quality, equitable programs and resources which encourage the integration of UQ's teaching, research and engagement endeavours. This paper reviews the key elements of the strategic framework and discusses the ways in which library staff have partnered with the members of the UQ community to build the digital skills they need to connect and collaborate.*

**Keywords:** Digital transformation, Digital literacy, Strategic framework, Academic libraries, Australia.

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## **Introduction**

“All members of the University of Queensland community will develop the information and digital literacy skills they need to thrive and lead throughout their personal, academic, professional and civic lives.”

These words present the vision for the *Strategic Framework for Information and Digital Literacy 2016-2020* developed by the University of Queensland Library (UQL).

The University of Queensland (UQ), located in Brisbane, Australia, is regarded as one of the leading research and teaching institutions in the country and is ranked amongst the top 50 universities in global rankings (The University of Queensland, 2018a), due to its strong profile in teaching excellence, the levels of research funding awarded and the high quality and significant impact of its research activities. The mission of the University is to create change which positively influences society and advances ideas that benefit the world.

Inevitably, however, due to wide-ranging developments in digital technologies, society is changing rapidly. Even leading academic institutions need to consider not only how they can keep abreast with transformative developments in all areas of academic endeavour, but also how they can demonstrate that they are fulfilling the role of higher education to develop future citizens who will make valuable and positive contributions to society. Accordingly, under the banner of ‘Create Change’, UQ engaged in a consultative process with stakeholders to explore and address the disruptions that have occurred in education and the workplace due to the increased use of digital technologies.

This paper considers how the staff of UQ Library have engaged with the ‘Create Change’ initiative. Embracing the notion of being (pro)motors of change, Library staff have focused on the importance of information, digital and data literacies as critical skillsets in a world where ideas, innovation and integrity can flourish. However, as it was already recognised that there was a patchwork pattern of information and digital literacy skills across the institution, there was a strong argument to develop “a university-wide approach... which attempts to involve all faculty and students” (Alexander et al, 2016, p.11). A key step for the Library was to invest in the development of a strategic framework for information and digital literacy.

UQ Library’s *Strategic Framework for Information and Digital Literacy 2016-2020* has provided a coherent and comprehensive approach to skills development across the University, underpinned by the appropriate infrastructure required to deliver consistently high quality, equitable programs and resources to support UQ’s teaching, research and engagement endeavours. The issues and challenges, along with the Library’s responses to digital transformation, are examined through the lenses of the Information and Digital Literacy Project Manager, author of the *Strategic Framework*, and the Associate Director of the

Digital Hub, who is responsible for implementation. The discussion outlines the key elements of the strategic framework and discusses the ways in which library staff have partnered with the members of the UQ community to build the digital skills they need to connect and collaborate to build a strong digital community.

## **Information and digital literacy at The University of Queensland**

In late 2015, The University of Queensland Library (UQL) introduced a new nine-month position for an Information and Digital Literacy Project Manager. The primary purpose of this new position was to provide expert advice and high-level policy guidance on all aspects of information literacy, with the goal of developing and implementing a new information and digital literacy strategy for the University. The Project Manager was expected to not only work closely with the management and leadership team of UQ Library, but to also collaborate and work in partnership with other academic stakeholders to ensure that there was close alignment with UQ's strategic directions in teaching and research. The need to advocate for the value and significance of information, digital and data literacies across the academic community was viewed as an influential outcome for the Project Manager to achieve.

The critical first step was to develop a clear grasp of the various landscapes which were relevant to the concept of information and digital literacy at UQ. Initially, work focused on investigating the contemporary higher education environment in Australia and how this impacted on the immediate context of UQ as an academic institution. This was accompanied by an examination of the evolving landscape of information and digital literacy in and beyond higher education, and how this related to the specific picture of the information literacy activities coordinated by the UQ Library staff. A detailed literature review and environmental scan was undertaken to explore the external factors, while extensive consultation within the Library and across the academic community helped clarify the internal issues.

