# Maker Space @ The Edge

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## *Workshop Theme: Innovation in Tough Times*

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*Abstract:*

The Edge, established at The State Library of Queensland in 2010, focuses on creation rather than collection, participation instead of preservation and collaboration over curation. This paper provides an overview of The Edge as a maker space within the State Library of Queensland, and how maker spaces can support innovation in tough times.

**Introduction**

The State Library of Queensland (SLQ) is situated in the South Bank Cultural precinct of Brisbane, nestled in between the Queensland Museum, the Queensland Art Gallery and the Gallery of Modern Art.

State Library of Queensland plays a lead role in serving all Queenslanders, through state-wide library services and partnerships with over 320 public libraries, including 22 Indigenous Knowledge Centres (IKCs).

Founded in 1896 as The Brisbane Public Library, in 1898 it was renamed the Public Library of Queensland, and later the State Library of Queensland. Since then it has become a bold and adventurous 21st century library driven by a commitment to access for all.

SLQ belongs to the people of Queensland. It is an inclusive and welcoming place for all, a trusted source for information, and a place for intellectual freedom, a cornerstone of democracy and custodian of Queensland's memory.

SLQ is a knowledge bank and vital community resource, as much a physical as well as a virtual place for sharing, learning, collaborating, and creation. As a community hub for democracy in action, here everyone is encouraged to have a voice.  (See Figure 1)


**A Culture of Innovation**

Over the past decade or so, the State Library of Queensland has encouraged a culture of innovation.

Staff are actively encouraged to be creative and innovative and to take considered risks to achieve new outcomes and benefits for the organisation and its stakeholders.

Within the past decade, the State Library of Queensland has undertaken some innovative initiatives such as:

- **The Corner** is a special physical and online space at SLQ designed for 0-8 year old children, their parents, educators and friends to enjoy and experience some of the amazing collections, services and programs available at the Library. The Corner features exhibitions from the Dr Barbara Piscitelli AM Children's Art Archive, wonderful books, unique artworks, fun and educational toys and artist-led activities. With support, children can explore this site and engage in a creative hands-on and minds-on experience of a digital exhibition, on-line games and reading activities. http://www.thecorner.slq.qld.gov.au/parents.html

- **The Asia Pacific Design Library** is a physically and digitally shared space for industry, academia and the public to come together in the generation of new knowledge around design in the Asia Pacific. *Design Minds* utilizes design thinking to develop the capabilities of successful and creative 21st century citizens within existing education and learning benchmarks. *Design Minds* achieves this by explaining design, inspiring design through resources and empowering through design thinking toolkits. *Design Online* creates a shared environment for the design community to come together in the creation of new design knowledge in the Asia Pacific. *Design Online* uses the idea of an 'article' as the basis for

taking a position on an idea, expanding this position and inviting others to challenge this position through their own article. This model allows knowledge to grow exponentially and in unique and interesting ways. By facilitating a unique community of industry, academia and the general public, the knowledge developed through *Design Online* is similarly unique, embodying a community-led approach to content where all voices and perspectives are encouraged. http://designonline.org.au/

- **Indigenous Knowledge Centres** (IKCs) are supported in partnership with Indigenous local Councils throughout remote parts of Queensland. (See Figure 2). IKCs are owned, managed and staffed by local Aboriginal councils or the Torres Strait Island Regional Council. SLQ funds and facilitates the establishment of these centres, and provides ongoing support through staff training and delivery of programs to sustain knowledge transfer. There is a network of 22 IKCs across Cape York, the Northern Peninsula. Area, the islands of the Torres Strait, Central Queensland and at Cherbourg in South East Queensland. IKCs aim to empower communities through new technologies, literacy and learning, embrace local knowledge, culture and heritage, and share experiences from a rich and dynamic Indigenous world...keeping culture strong for generations. http://www.slq.qld.gov.au/about-us/indigenous-knowledge-centres

It was in this context of innovation that the State Library of Queensland developed the idea for a centre for creative digital creative specifically targeted at young people. The opportunity to re-purpose an adjacent building was embraced, and funding for staff, programming and equipment was found by skimming the budgets of other sections of State Library's units, to invest in this new venture.

It was conceived as a place to support maker space programming and digital innovation, so the set-up costs were substantial. SLQ needed to install an open access community-recording studio, install a specialist media production lab for use for commercial grade design, install sound and video production software (Digital Media Lab), and the provision of spaces suitable for co-location and collaboration such as window bays and an Innovation Lab.

One of the first maker spaces in a library, and the first in Australia, The Edge exemplifies innovation and enterprise and focuses on creation rather than collection, participation instead of preservation and collaboration over curation.

