Creative spaces

in public libraries: a toolkit

How to persuade your library to develop a creative space, plan and implement the right kind of space and inspire your community to use it.

Emily Boyle
Michelle Collins
Robyn Kinsey
Clare Noonan
Andrew Pocock

Table of contents

Executive Summary

Making a case for creative spaces
Or, what is a creative space and why should my library have one?

Planning and implementing a creative space
Toolkit, part 1

Evaluating and maintaining your space
Toolkit, part 2

Exploring fabulous creative spaces around the world

Appendix

Executive Summary

The establishment of creative spaces (any place where the community can come together for informal and shared social learning) in public libraries has been an emerging trend worldwide in recent years. As this picks up speed in the Australian library sector, it is timely to examine what this means for libraries and their communities, and how such spaces can be successfully established.

This publication is broken into three distinct sections. It:

- identifies what a creative space is, why they're relevant to libraries and the benefits they can bring to libraries and their communities

- provides guidance and best practice recommendations to assist libraries to plan, implement, evaluate and maintain a creative space

- offers practical and inspirational resources on creative spaces in Australia and worldwide, including a brief history of making spaces, case studies and further reading

A broad literature review was conducted to find out more about the concept of creative spaces in libraries and to source practical examples of libraries that already have creative spaces in operation, both locally and overseas. Interviews were also conducted with public library staff who have had first-hand experience in setting up a creative space.

The research shows that strategically, creative spaces fit neatly into the future direction of Victorian public libraries, as outlined by the creative and community scenarios of the Libraries 2030 strategic framework. Also that the local library sector has adopted a largely non-commercial model, distinct from hackerspaces and tech shops, for its creative spaces. These spaces, and their activities, equipment and funding models vary widely, but it is clear that successful creative spaces share certain qualities. They emphasise hands-on play and experimentation, reflect their community's interests and needs, are flexible and responsive, encourage staff innovation and work with their community to shape their space.

There are many clear benefits to both libraries and their communities from having a creative space. These include empowering your community, fostering community collaboration and co-creation, growing a larger, more-engaged user base, enabling inter-generational learning and social connectedness, facilitating trans-literacy, developing a culture of lifelong learning and adding socio-economic advantage to communities. Creative spaces also provide an opportunity for libraries to future-proof themselves and adapt to meet the changing nature of society.

Drawing on the findings of the literature review, a toolkit has been created to assist libraries to set up a creative space. The toolkit consists of guidance around the following key activities:

- Selecting the right type of creative space for your library
- Engaging your community
- Shaping your creative space
- Setting a budget and obtaining funding
- Staffing your space
- Promoting your space
- Evaluating and maintaining your space.

An extensive further resources list provides guidance on topics including how to set up a space, equipment and suppliers, creative space listings, projects to make, online maker communities, news and publications, and more.

Making a case for creative spaces

Or, what is a creative space and why should my library have one?

Defining creative spaces

Makerspace, fablab, hackerspace, techshop, creative space… These are all terms for much the same kind of thing (although there are minor distinctions between how they work and are perceived). Most simply put, creative spaces are places for the community to come together for informal, shared social learning. They are characterised by hands-on experimentation, innovation, tinkering and play - and a strong DIY ethos.

Creative spaces aren't defined by the equipment and tools they provide (such as 3D printers, software or woodworking benches) or the activities they run, but by the principles of self-directed learning, knowledge sharing and community building. Collaboration, community and co-creation lie at the very heart of creative spaces. Each creative space is unique and reflects the needs and passions of its community and organising body.

Spaces vary in what they offer, but generally provide classes and workshop time focused around digital and other technology, art, craft, 'citizen science' and other domains that reflect the interests and needs of the community using them. They enable people to learn new skills, invent and create things and repurpose existing items into new objects. They bring together diverse age groups, education levels and skills.

Although creative spaces have become a significant new trend internationally in the last decade, they in fact build on the long-standing traditions of DIY, make do, crafting and home workshops. Current creative spaces blend digital culture's strong collaborative ethos and ability to share and connect via the Internet with old and new skills to create a maker culture with far more social power than ever before. Those analysing creative spaces see them as having the potential to drive powerful educational impacts (both inside and outside formal learning structures), industry innovation and economic and social benefits.

See our page 2 of the Appendix for more detail on the differences between a 'makerspace', 'fablab', 'hackerspace', 'techshop' and 'creative space'. In this document we use the term 'creative space', but you should adopt whichever term suits your library and reflects the kind of space you wish to establish.

How creative spaces fit into library business

The evolving library

As libraries continue to evolve in the digital age, public libraries in particular are looking at ways to further engage with their communities beyond their traditional core business of being repositories of, and providing access to, knowledge and information. Public libraries are increasingly being designed and seen as hubs within the community, co-located with other community services so that one location meets a variety of community needs. As this trend continues it allows libraries to re-evaluate what they offer the community and how they offer it, as well as consider what emerging needs the public library is placed to explore and provide for.