## **Digital transformation in Australian higher education**

The strategic challenges facing academic institutions have been widely discussed in the news, in research reports and at numerous conferences that have focused on the future of higher education. The highly dynamic political, legislative, economic and technological contexts inevitably impact on the current operations and the future directions of individual universities (Lacey, Croucher, Brett & Mueller, 2017; Ernst & Young, 2018; Weber & Newby, 2018; World Economic Forum, 2019; Alexander et al, 2019). While the value of education, especially higher education, is recognised by the wider community as the foundation not only for individual success, but also for a strong society, there is a keen sense that university leaders have very little control over the multiple disruptive forces transforming the ways that members of society live, work and learn (Ernst & Young, 2018).

In Australia, the Monash Commission, established in 2018 by Monash University, is a body which guides independent and comprehensive inquiries into significant issues facing our communities today. In its inaugural study, Monash Commission stated that, "in a world of rapid change and disruption, [post-compulsory education] must prepare and inspire new generations of active citizens, giving them the capabilities to shape a better future for themselves and the world" (Monash Commission, 2018, p.8). The report argues that, in order to become a more intellectually, technically and culturally sophisticated society, Australia will need "major and rapid increases in human knowledge and skills... to meet the technological, economic, environmental and cultural transformations taking shape" (Monash Commission, 2018, p.8).

The disruptive trends that are transforming society have their roots in the accelerated pace of change in technology, particularly digital technology (National Centre for Student Equity in Higher Education, 2019). Digital disruption has been defined as “the rapid transformational change made possible by digital technologies and the impact they have on existing business practices, challenging and in some cases threatening, the established way of doing business (Kelly & Schaufenbuel, 2016, p.4). It can be reasoned that technological disruption is not a new phenomenon: the development of the printing press, electricity, the horseless carriage and the aeroplane are all examples of how new technologies have replaced traditional technologies. The difference today, however, is that digital technologies are resulting in accelerated, even exponential, change. Innovation is happening on multiple fronts simultaneously, with many new digital technologies converging.

The societal impact of digital transformation is a topic of debate amongst policy-makers, economists, industry leaders and educators: “As digitalization disrupts society ever more profoundly, concern is growing about how it is affecting issues such as jobs, wages, inequality, health, resource efficiency and security” (World Economic Forum, 2016, p.4). While there are concerns about the immense challenges of digital transformation facing individuals and organisations, there is a growing awareness about new and unexpected opportunities for society as a whole.

Digitalisation has become a critical economic issue for both private and public sector organisations, with 87% of senior business leaders saying that digital transformation is their key and pressing priority (Gartner, 2018). If these business leaders are going to realise the benefits they anticipate from being a digital business, then the readiness of the workforce must be an equally urgent priority. Today’s employers expect university graduates to have well-developed digital capabilities to ‘hit the ground running’ in a new job and to act as change agents within the organisation. A number of recent studies have examined the impact of rapid technological change and new business models on employment in Australia (Business Council of Australia, 2016; Australian Council of Learning Academics, 2016; CSIRO, 2016; Australian Industry Group, 2018; Regional Australia Institute, 2018; Gekara, Snell, Molla, Karanasios & Thomas, 2019; PriceWaterhouseCoopers Australia, 2019). A central theme woven through all these studies is the inevitable demand for employees with technological skills, critical analysis, an agile and adaptive mindset, and digital literacy capabilities.

The implications of digital transformation for the future workforce, for jobs, careers and employability are of direct concern to the academic sector. Around 40% of Australian school leavers enrol in a university course each year, with largely pragmatic goals: “to boost their employability and be a valuable contributor to the economy” (Chamorro-Premuzic & Frankiewicz, 2019). The concept of ‘graduate employability’ has become a hot topic on many campuses, including UQ:

Employability is more than just getting a job. Employability means having the skills and mindset to successfully gain, create and maintain work, making you able to perform effectively within a work environment. Having these skills allows you to secure a job, manage your career and adapt to new work situations, and make a powerful, positive impact through your work.

(The University of Queensland, n.d.)