Two of SLQ's strategic objectives (Figure 2) – to improve access to services, and to extend learning and creative experiences are embedded in The Edge's delivery of innovative offerings. http://www.slq.qld.gov.au/_slqmedia/about-us/corporate/publications/strategic-planning/SLQ-Strategic-Plan-2014-18approvedbyMin.pdf


**What Happens at The Edge?**

The Edge is the State Library's creative exploration space, encouraging innovation across the arts, technology, science and enterprise. Originally established to attract the 15 to 25 year olds, its programs of digital and experimental activities act as a 'nest for innovation' leading the way in

maker spaces (Anderson 2012) and digital media making, design and creation. The President of IFLA (Ingrid Parent, 2011-13), was so inspired by her visit to The Edge that she highlighted it in her opening address at the World Information Congress in Singapore (2013).

The Edge is a visionary space for creating creatives.  It is a hub for a melting pot of ideas and innovation, capacity building and experimentation. It includes media labs, a recording studio and fabrication space. Professional software is available for projects in design, video, sound, web and app development and 3D modelling.  In addition, hardware such as 3D printers, power tools, sewing machines, microscopes, telescopes and microphones enable the community to design and deliver projects across creative disciples.  Spaces for performance, presentation and collaboration are also available, as well as venues such as such as the Auditorium and Mezzanine, which provide facilities for talks, concerts, presentations, fairs and seminars, presented by both The Edge and our venue hire clients.

Like its peers, *Eyebeam* in New York, *Watershed* in Birmingham and *Powerhouse Museum* in Sydney, The Edge is leading the way in demonstrating the potential of cultural organisations for creative positive change - embracing participation, collaboration, peer-to-peer learning, and do-it-yourself skills in a spirit of inclusivity and social transformation.

Since opening in 2010, The Edge has attracted 340 000 visitors to its spaces, programs and events and these figures continue to grow. Over this period, the team has presented 1300 programs to 28,000 participants, which equates to 40 programs per month in order to meet community demand.

The processes of learning, information-sharing and content creation are constantly evolving, and one of the challenges for libraries is to accurately capture contemporary creative endeavours and preserve them for future generations. Through The Edge, SLQ proactively engages and nurtures the critical first link in the chain of creative processes: the creators themselves - offering facilities for content creation in a unique cross-disciplinary context.

Ongoing short courses provide an entryway into disciplines such as a graphic design, electronics, programming, web development, sound and video editing. Short-term specialist programming allows exploration into unconventional programming, such as the Mad Scientist Tea party – where emerging scientists were provided with support (through performance training) and a platform to communicate with the public, sharing the stage with experienced science communicators.

The Edge was an early adopter of domestic 3D printing, providing training to the community in 3D printing, advice to libraries in the implementation of the technology within their spaces and engaging in the emergent, open source community around the technology.

The Edge is a meeting place for professionals where web developers – collectively known as a Jelly – share a space rather than working in their homes in a social, work environment. There are media labs, a recording studio and fabrication space which provide free, public access to specialist facilities. Visitors can book a Mac and access professional software for projects in design, video, sound, web and app development, and 3D modelling. The Edge has high spec, open source equipment and there is always someone on hand to assist or support – either Edge staff or peer-to-peer. The Mac Lab provides approximately 130 workshops per year, or it is free to use during non-workshop times.

The Edge has an emphasis on encouraging creative pursuits, for example the production of *Sleepy Sheepy* - whereby a young woman sat in The Edge for six months, and wrote and illustrated a children's book.  It was self-published and is now available in SLQ Library Shop.

The Edge staff also acts as caretakers of its space, sometimes being mentors in the process but not always actively engaged with the delivery of the offer.  Essentially, we hand over the keys to our building and empower the community to experiment in the space.

This can be on a small scale, such as offering our basement workshop to the weekly *Hack the Evening* meet-up group where community members – regardless of their level of education and experience – create art and beauty with technology, or it can be a little bigger, such as a 36 hour *Zombie Apocalypse*. *The Zombie Apocalypse* saw a team of young people designing an Alternate Reality Game (ARG) over four months, prior to locking down The Edge building and inviting a team of 12 survivors and 80 zombies to risk life and latex limb on a series of missions and challenges.

Our research has shown that The Edge audiences typically demonstrate a number of motivations for engagement.  About a quarter of the participants are highly culturally active and open to a broad spectrum of art forms such as the group who run an annual zine fair.   This audience use The Edge as a means of self-expression and connecting with other like-minded individuals who share their deeply held values about the world around them.

Another quarter of the audience see culture as a source of self-fulfilment and challenge; a means for experiencing life. They would be at The Edge regardless of whether there was anyone else to engage with in the space or the program. This group undertake projects like designing children's picture books in our Mac lab or come along to exhibitions to see how to make 3D printed guitars.