> **"(Creative Spaces)…also position the library as a place of building, inventing, and doing instead of a static location of consumption and acquisition. This holds great promise as libraries become less a storehouse of books or information and more a locus of community involvement, innovative forms of service and instruction, and as laboratories of ideas and invention."**
>
> http://metro.org/articles/from-stacks-to-hacks-maker-spaces-and-librarybox/

One such emerging trend in the worldwide public library sector in recent years has been that of creative spaces within libraries. The creative space movement has gained great momentum within the United States in particular; however, there are an increasing number of Australian libraries investigating and implementing spaces.

These spaces vary greatly between libraries, from the more technology focused – such as the Mill Park Library Maker Space, equipped with a 3D printer, video camera, computers with creative software, and more – to simple

spaces for the community to meet and knit together, such as the Click, Clack & Yak sessions at Camden Libraries in NSW.

Like any creative space, those within libraries are places where the community can collaborate and explore their creativity, with the level to which the library facilitates the creativity varying between different library services and branches. They are each unique to the differing needs of their local community, and have evolved as the community engages with them.

The local strategic framework

These flexible and community needs-driven spaces fit well within the context of the direction in which Victorian public libraries are heading, in particular with regards to the *Libraries 2030 strategic framework*, a joint project between the Public Libraries of Victoria Network and the State Library of Victoria. Released in 2013, the Libraries 2030 strategic framework aims to guide Victorian public libraries in their future planning, in particular with regards to flexibly identifying and meeting social trends as they emerge in our communities.

This strategy identifies two key potential scenarios for libraries in 2030: the 'creative scenario', and the 'community scenario'. It is important to note that these scenarios need not exist in isolation, and what may be the ideal scenario for some Victorian public libraries will be entirely different to that of other library locations and services. However, what is vital in both these scenarios is the ability for libraries to not only identify community needs and respond strategically, but also to remain flexible enough to adapt as those needs continue to develop.

Creative spaces offer a wide variety of opportunities for public libraries in the context of the *Libraries 2030 strategic framework*. Naturally, creative spaces are a perfect fit for the creative scenario, with options in this scenario ranging from IT focused (such as multimedia editing and video-conferencing facilities), to very hands-on practical spaces (such as spaces for painting, knitting, or pottery) or teaching spaces for a range of workshops (such as poetry, literacy or music).

However, there are also creative spaces that fit into both the creative and community scenarios. These include telecommuting spaces, and spaces to host a greater range of workshop offerings beyond those that are more creatively focused to subjects such as languages, and business IT software suites. The concept of the community scenario as a 'learning village' as outlined in *Libraries 2030* translates well into a creative space within a library, particularly if the space has been developed with future flexibility in mind, allowing it to adapt to evolving social and community demands and trends.

What benefits can a creative space bring to your library and community?

The core focus for public libraries in providing creative spaces is to further their engagement with their community, through continuation of a service which libraries have always done well: empowering their communities by providing information and resources which individuals may not have been able to afford by themselves. In achieving this, libraries are seeing a number of benefits emerge.

Future proofing and trans-literacy

Undoubtedly, the hope that establishing creative spaces will contribute to future-proofing libraries (and their staff) is worthy of reflection. In a recent study by Slatter & Howard, participants reported that the provision of creative spaces reflected the 'changing shape' of public libraries; 'In providing materials, technologies and spaces, makerspaces offer new learning opportunities, increase community engagement and enable equitable access appealing to a variety of users, all of which contribute to future proofing the organisation' [i]. Creative spaces are also an opportunity for libraries to further future proof themselves by continuing to adapt in their role as a place of learning throughout societal changes.

Libraries have always been a learning commons, and the development of creative spaces allows this learning experience to extend to creative-literacy ii, or 'trans-literacy' (trans-literacy being an 'umbrella term for all these new literacies that have…bubbled up in the last ten years.') iii Sharona Ginsberg reflects that 'Much as patrons benefit from learning information literacy or digital literacy at the library, they could also be empowered by learning the skills, tools, and attitudes of making.'iv

This, in turn, contributes to an environment of sustainability, of 'making', re-inventing and up-cycling rather than mindlessly consuming. Not only does this future proof the library's place in society, but without a doubt, this sustainable use of library space would also surely align with every council strategy in Australia. Future proofing as a benefit also extends to the library workforce. It is not only the community who benefit from the sharing of skills and knowledge within a creative space: there is also a delightful overlap with library staff. Staff members who are up-skilled to respond to the needs of their patrons ensures that staff stay abreast of the latest technologies and creative trends while simultaneously educating their community and in the process future-proofing both the service and the staff.

Development of a lifelong learning culture

The library as a community learning commons further cements their place for the future. Libraries can reinforce their place as a centre for knowledge not simply through books but via direct experiences shared between people. 'Bloggers and journalists are claiming that the introduction of maker space into public libraries can return libraries to their purpose as a learning commons'v by allowing access to education for the entire community.

Just as libraries once made learning through self-education possible for those other than the elite, now creative spaces allow for practical-based learning to become accessible to all in a more-collaborative manner. People can congregate and use the space to teach and learn from each other across a multitude of disciplines. Such spaces provide traditional support materials, facilities and staff knowledge as support materials to assist them in their learning, adventuring and investigations into creativity and knowledge. This is true lifelong learning, and the development of such a culture in our communities is surely the greatest of benefits gained from creative spaces in libraries.