The academic institution must focus on the development of “enterprising graduates with the knowledge, skills and networks to build meaningful and agile careers that can be sustained and adapted over the course of a lifetime” (The University of Queensland, 2016, p.3).

Nevertheless, academic leaders are well aware that their responsibilities extend beyond the students’ personal goals to get a job at the end of their studies. Pritchard (2018) presents the argument that students and graduates make a highly valued contribution to a successful society.

We now live in a global society that is increasingly dominated by digital technology. Institutions of higher education are part of that society, and each of us has a responsibility to help our students prepare themselves for personal and professional success in that environment. We also have a responsibility to contribute to the society in which we live by increasing awareness and understanding, by discovering new knowledge and new possibilities, and by empowering both ourselves and our students to shape its culture in a positive way.

(Pritchard, 2018)

The term ‘digital citizenship’ is often used to encapsulate the idea that a strong modern community is shaped by its members: they should have “the information and skills they need to think critically, participate responsibly, and contribute as 21<sup>st</sup> Century citizens and scholars” (Pritchard, 2016). Emphasis is placed on the ability for individuals to participate fully and appropriately in their relevant social and professional digital communities (Blaj-Ward & Winter, 2019), and by extension, “to participate in the worldwide online conversation” (Waters, 2015). Significantly, the pathway to becoming a digital citizen embraces the value of knowledge and skills beyond the practical competencies required to use digital tools such as hardware and software, to include the cognitive competencies of utilising logical, intuitive, innovative and creative thinking in the digital space (Gekara et al, 2019, p.20).

The philosophy that permeates the premise of being a valued digital citizen is also imbued in the vision for UQ Library’s information and digital literacy strategy: “All members of the University of Queensland community will develop the information and digital literacy skills they need to thrive and lead throughout their personal, academic, professional and civic lives” (The University of Queensland Library, 2016, p.3).

Pritchard (2018) states that libraries (and therefore library and information professionals) are “well positioned to take leadership roles in the effort to educate good digital citizens”. Her argument that our professional values and expertise are strongly aligned with the world of information and the individual’s information skills resonates with the IFLA Global Vision for “a strong and united library field powering literate, informed and participative societies”, characterised by the dedicated roles that libraries play in providing equal and free access to information and knowledge, within the wider frames of information literacy, digital innovation and community building (International Federation of Library Associations and Institutions, 2018).

### **New understandings of information and digital literacy**

The creation, preservation, transfer and application of knowledge remain central to the mission of the University (The University of Queensland, 2018b). Inevitably, these intellectual endeavours are not immune from the challenges and opportunities of digital

transformation. While accessing online information has become an everyday activity for most people, in the contexts of teaching, learning and research the fluidity of digital resources demands the independent ability to critically evaluate resources and ideas. Opportunities to create and interact with digital information and media in increasingly social and participative ways not only influence engagement with personal, social, cultural and professional activities, but also transform many dimensions of academic life: teaching practices, scholarly discourses, investigative methods and research dissemination (The University of Queensland Library, 2016; Blaj-Ward & Winter, 2019).

Over the years, UQ librarians have successfully demonstrated the ability to proactively anticipate and responsively meet the information needs of the academic community. Information literacy support has been a vital program for students, teaching staff and researchers, with Library staff providing classroom instruction, face-to-face consultations, online resource guides and multimedia tutorials. More recently, however, digital transformation has caused dramatic shifts in the creation and dissemination of information and knowledge, along with changes in the individual's information seeking behaviour. Developments in online learning, eResearch and open access publishing have challenged library and information professionals to think quite differently about 'information literacy'.

In 2004, academic librarians in Oceania adopted the Australian and New Zealand Information Literacy Framework (Bundy, 2004). The ANZIIL Framework presented the core standards which identified the characteristics of the 'information literate person' (Bundy, 2004, p.11): recognising the need for information, finding relevant information, critically evaluating the content and managing the resources. These standards represent a linear process designed to support the needs of an undergraduate student who, in all likelihood, is tasked with writing an assignment. However, the contemporary world of digital information – available in multiple formats, in multiple media and distributed through multiple channels – no longer neatly aligns with the ANZIIL Framework.