The final segment of our audience is the innovators and the early adopters. This group is not guided by the opinions of others and strive to have the title of 'the ones in the know' amongst their peer group. They get great pleasure from telling their friends about how they made their own tights from pictures of galaxies taken through a telescope……or hacked a toy to make it laugh when a hand was waved in front of it.

**How We Deliver The Edge**

SLQ is an established public institution, and The Edge a core element in its service delivery. Promoting real-world opportunity and exposure for young creatives, The Edge plays a significant role in the practical development of Queensland's creative industries through business and technology collaborations. The Edge team works with hundreds of organisations, ranging from small community groups and meet-ups through to large corporates.  These partnerships see zine fairs, fashion shows, science debates, all-ages music concerts and 3D printing conferences run in the space. In return, these partnerships provide a low-to-no-cost option for partners to deliver innovative programming, ensuring the continued growth of Queensland's creative sector.

A relatively small but passionate team ensures that the diverse audiences are engaged, and that the space is supported to deliver a range of programs. The General Manager and Creative Manager form the co-executive of the team and oversee the strategic operations, planning and reporting. They also manage relationships with external stakeholders and partners.

An Operations team supports clients and visitors in the space, from facilitating venue hire bookings, to managing the front of house casual staff and technical operations. This team is also responsible for ensuring that all the equipment in the space is in working order.

The Communications team translate The Edge's offer into formats suitable for reaching a wide range of stakeholders and audiences. This team also offers placements to interns, providing them with experience working with an in-house communications team.

The Programming team designs and delivers engagement for The Edge's audiences, onsite, online and throughout the state. This team supports programming interns to ensure that opportunities are provided to early-career arts workers. Catalysts and Residents also join this team on a seasonal basis for three to six months providing opportunities for specialists to contribute their technical knowledge, and this initiative attracts applications from emerging practitioners around the country.

Catalysts provide expertise in areas that the team has identified as a focus for programming, from gaming and DIY tech to bioscience or sound. Residents are given funding and resources to complete a project in a set timeframe, and include community engagement in their practice.

Recently, The Edge team travelled to regional Queensland to help develop and implement training structures and install 3D printers for *MakerSpaces Mackay*. *Makerspaces Mackay* is a pop up facility where 9-16 year olds are encouraged to experiment with science and technology based tools, equipment and projects. It is a mobile, portable, technology-based innovative space promoting learning through play and technology. Core skills in soldering, drilling and basic circuitry are provided to participants and then tinkering is encouraged.

Libraries have a long tradition of welcoming a wide cross-section of the community from diverse cultural and socio-economic backgrounds, The Edge also creates a community of practice, crossing boundaries of culture and advantage, and acting as the service's biggest advocate. Creative people, change agents, activists and thinkers are all attracted to The Edge – from filmmakers to programmers, industrial designers, entrepreneurs, animators, astrophysicists, slam poets and journalists.

The maker space philosophy fits neatly within SLQ's commitment to vibrant Queensland public libraries through *VISION2017 – a strategic vision for Queensland public libraries* (2013). VISION 2017 was developed and is supported by three partner organisations - SLQ, Local Government Association of Queensland and the Queensland Public Libraries Association. The partners agreed that Queensland public libraries are spaces to learn, work and create, and that these four key themes support sustainable, innovative 21st century public libraries:

- Creative community spaces;
- physical and virtual connectors;
- technology trendsetters; and
- incubators of ideas, learning and innovation.

These four themes also reflect the intent of maker space thinking.

*VISION 2017* also emphasises the importance of libraries delighting visitors with spaces to create vibrant, flexible, multiple use community hubs ,  It also states the need for libraries to provide co-located facilities to create opportunities for entrepreneurial collaborations which support economic development, local innovation, learning and the exchange of ideas.
http://plconnect.slq.qld.gov.au/manage/21st-century-public-libraries/vision2017

Public libraries are often a first point of connection to the community for new arrivals, visitors, and those who experience social isolation.  By providing programs that build social inclusion, promote positive intercultural relations and support digital literacy, maker spaces can not only support innovation in tough times for their participants, but also maker spaces can support libraries who want to reach out to new audiences or do more with less.

**Innovation in Tough Times**

The maker culture is a contemporary culture or subculture usually representing a technology based extension of DIY culture.   Maker culture invites explorations that can either be cutting-edge or high and low tech, it has a focus on affordability that encourages invention and prototyping.