Inter-generational community bonds and social connectedness

A lovely benefit to come out of the creative space as a learning commons is the inter-generational community bonds and new connections that form. On a purely social level, creative spaces provide new and varied opportunities for people to come together, with the shared interest in sharing or learning a new skill a perfect icebreaker for those seeking to expand their social connections. Building on this, inter-generational bonds are established as young people turn to older community members to learn crafts such as knitting, weaving and crochet, while in return the younger generations can also share their technological skills. The more tech-savvy groups also tinker with new technologies, paving the way towards new inventions and fostering valuable innovation within the local community.

Entrepreneurship and innovation

New innovations are where creative spaces can really bring a new element to the library's place in the community. Providing access to equipment, tools and software that would normally be out of reach due to cost or lack of opportunity provides the community with the means to explore their creativity and ideas. Technology-based creative spaces in particular provide access to those who cannot afford expensive new gadgets, hardware and software and give people the ability to learn new skills that they would otherwise struggle to acquire.

However, this benefit is not tied to technology alone, as the more hands-on crafts such as woodworking and textile work can also sprout innovation. As Lauren Britton from Fayetteville Library notes, this access to tools, practical learning and resources allows people to experiment, refine their products, create prototypes, fabricate their end product and go direct to market without having to negotiate middlemen. As well as bene-

fitting individual makers by accelerating their development time, this kind of agility has the potential to drive innovation in local and national economies [vi].

A growing, more-engaged library audience

Perhaps the benefit which is most likely to catch the attention of those considering a funding application is the increase of library patrons walking through the door and accessing services. Nathan Connors, from the City of Melbourne Library Service, reported that linking into the creative community in Melbourne whilst establishing creative spaces in the new Docklands Library expanded the scope of people he was connecting with, as each creative group he spoke to recommended he get in touch with another creative group they collaborated with. Word of mouth recommendations and social media links among collaborative creative individuals and groups may boost numbers at creative events in the library.

This is an internationally reported phenomenon; in the US the Fayetteville Free Library Fab Lab reported that their initiative not only attracted new patrons, but also 'facilitated networking and knowledge sharing that reach(ed) across all ages' [vii]. As new connections are built between the library and community as well as throughout the community itself, the library becomes even more of a meeting place, providing an opportunity to promote its other services to those who were initially drawn to its creative facilities. Paula Clark of Wimmera Regional Library relates how staff members are mindful of how the collection complements creative projects. The library's beautiful books of botanical illustrations and art, for example, can be displayed prominently and made readily available to artists using the creative space in Horsham library whilst they are working on similar projects.

Adding socio-economic advantage to communities

Finally, an excellent resource to look at when considering benefits, funding, and the value of a creative space for your public library is Dollars, Sense and Public Libraries, a 2011 report again released jointly by the Public Libraries of Victoria Network and the State Library of Victoria. This landmark report was able to reveal direct economic benefits of public library services for the Victorian community, concluding that $3.56 was being returned to the community for every $1 spent on public library services . This was calculated by using a methodology that gives monetary value to services and outcomes such as literacy, access to information technology, building community connections and creating better-informed communities. As outlined above through the numerous benefits that can emerge from a creative space, these spaces will only add to the value put back into the community by public libraries, further consolidating the library's socio-economic value as a service.

A closer look at library creative spaces

The evolution of creative spaces in public libraries is an exciting extension of services libraries have always provided for their patrons; the opportunity to grow, learn, and explore new ideas and technologies in a supportive and potentially collaborative community. As the need and desire for these spaces is increasingly evident in Australian communities, libraries are responding with the provision of flexible spaces, equipment and facilitators to aid the process with innovative and inspirational results.

Creative space models adopted by libraries

The same key principles of community collaboration and shared learning that underpin creative spaces in other spheres also underpin library creative spaces.

The types of governance and activities provided tend to follow the model of non-commercial entities such as schools, universities and community centres. These range from simple BYO tools and materials crafting sessions in a library meeting room to shared workshop spaces, similar to the Men's Shed initiative here in Australia, to Fab Lab-type environments, which offer the community access to high-end digital and other fabrication equipment which individuals could not afford by themselves.

However, because libraries serve a local constituency and are accountable to government and other funding bodies, creative space models such as hackerspaces – which often operate as more communal, clubhouse types of organisations with membership fees and collective decision-making processes – tend not to be adopted.

Likewise, more commercial tech shop, DIY storefront or 'franchise'-like spaces such as the US-based Artisans' Asylum have tended not to be adopted within libraries as they don't necessarily reflect the local library model of information sharing and open access for all.

Broad categories of creative spaces

Creative space types can be categorised in the broadest sense by the type of making activity they facilitate and the equipment and materials used. Factors such as space size, location and permanency, and lifespan also come into play. Cost is largely dependent on the type of making (see our cost matrix on page 17).