In the United States, the Association of College and Research Libraries (ACRL) has reconceptualised the nature of information literacy in higher education in order to better articulate the complexity of the digital information ecosystem, along with the shared responsibilities of all stakeholders (ACRL, 2015):

- Students have a greater role and responsibility in creating new knowledge, in understanding the contours and the changing dynamics of the world of information, and in using information, data, and scholarship ethically.
- Teaching faculty have a greater responsibility in designing curricula and assignments that foster enhanced engagement with the core ideas about information and scholarship within their disciplines.
- Librarians have a greater responsibility in identifying core ideas within their own knowledge domain that can extend learning for students, in creating a new cohesive curriculum for information literacy, and in collaborating more extensively with faculty.

As part of the IDL project, UQ librarians undertook a series of professional development activities to help them develop their understandings of the evolving interpretations of information and digital literacy and to encourage them to reflect on their own practice and to develop fresh strategies for working with the academic community.

Beyond UQ, Deakin University (2016), La Trobe University (2017) and the University of Adelaide (2017) are examples of other Australian academic libraries which have been working on information and digital literacy initiatives. In terms of collaborative activities

across the academic library sector, the Council of Australian University Librarians (CAUL) has established the Digital Dexterity program. One of the main objectives of this program is to ensure that Australian graduates have access to the digital skills to enable them both to thrive in a global work context and to become effective global digital citizens (CAUL, 2019).

The imperative to engage learners and researchers with digital literacy experiences is widely discussed in the literature. The *Horizon reports*, originally prepared and published by NMC (2018) and more recently by EDUCAUSE (Alexander et al, 2019), have kept a watching brief on the topic and actively promote the vital importance of establishing a shared understanding of digital literacy amongst all stakeholders. There is much debate in the literature about the appropriate terminology and the associated definitions for concepts such as ‘digital literacy’, ‘digital skills’, ‘digital competency’ etc. In their research, Karanasios, Gekara, Molla, Snell and Thomas (2019) have identified 63 different digital skills frameworks, all of which reflect a variety of purposes, different approaches and diverse perspectives. At UQ Library, the IDL project was viewed as an opportunity to respond to concerns about the uneven patchwork pattern of information and digital literacy skills across the institution by adopting “a university-wide approach... which attempts to involve all faculty and students” (Alexander, Adams Becker & Cummins, 2016, p.11).

In the United Kingdom, a major digital capability research project has been led by Jisc. The *Building digital capability* initiative (Jisc, 2018) added to the earlier work on *Developing digital literacies* (Jisc, 2014) with the aim of providing guidance and support to academic units seeking to understand how students and staff can live, learn and work productively in a digital society. At the conclusion of this project work, Jisc introduced a comprehensive service model which includes tools, organisational models, a community of practice, training and consultancy, and supporting resources (Jisc, 2019). UQ Library determined that there was great value in drawing on the extensive experience of Jisc in order to develop a deeper understanding of the significance of digital literacy across the campus, including students, academics and learning support staff.

## **Developing the *Information and Digital Literacy Strategic Framework***

The rationale for the development of a strategic framework for information and digital literacy was based on the belief that UQ Library could – and should – help shape the University’s academic policies and practices in the domains of teaching and learning, and research. The preliminary work was guided by the desire to achieve a university-wide approach to building a shared understanding about information and digital literacy. The Project Manager undertook a range of consultation activities aimed at appraising the different levels of awareness of the issues and at finding out about current pedagogical practices across the campus. A series of meetings were scheduled with library managers, assistant deans (academic) in the faculties and schools, and staff in eLearning, teaching and learning support, undergraduate student services and the Graduate School. The discussions were guided by a working definition of information and digital literacy:

Information and digital literacy represents the core capabilities which fit an individual for living, learning and working in contemporary society<sup>1</sup>. It is the set of integrated abilities encompassing the reflective use of information, the understanding of how information is produced and valued,

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<sup>1</sup> Jisc (2014).

and the use of information in creating new knowledge and participating ethically in communities of learning<sup>2</sup>.