The key to achieving an active maker space with engaged audiences is to make the maker experience creative, hands on, relevant to learners and sustainable.  It is no wonder then that the maker movement, as presented to us today, is gaining momentum in libraries across the world.  All libraries including SLQ are changing, and we are redefining what libraries of the future could look like.

Whilst The Edge is fortunate to have a whole building, an established team, as well as the support of State Library to progress innovative and experimental ideas, innovation does not have to be big or expensive –indeed The Edge initiatives or programs can easily be replicated.

 The Edge has developed a Mobile Media Lab that can now travel around Queensland. This Lab is the size of a small road case and is a regional model of content creation for young Indigenous people. The program uses portable road cases filled with a range of equipment for video and music production, digital art, storytelling and web publishing. With an emphasis on multi-user creation, media sharing and expert-devised workshops and training programs, the project provides at-risk young people with access to the creative tools that will help them drive community development. Most recently, the program was delivered in partnership with the Rockhampton Regional Library and Darumbal Indigenous Youth and Community Service in Rockhampton.

The Edge's Creative Community Computing (CCC) project is encouraging ICT self-sufficiency and digital literacy in marginalised communities. Participants can range from recently arrived young refugees to young people disengaged with traditional education institutions, and each is able to become an agent for change in their community, improving individual and community digital literacy.

The Edge programing operates under an ethos of sharing - providing logistical, technical and programming support to communities and libraries across Queensland. This support includes the

development of low cost robotics kits ($5), no cost workshop plans and lost cost, custom designed solutions; and the design and implementation of regional maker spaces and game design programs addressing inter-racial harmony in communities.

The range of kits come complete with all the plans and tools needed to make bristle bot racers, or start your own batch of Kombucha. This could be all you need to get started. By ordering a couple of kits you can run a new workshop, test the interest and start a conversation with your community about what new and different things they would like to see offered.

Contining innovations in The Edge's business model focus on developing revenue streams to ensure ongoing viability and expand its audience reach. Despite a largely static base funding, self-generated revenue, earned through venue hire, ticketing for public programs, its coffee stop and public programs, is invested directly back into our creative communities enabling us to resource and run more programs, with a focus on community engagement offerings. What began as a startup - a brave experiment with a bold vision - has successfully transitioned to a sophisticated and sustainable business unit with the potential to serve as a model for other libraries.

Underpinning the facilities, programs and services is an innovative business philosophy that allows The Edge to be responsive and innovative. We have responded to community demand by providing more equipment in our labs, and more resources for our participants to use. This approach has also allowed us to triple the number of places available in our free programs that rely on this equipment.


**Conclusion**

In an undertaking as complex and groundbreaking as The Edge, the lessons are diverse and frequent. Some things we have found solutions for and others are still a work in progress.

The right team sets the organisational culture, which then, sets the tone for interactions and expectations of clients. The Edge has worked hard to find the right people to support the vision.

Knowing our audience is imperative - running a public service requires the public to want it and make use of it - it is a Use It or Lose It approach. Knowing our audience has been crucial to developing relevant and effective programs; and The Edge is still working on ways to get to know our audiences better. It can often start with a conversation, by knowing the names of our regulars, by giving them the ability to make suggestions, to criticise and to be actively involved in initiating change and progress.

Indeed, expecting that things will change is essential. From the scoping of our building to our resources and audiences, things are constantly changing at The Edge. Sometimes these changes are unexpected, such as the impact of a change of staff or the political climate, and sometimes we intentionally set change in motion to develop a new audience, or perhaps take a risk on a new idea or try to improve facilities and services. Either way, the team has come to understand and embrace change.

Maker spaces are based on partnering with creative individuals, with a range of organisations, from public libraries to galleries, community arts organisations and universities, learning from them and

developing new knowledge together are an essential component. We also take inspiration from organisations that are pushing the boundaries in other fields - the likes of MIT, Ars Electronica and Eye Beam.

Finally, knowing what your own definition of success looks like is important to consider - we are still working on this, as success means different things to different people, and to different reporting agencies and their requirements.   Success is not always numbers on a page, and does not always tell the whole story. We are still working on ways to measure our impact on things like a participant's growth, or confidence, or their feeling of connectedness or engagement with the community.

**Bibliography**

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**Appendix**

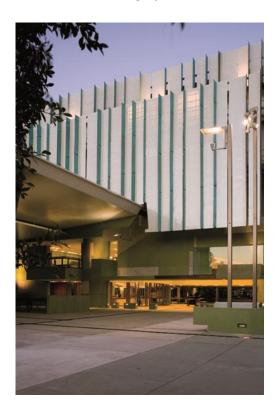**Figure 1: The State Library of Queensland (Photographer, Jon Linkins)**



**Figure 2: State Library of Queensland strategic objectives (2014-2108)**