Making type and equipment provided:

- 3D printing and digital fabrication

- Digital design

- Multimedia/AV production

- Electronics e.g. robotics, electronic gadgets, circuit boards

- Mechanic, pneumatic, industrial, e.g. woodwork, metal, radio-controlled and other 'real object' fabrication

- Craft e.g. sewing, quilting or crochet

- Modelling, moulding, or casting, e.g. plaster, plastic, clay, fiberglass, acrylic sheets

- Wordsmiths: e.g. zine creation, poetry workshop, bibliotherapy

Space size, location and permanency:

- Indoor, outdoor, mobile – Mackay, for example, has a portable technology station; the Wyndham Youth Resource Centre offers a permanent band rehearsal room and The Edge have a purpose-built recording studio

Life span:
- short, medium, long-term, ongoing, and trial projects that can be extended if interest and funding is available

For more information on creative spaces in libraries, see the case studies section and the list of selected library creative spaces in our Further resources list.

Planning and implementing a creative space

Toolkit, part 1

Before you begin

So, you like the sound of creative spaces and want to establish one in your library? We outline below some of the key planning and implementation activities that can help ensure you end up with a successful, meaningful space for your community.

Although we do have some recommendations about the sequence of activities, the order in which you move through things and even whether you need to undertake every step will depend on factors individual to your library, so use this information as a guide, not a prescriptive set of rules. The move from planning to implementation is a continuous process of exploring options, making decisions and acting on these bit by bit until your space is open and you are delivering your program of activities.

If there is one principle that underpins successful creative spaces, it is that of collaborating with your community. Thus, although we have gathered community engagement information under a single subheading, it is important to understand that this is not a one-step, once-only process. This should be one of the first things you think about, and it should come back into play all the way through your planning and implementation process.

The key planning and implementation activities you will need to undertake include:

- Selecting the right type of space

- Engaging your community

- Shaping your space

- Setting a budget and obtaining funding

- Staffing your space

- Promoting your creative space.

Every creative space journey is different. The timing of all these planning implementation tasks may span out over months or even a number of years. Regardless of the scale, budget or timeframe of your project, once you have the essential elements mentioned in this section in place, you will be ready to open your doors and welcome in your community – and your staff – to become makers, collaborators and co-contributors in a brave new world of creativity.

Selecting the right type of creative space for your library

If you want to establish your own creative space, the first step is to work out what kind of space is best for your library and your community.

Your budget options, if fixed or limited, may dictate the type of space you propose; however, it's best to begin the process by identifying a) whether your library - and community - needs a creative space and b) what type of space you should aim for.

So, how to figure this out?

- Understand your community - so you can understand their needs
  See our hints for gathering data on age, ethnicity, education levels etc

- See what other creative spaces are in your local area – so you can avoid duplication, fill gaps in servicing your community's needs and see potential partnership opportunities See our tips for undertaking this research

- Understand your organisation's strategic framework – so you can see if, and how, a creative space aligns with your library's current and future goals See our suggestions for how to obtain this information

- Be aware of the strategic framework for Victorian (and national) libraries – so you can see if, and how, a creative space aligns with the broader priorities that will inform your library's operations, see page 10 of the Appendix

- Understand the broad types of creative spaces and their costs – so you can decide what type of space is best for your library and how you could fund it See our summary of space types and costs

Getting to know your community and their needs

Developing an understanding of who your community is is the first step to figuring out what kind of creative space your library's community would benefit most from and what sort of audience it would attract. Key audience information you might need to know includes age, education level, special needs, income, library usage, language ability, and existing skill levels. This will help you plan your program and individual class syllabuses later in the process.

There are a number of different resources you can access to build up a good demographic picture of your community:

1. Australian Bureau of Statistics – Census Data
Doing a 'Quick Stats Search' on the ABS Census site (http://www.abs.gov.au/websitedbs/censushome.nsf/home/Census) will give you a snapshot look at a suburbs key statistics such as population, income, age-range breakdowns and language from the most recent census. This is an important first step to help form the base of your demographic picture.

2. Social Atlas
Altas id (http://altas.id.com.au) is a website which further interprets census data into thematic maps, and a very useful resource to build on the raw data you have gathered from the ABS.

3. Surveys
Has your library service conducted a recent customer survey? Has another department in your organisation done one? Ask around and see if there are any recent surveys that have been completed that you can analyse the results of to identify community trends. If there hasn't been one recently, see if you can do one in your local library branch, even if it is in a very low key. For instance, you may ask existing program attendees what else they would be interested in attending in the library. There are many ways to run surveys, such as verbally, online, on paper, in focus groups or having a staff member roving with a tablet. Keep your survey as short and succinct as possible, test it out first, and consider offering incentives for those that complete it. It can be more difficult than you think to write a survey that will ultimately provide useful data – some resources to help you on your way are included on page 11 of the Appendix.

4. Existing services, clubs and groups
There are lots of creative activities going on in the community already, so in determining your community's creative space needs, it's important to do a 'gap analysis' or 'competitor analysis' (bearing in mind your target audience) to try and fill gaps and avoid duplication of service or direct competition with another provider.

You may need to visit or talk to other community groups and creative spaces and see what they're doing and how, make contact with potential teachers, participants, advisers and so on, and promote the fact that you're developing a creative space.