(The University of Queensland Library, 2016, p.2)

It was found that the various stakeholder groups were concerned about the generally low level of digital literacy amongst the various student cohorts, regardless of the immediate disciplinary context, particularly in terms of problem solving, critical thinking and creativity in the digital environment. The lack of awareness about the provenance of online information and the related increase in plagiarism was a major issue for many interviewees.

At the same time, concerns were expressed about the apparent lack of digital competence amongst teaching staff, with a sense that many academics were out of step with technological developments in business and industry. When senior staff in the research centres were interviewed, it was evident that many 'more experienced researchers' had not kept up to date with the evolving scholarly publishing environment, to the detriment of their academic interactions with Higher Degree by Research (HDR) students.

Many members of the UQ community acknowledged the leadership demonstrated by UQ Library through the IDL project, recognising the alignment with the University's endeavours to introduce meaningful changes to the students experience through the UQ Student Strategy 2016-2020 (The University of Queensland, 2016). They indicated that they were pleased to be able to contribute to the conversation and accepted the invitation to review and comment on the draft strategic framework. The final document, *Information and Digital Literacy: A Strategic Framework for UQ Library 2016-2020* was ratified by the Teaching and Learning Committee of the University's Academic Board in late 2016.

The *IDL Strategic Framework* presents five core principles to guide the development of information and digital literacy capabilities across the University (Figure 1). Each of the guiding principles is articulated through a number of key strategies aimed at informing UQ librarians' practice and supporting their engagement with the teaching and learning and research communities. The focus is on collaboration and co-creation of learning materials, using new and innovative approaches which are more sustainable than current practices. The ability to foster a culture of evaluation and evidence-based practice underpins the processes of quality assurance and continual improvement.

At the operational level, the functional interpretation of the strategies is guided by an internal document which outlines the key actions for the library management and staff. An annual IDL operational plan, embedded in the Library's operational plan, is designed to shape the relevant priorities in terms of policy, funding, infrastructure and skills development.

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<sup>2</sup> ACRL (2015)



## Collaboration

The responsibility for developing information and digital literacy is not limited to UQL staff. Programs are designed and delivered in collaboration with academic staff, learning designers, education technologists and others, with a shared focus on student learning.

## Alignment

*In the context of teaching and learning:* Information and digital literacy is fully integrated into the curriculum and contextualised in students' learning and assessment activities.

*In the context of academic research:* Information and digital literacy is fully integrated into the research lifecycle.

## Innovation

The development of information and digital literacy skills utilises contemporary pedagogies and online tools in new and transformational ways.

## Sustainability

The scope and reach of UQL information and digital literacy activities are extended through the adoption of new, flexible forms of delivery and support.

## Evaluation

Information and digital literacies are reviewed and evaluated as part of the process of continual improvement.

Figure 1: Guiding principles, *Information and Digital Literacy Strategic Framework 2016-2020*

## **Implementing the *Information and Digital Literacy Strategic Framework***

As the task for developing digital literacies amongst the UQ community is highly complex, with distinctive stakeholder groups of undergraduate students, academic teaching staff and the research community, the Library staff determined to take a strategic and staged approach to implementation of the *IDL Strategic Framework*. Undergraduate students represented the group identified as the first priority, not only as they are the largest user group, but also as their experiences and capabilities relate directly to the digital literacy of academic staff in teaching roles. By working with undergraduate students, Library staff were aware that they would be able to engage academic staff who are involved in teaching, thereby extending the engagement with another user group.

## Information and digital literacy for the undergraduate community

Engagement with Jisc during the creation of the IDL framework had allowed the Library to become familiar with the Jisc, *Digital Experience Insights* survey (Jisc, n.d.). It was therefore agreed that the survey should be piloted with undergraduate students to determine both their digital capabilities and digital experiences at UQ. Collaborating with UQ's Institute for Teaching and Learning Innovation (ITaLI), the survey was run with undergraduate students in 2018, branded as the *UQ Student Technology Survey*. Of the 55,000 undergraduate students enrolled at UQ, 9,987 responded to the survey which equates to the very positive response rate of 18%.