There may be opportunities to collaborate and partner with other groups, or establish where there may be 'gaps' to provide a service that does not already exist. Consider:

•   Local art groups, galleries, studios and art corporations

•   Learn Local organisations (http://www.education.vic.gov.au/training/providers/learnlocal/pages/default.aspx)

•   Community centres (e.g. Sandy Beach http://www.sandybeach.org.au/)

•   Men's Shed groups (http://www.mensshed.org/smart/.aspx)

•   Scouts and Girl Guides

•   local papers and community newsletters

•   Training and facilities provided at local schools, TAFEs (e.g. CAE) and universities
(there are definitely opportunities for partnerships here)

•   Commercial and for-profit creative services in the area
(e.g dance schools, ceramics classes and quilting shops)

•   Facebook: do a quick search for Facebook groups in your area, simply by typing your suburb in the Facebook search bar and clicking 'Find all groups named'. For instance, you may find that there are local parenting Facebook groups where there are discussions around where to take children for local art and craft activities, or you may find that there are local poetry groups looking to grow their group in a physical space rather than just online.

Understanding your library's strategic framework

Whatever type of organisation your library is a part of, there will be strategic planning documents that guide what the library ultimately provides for the community. These may range from organisation-wide (for example a local government's city plan) to department level (your library service's business plan) to one branch (for instance that branch's KPIs). Gather all the strategic documents and go through them to see what parts you can pull out to help justify your creative space. Think broadly when you are doing this – aside from the obvious artistic outcomes tied to a creative space, there are outcomes such as social connectedness and supporting local entrepreneurship that may not instantly jump out as being directly due to a creative space.

A further option to consider at this point is that of partnerships within your organisation. If you notice in the organisation-wide strategic documents that there are outcomes that partially fall into the library's area but also fall into another area (say a community arts department), think about how you could work that with that department to make your creative space an even greater success. There are a number of considerations to assess before leaping into a partnership, which are noted later in this document; however, it's good to keep an open mind to the possibility at this early stage.

Understanding the strategic framework for Victorian and national libraries

Remember too, to read broader strategic documents such as *Libraries 2030*, *People places – a guide for public library buildings in NSW*, *VISION 2017 for Queensland Public Libraries*, and *Dollars, Sense and Public Libraries* (see the Appendix for information on how to access these). They will be invaluable in helping to build up a solid justification as to the value a creative space can bring to your library in the context of the bigger public library picture.

Having considered the demographics of your library's community, services that already exist in the area as well as the strategic plans of local council, get ready to lay the foundations of your library's creative space.

Understanding the costs of different creative spaces

If you're making a case to your library for a creative space, getting the set-up budget and operational funding model right is paramount. It's important to understand the different types of creative spaces and their costs, the strategic and budgetary context in which libraries are currently operating, and the different ways in which you might be able to fund your space.

Creative spaces come in many different shapes and sizes. Broad activity types and making materials dictate the type of equipment, consumables, building requirements and staffing needed and hence the cost.

Many creative spaces provide a mix of equipment types and activities, so there is no neat formula; final establishment and maintenance costs can only be determined by the particular makeup of your space, the quantities of tools and equipment and the number of people you want to serve. In general, however, the broad cost guidelines chart on the following page may help determine what type of space may suit you best.

For more information about the types of creative spaces that can be established in libraries, see the 'Case studies' section, and the list of selected library creative spaces in our Further resources list.

Regardless of the type of creative space you develop, there are a range of funding models you can put into place. These can bring your overall space costs down and make something that seems out of reach more affordable, so it's important to think about costs and funding in tandem to make a decision about the type of creative space that is best for you. Options available to you include:

- charging fees to cover costs only (ie users 'pay the gap') for certain materials (eg 3D printing plastic) or for class tuition
  Note: Even if a space is purely open access use rather than class-based, there is scope to charge for special events or materials used

- charging full fees for specialist classes with an expert

- charging for open-access workshop use

Another option is to structure any fees so that small business and entrepreneurial use subsidises general public amateur enthusiast use.

Broad cost guidelines chart

Activity	Equipment	Consumables	Staffing	Building works	Overall cost bracket
3D printing and digital fabrication	Low to High Eg 3D printer: $500 to 3000 ~ 3D scanner: $500 to $2000 ~	Medium Eg 3D printer plastic: $40–70 p/kg ~	Medium	Medium	Medium to high (but it is possible to operate in the low price bracket depending on how many items you buy & at which price point)
Digital design	Medium	Medium Eg Software: free, $200 to $1000+ ~	Medium	Low to medium	Medium
Multimedia/AV production	Medium	Software: $700-1500 ~	Medium	Low to medium	Medium
Electronics e.g. robotics, electronic gadgets, circuit boards	Low to Medium Eg Makey Makey Kits: $50 Robotics: $100+ Lego Mindstorms EV3: $500+	Low to medium	Low to medium	Low to medium	Low to medium
Mechanic, pneumatic, industrial, e.g. woodwork, metal, radio-controlled and other 'real object' fabrication	Low to medium Eg Precision squares & triangles: $50 Hook carving knives: $30 –$150 Medium to high Eg Table saw system: $1000+	Low to high	Medium to high	Medium to high	Medium to high
Craft, eg sewing, quilting, crochet	Low to medium	Low to medium	Low to medium	Low	Low to medium
Modelling, moulding, or casting, e.g. plaster, plastic, clay, fiberglass, acrylic sheets	Medium	Medium	Medium	Medium	Medium
Wordsmiths: e.g. zine creation, poetry workshop, bibliotherapy	Low	Low	Low	Low	Low

Strategic context of funding

Your users will initially be guided by the direction you have chosen to take, but it is almost certain that your creative space will develop in ways that diverge from the original vision for it. It is important to support, listen and respond to any unexpected shifts in the direction of the space in a way that assists the community to get what they want out of the facilities and connections that develop.

Try not to get too bogged down in rules or preconceived ideas about how people should be using your space. Allow for experimentation and see what happens. This will help the space to develop naturally, based on the needs of its users.

Engaging your community

The key element to achieving success with a creative space is for the library to actively reach out to their community and discover what exactly are those resources and information that their community wants or needs to access via a creative space. Open and ongoing dialogue with the community during the planning stage and continuing once the space is open ensures that the space remains relevant and flexible in meeting the community's needs. Strong community engagement is vital from the outset of your planning and ultimately ensures the benefits of the creative space emerge.

Understanding your community

As we made clear in 'Getting to know your community and their needs' on page 14, it is essential that your community is on board with your space. If you have carefully researched community needs, then in theory the community is keen to participate and contribute to your newly formed space. If this is not the case it is important to again ask the community what they want and to adjust the space accordingly. The Edge in QLD, for example, had initially intended for their facilities to cater to 15–25 year olds, but discovered that the programs had broader community appeal. The team adjusted their vision accordingly to welcome a wide ranging audience into the space. Every community is different and what works for one library may not necessarily work for another. Creative spaces are collaborations between the library and the community, and the balance must be continually maintained throughout the life of the space.

Promoting trust and communication

Trust and communication are key when developing and managing a creative space, which by definition is collaborative in nature. Make sure you don't create your creative space in isolation of the wider creative and maker community around you. Get to know your local maker community as well as local schools, universities, businesses, groups or individuals to leverage the enthusiasm and knowledge that is out there. Your community can offer you a rich potential source of volunteer or paid teachers, donors and sponsors, as well as promoters and users of your space.

Promote trust with your wider maker community in particular by talking with them, inviting them in, promoting your activities, enabling them to leverage what your library can offer. Promote their activities and events as well as your own and participate in activities and projects with them. Invite people with expertise into the library to share their knowledge and talents with others as teachers, advisors – and also as space users themselves.

See 'Promoting your creative space' page 33 for more information on how to reach your community.

Attract your identified community (and those you don't yet know about) by providing plenty of activity demonstrations and sample sessions. Many people won't know what they're interested in doing until you show them the options. Providing access to tools and ideas will help engage your audience.

Listening to your community

Your users will initially be guided by the direction you have chosen to take, but it is almost certain that your creative space will develop in ways that diverge from the original vision for it. It is important to support, listen and respond to any unexpected shifts in the direction of the space in a way that assists the community to get what they want out of the facilities and connections that develop.

Try not to get too bogged down in rules or preconceived ideas about how people should be using your space. Allow for experimentation and see what happens. This will help the space to develop naturally, based on the needs of its users.

Shaping your creative space

This phase of activity builds on the work you've done in understanding your community's needs, your strategic and budgetary context, and the broad costs and types of creative spaces.

You may have a very clear idea of how to proceed at this point. If not, take some time to shape your space by exploring the kinds of activities you can run, the range of equipment you can provide, the kind of facilities you will need and the safety and other operational considerations that come into play.

Once you've explored these things you should be able to finalise your goals and, looking ahead to the next section, cost your space and secure funding. With decisions and budget in hand, in parallel with other key activities such as sorting out staffing, you will then be in a position to translate your plan into reality. For more guidance on shaping your space, see our case studies of Australian and international creative spaces.

Activity options

If you haven't yet figured out the kind of space that will suit your needs, a table of activity types and suggested age groups for the activities is provided on the following pag. This may help you decide what activities might be most appropriate for your community.

Your preferred activities will suggest the type of equipment you will need, and in turn, your costs and potential funding model.

The options for activities that can be undertaken in creative spaces are almost infinite – and as unique as your particular community. Most maker activities transcend age and allow the community to work together; the age recommendations are just suggestions to help you design your space. For more ideas on what you can do in your creative space, see the 'How to set up a creative space' and 'Projects to make' sections in our Further resources list.

Planning a detailed class syllabus and schedule of activities

Before you open your space you will need to decide if you're going to offer open access workshop time, classes, one-on-one sessions, promotional events or some other configuration of activities so you can staff and fund your space.

You may need to start small while you build up staff skill levels, wait for budget to kick in and attract community mentors and teachers. Be open to changing things according to staff and community feedback. Schedule both instructional (e.g. How to use AutoCAD) and promotional (e.g. Meet our makers) events – they are important ways to create and maintain community and staff interest.

See the 'How to set up a creative space' and 'Projects to make' sections in our Further resources list for more ideas when producing your syllabus and events.