The survey results showed that, overall, students were satisfied with their digital experiences at UQ, with 92% of students rating digital provision as very high. While this was an encouraging finding, other responses indicated that more needed to be done to improve digital literacy amongst undergraduates. Student responses overwhelmingly showed that students were aware of the need to develop digital capabilities for success in their future career, with 78% of students indicating this was something they had considered. However, only 44% of students believed that they currently had the digital skills that they anticipated they would need in the workplace.

As the development of students' digital literacy had been recognised by the Library staff and senior stakeholders as a priority, the survey results provided valuable data that supported this position, as well as creating a valid evidence base with which to engage academic staff across UQ. The survey data provided an excellent basis for the Library to begin work in this area: the first part of this process was to establish dialogue with undergraduate students to determine the type of resources they would find useful.

To gather more information, a series of focus groups were held with 43 undergraduate students from across UQ, drawn from a variety of faculties and at different stages of study. Following the focus groups, thematic analysis was undertaken using Braun & Clarke's six-step process (2006). The steps in this process are:

1. Familiarisation with data
2. Generating initial codes
3. Searching for themes
4. Reviewing themes
5. Defining and naming themes
6. Producing the report.

Three main themes were uncovered in the data:

- Information seeking, i.e. the ways in which students sought information and their desire for 'just-in time' resources
- Concepts which related to the language used in resources, which is often tailored towards librarians and educators rather than students, for example the term 'digital literacy' was considered to be meaningless by most students
- Learning preferences, i.e. the ways in which resources were created and the information that would be within them.

Following this analysis, the Library embarked on the creation of a suite of online learning modules, *Digital Essentials*, which were specifically designed to be embedded at the point of need within courses at UQ. The modules cover a range of different topics including working with data, Creative Commons licensing and net neutrality. Academic staff are able to select the modules that are most appropriate for their course and use them in a variety of ways,

ranging from adding a specific module to the students’ reading list to making it a mandatory part of student assessment.



Figure 2: UQL *Digital Essentials* modules, mapped to Jisc elements of digital literacy

Each of the modules was mapped across Jisc’s six elements of digital literacy (2015), as indicated in Figure 2:

- Functional skills: ICT proficiency
- Critical use: Information, data and media literacies
- Creative production: Digital creation, problem solving and innovation
- Participation: Digital communication, collaboration and partnership
- Development: Digital learning and development
- Self-actualising: Digital identity and wellbeing.

The *Digital Essentials* modules were released at the end of 2018, with the intention of academics piloting them in Semester 1 2019. Feedback from academics and website analytics have shown that the modules are being used across a variety of courses at UQ and that different modules are popular at different stages of the semester. *UQ Systems* was primarily being accessed in Weeks 1 & 2 when students commenced their studies; *Communicate and Collaborate Online* was being accessed in Week 4 when group assignment work generally started; *Finding and Using Media* was most popular during the weeks immediately prior to assessment deadlines.

The *Digital Essentials* suite has been designed to be a starting point for students to develop digital literacies, with the understanding that more work will need to be undertaken by the Library in this space. Two members of the Library staff are currently involved in a Teaching and Innovation grant project with academics from across different faculties at UQ entitled *Embedding the development of digital literacy skills within undergraduate and postgraduate curricula across multiple disciplines at UQ*. The aim of this project is to determine whether discipline-specific digital literacy resources may be required for different student cohorts.

### **Information and digital literacy for academics involved in teaching**

The creation and launch of the *Digital Essentials* project have confirmed that, across UQ, there are varying levels of digital literacy amongst academic staff involved in teaching. While some academics were aware of most of the content covered in the modules, there were other staff whose response to the modules was ‘Where is the training for us?’.