> **'Since the inception of the Fab Lab in spring 2011, the Fayetteville Free Library has had some truly remarkable experiences. The community is engaged with the library in a different way, creating their own library-supported content. The lab has brought new members into the library and facilitated networking and knowledge sharing that reaches across all ages.'**
>
> **– Lauren Britton & Sue Considine**

> http://www.thedigitalshift.com/2012/10/public-services/the-makings-of-maker-spaces-part-3-a-fabulous-home-for-cocreation

Activity ideas and likely age groups

Activity	Kids	Tweens	Youth	Adults
Audiovisual				
3D printing and digital fabrication	✓	✓	✓	✓
Digital design	✓	✓	✓	✓
Photoshop fun – create a digital caricature	✓	✓	✓	✓
AV production (scripting, shooting, sound, editing, visual effects)	✓	✓	✓	✓
2D animation	✓	✓	✓	✓
Stop motion animation/claymation	✓	✓	✓	✓
Simple sculpting using Sculpey or Fimo oven-bake polymer clays	✓	✓	✓	✓
Create your own vinyl designer toys	✓	✓	✓	✓
3D modelling	✓	✓	✓	✓
3D animation	✓	✓	✓	✓
3D printer and vinyl cutter certification classes: one-on-one or small group appointments to learn the basics of 3D printing or vinyl cutting	✓	✓	✓	✓
Foley workshop (sound effects from scratch)	✓	✓	✓	✓
Podcasting	✓	✓	✓	✓
'In app' film making and animation	✓	✓	✓	✓
Craft				
Jewellery making	✓	✓	✓	✓
Lego creations	✓	✓	✓	✓
Book production	✓	✓	✓	✓
3D printing design classes: designing objects with Sketchup or Solidworks software	✓	✓	✓	✓
Family craft projects	✓	✓	✓	✓
Scrapbooking	✓	✓	✓	✓
Sewing classes, all levels of experience, beginners learn from experts	✓	✓	✓	✓
Knitting, crochet, macrame	✓	✓	✓	✓
Science				
Robotics	✓	✓	✓	✓
Fun science experiments	✓	✓	✓	✓
Lego robotics	✓	✓	✓	✓
Programming	✓	✓	✓	✓
Astronomy	✓	✓	✓	✓
Archaeology adventures (local history)	✓	✓	✓	✓
Wood and metal work				
Simple wooden toys	✓	✓	✓	✓

Equipment

Successful creative spaces are not about having the 'right' equipment. They are about bringing your community together to share skills and connect with each other. The ways that this can happen are endless and

are not dependent on having a particular item, such as a 3D printer, to act as a catalyst (exciting as this may be!).

Equipment and facilities needs will fall out of the requirements of your community, the skills they want to learn and the activities they want to do. This may be as simple as a knitting circle or cardboard crafting session – or as involved as digital fabrication equipment. Listen to your community and start small; you can scale up over time.

Equipment and tools tend to fit into broad making categories; these categories, and broad cost brackets, are outlined in the 'Selecting the right type of creative space' section. As neat as these categories may appear to be, it is likely that you will need to cherry pick equipment and activities from across a range of areas to suit your community's needs.

3D Printing and digital fabrication

MakerBot 3D printers currently retail from around $3000 in Australia, with more expensive models up to around $8500 and budget printers from around $600. 3D printers do not require a huge amount of space. Most are comparable to the size of a standard home laser printer.

Plastic costs are an additional consideration. ABS plastic costs from around $42 to $70 for 1 kilogram in a single colour. If you print hollow rather than solid, it will last longer. City of Melbourne currently charges 5c per gram for printing and this is cost neutral. Corn starch instead of plastic is a more environmentally friendly option; The Edge uses this.

CAD (Computer Aided Design software) is also required to create objects for printing such as Solidworks or Sketchup. Pricing depends on the individual needs of your organisation.

Audiovisual production and design solutions

Digital design can be achieved using Windows or Mac OS platforms. At the time of writing, Apple's Mac Pro is the de facto standard platform for undertaking design and audio-visual production. Many design, multimedia and animation software packages require hardware with a lot of processing power to perform tasks like rendering. While these Apple workstations have the advantage of working "out of the box", are user friendly, and provide sufficient power for multimedia applications, they also may present unforseen challenges.

It should be noted that many organisations run Windows software exclusively. Please consult with your library's IT specialists before committing to Apple iOS or another non-Windows operating system. Local council IT departments especially may not support Apple products. This may mean critical maintenance, troubleshooting, and updates to software and hardware could need to be undertaken solely by library staff and/or contractors. In this scenario workstation approximating the specifications of a Mac Pro but running Windows could be purchased instead and may be more suitable for your space.

Photo editing

Adobe products such as Photoshop are generally accepted as standard. A number of free alternatives also exist.

- Adobe Photoshop – photograph and image editing

- GIMP – low cost/freeware alternative to Photoshop

- Adobe Illustrator – used for graphic design and illustration

2D animation, video editing and visual effects software

As with digital design, Mac is the de facto standard for this kind of thing. It is recommended that Adobe software such as Flash is used for 2D animation; however, other software such as Toom Boom Studio exists that provides users with a more animation-oriented interface. Flash is used for broader application allowing for online multimedia production – partly due to the programming component to the software.

The industry-leading software packages are:

- Final Cut Pro – video editing software (Mac OS only)

- Adobe Premiere – video editing software

- Adobe After Effects – visual effects and motion graphics

- Adobe Flash – Animation and multimedia content creation

Licences for software will be a significant outlay if Adobe or another industry standard is adopted as part of a solution. A number of freeware alternatives also exist; however, it is worthwhile considering the educational benefits to providing the community with access to these software packages.