Academics are asked to integrate multiple pedagogical elements into the curriculum, including authentic assessment, work integrated learning, entrepreneurship and digital literacy. As discipline experts, not all academics may have the skillset required to embed these elements into the learning activities in the course they are teaching. This situation can then adversely affect both the students’ digital learning experience and the development of their own digital literacy. The Library is again partnering with ITaLI to pilot a new survey that will explore the digital literacy of academic staff so that an institution-wide focus on the required training and resources can be developed.

### **Information and digital literacy for the research community**

UQ Library supports research activities across the research lifecycle, from data collection through to scholarly publishing. There is a growing awareness amongst the academic research community that digital literacy is essential to their capacity to successfully undertake many of the tasks associated with contemporary research. While the Library offers some relevant online information, as well as offering a number of face-to-face workshops, it has become evident that much more needs to be done to develop the digital literacy of researchers.

Working with stakeholders across the University, the Library is currently developing a new suite of online resources for researchers that will be housed on the Library website. These resources will be broken down into modules which cover:

- *Data Management*
- *Publishing and Open Access*
- *Finding Funding*
- *Engagement and Impact*
- *Intellectual Copyright and Copyright*

The unique challenge of creating content for researchers lies in the fact that early career researchers have different knowledge, skills and experiences to established researchers. Therefore, the resources that are created must facilitate easy access not only to more general introductions to research at the different stages of the research lifecycle, but also to the development of digital literacy skills in highly specific contexts.

## **Future directions for information and digital literacy**

The *UQ Student Technology Survey* and the *Digital Essentials* modules have effectively focused more attention on the information and digital literacy work that is being undertaken across the campus; beyond this, the Library's activities have highlighted the critical need for more to be done in this space. Digital and information literacies are now recognised as core skills for students and staff alike. With the work aligned to the various student learning, teaching and research strategies across UQ, discussions about having information and digital literacy recognised as a graduate attribute will be pursued.

The makerspace movement across public and academic libraries will also influence future directions. While UQ has a central makerspace, the Library is interested in exploring a digital makerspace or 'smart space' that will focus on training students to use a range of digital tools and creating digital artefacts which can be displayed and utilised in online collaborations. The focus of any new digital space will need to be on developing information and digital literacy capabilities to ensure it both aligns with the strategic priorities of the University and is actively used by students involved in learning and research.

The Library collection provides another opportunity to develop digital and information literacy skills amongst students and staff. An opening up of the collection to allow users to 'play' with items, to present them in new ways and to look for new connections will in turn generate new knowledge. A move from preservation to innovation will allow the Library to impact multiple areas of academic endeavour, whilst showcasing our unique collections and the skills of the Library staff.

Significantly, the skills of the Library staff will be leveraged to enhance the digital and information literacy capabilities of the UQ community. While training, workshop and traditional Library instruction will continue, there are opportunities for Library staff to work with academics, researchers and students in new and exciting ways. Work at North American universities such as Purdue and Miami, where librarians are embedded into course design or into research teams, demonstrates the new ways that librarians can have impact in this space.

## **Conclusion**

Over the past few years, UQ Library has strived to maintain and to build its relevance to the academic community at the University, Faculty, staff and student levels. The *Strategic Framework for Information and Digital Literacy 2016-2020* has provided the Library staff with a resource to support their engagement with the different groups of stakeholders across the University and to open up opportunities for collaboration with undergraduate students,

teaching staff and teaching and learning support staff on the one hand, and researchers and HDR students on the other.

The significance of the strategic framework's alignment with UQ's overarching strategic directions cannot be underestimated. In an earlier article (Hallam, Thomas & Beach, 2018), it is argued that there is great potential for Library staff to extend their reach and serve as digital facilitators, connectors and collaborators, thereby making a significant contribution to successful outcomes in many areas of contemporary academic life.

The theme of the IFLA CPDWL Satellite Meeting 2019 focuses on how digital technologies are transforming every aspect of modern life, highlighting how they have a big influence on how people live, work, communicate and learn. In this paper, insights have been provided to demonstrate how the efforts at one university library have enabled the staff to articulate their responsibility to be (pro)motors of digital change and to be key players in the digital transformation of the academic community. The end, however, is not in sight, as change will be the only constant.

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