3D animation software

3D animation can be achieved using a number of popular software packages including:

- Autodesk 3D Studio Max $200 (approx.)

- Autodesk Maya $200 (approx.)

- Autodesk Softimage – $3000 (approx.)

- Lightwave – $1200 (approx.)

- Blender – free open source software.

As with Photoshop, low cost or free alternatives exist; however, the educational and vocational benefits to using industry standard software are worthy of consideration. Prices range from approximately $200 through to $1200 for a single licence.

Audio production

Bundles of audio visual and digital design software such as Adobe Creative Suite can be purchased to lower the cost of providing several different software packages.

Non-Adobe industry-standard audio visual production software is also available.

- Avid Protools – sound editing software

- Adobe Audition – sound editing and recording software

Prices range from approximately $700 to $1500 for a single licence.

If you have decided on implementing a full audio production studio, you will need to think about hardware

such as microphones, microphone stands, soundproofing your space to eliminate as much ambient noise as possible, amplifiers and mixing desks.

Multimedia hardware/software pricing

Due to variations in pricing depending on whether software is purchased individually or in bundles it is recommended that the distributors websites should referred to. Adobe software is offered via Adobe's Creative Cloud monthly subscription model, which gives users access to a number of packages instead of purchasing software outright. Adobe offer discounted academic prices to educational institutions – public libraries are listed as qualifying however it is recommended that Adobe is contacted regarding pricing confirmation for your organisation before factoring educational level subscription fees into your budget. For more information see: http://www.adobe.com/mena_en/education/nonprofit-eligibility-guide.html

Electronics and robotics

An easy way to enable your library to offer robotics is to use Lego robotics kits. These kits allow children and teenagers to be introduced to the basic concepts of robotics and simple programming without the need for complex equipment such as soldering irons. For an older demographic it becomes necessary to enlist the assistance of specialists. Programming using common languages such as Java is also a great way to introduce users to simple programming concepts, test the waters and perhaps pave the way for a robotics program or space at a later date.

Woodwork and metalwork

Tools and appropriate facilities are essential to successfully integrating workshop-style creation into your space.

A covered outdoor area or shed would be ideal for wood and metal fabrication due to dust, noise and OHS considerations. Libraries rarely have these kinds of facilities available, so it is likely that workshop environments will remain the domain of purpose-built creative space facilities and/or in separate buildings run through partnerships with other organisations within municipal councils.

Budget and facilities are key to the success of such a space, requiring the purchase of appropriate work furniture, tools and materials as well as consumables and OHS equipment to ensure that users of the space are as safe as possible.

It is recommended that you consult with experts in workshop practice when implementing this kind of space. The rewards and community payoff are worthy and great; however, the possibility of injury occurring is higher than in a computer lab or craft space. Refer to The Makerspace Playbook for more detailed information on the types of equipment that could be considered for a trade workshop style creative space.

Craft

Knitting, scrapbooking and so on have existed in library spaces over a number of years. These types of crafts are simple to integrate into an existing library space for very little cost. Fold-out or other easily configurable facilities such as tables on wheels are advantageous to creating these spaces.

Craft is already integrated into the culture of some libraries and initiatives, including '1000 Poppies' and 'Love to Read' (blanket making) have been implemented across Australia. Craft spaces can be as simple as providing some space for people to gather and share their passion for their pastime or can be elaborate and include purpose-built storage spaces, sewing machines, craft materials and equipment.

Procuring your equipment and tools

When you're at the point where you've made a decision on your activities and selected equipment and tools to suit, procurement comes into play. See the 'Equipment and suppliers' section of our Further resources list as a starting point for finding local stockists for the equipment, tools and materials you would like to use in your space. Remember to utilise your community contacts to potentially source these items via donations, in-kind support or partnerships. Also consider starting with inexpensive and easy-to-store kits and small tools within existing spaces, rather than moving immediately into building works and large-scale equipment purchases.

Facilities

As outlined in the equipment section, facilities should reflect the kind of activities and equipment they need to house. Spaces should be designed for comfort and safety and be fit for purpose. Wood and metalworking, soldering and other workshop activities may need special consideration but many maker activities can be undertaken in multipurpose spaces with minimal building work required.

Facilities work can be as minor as painting walls and purchasing mobile equipment containers and as major as new IT infrastructure and a new building. Plan well ahead; preparing architectural plans, gaining library and council approval and undertaking tendering processes means some building works can take 18 months or more to put in place. You should explore both capital and operational budget options to meet shorter-term and longer-term goals.

You may need to open your creative space in an existing part of your library with minimum or no refurbishment, or utilise a mobile space – and scale down your equipment and activities accordingly until you have completed your building works and have a dedicated space to house your full creative program.

Operational considerations

Safety, guidelines and rules

It is important that you emphasise safety to your creative space users, particularly if you plan to include items such as 3D printers, soldering irons or vinyl cutters where injury is possible and correct use is important. A first step to consider is organising a risk evaluation to minimise liabilities and help identify what mitigating strategies you need to implement.

Many libraries require users to sign liability waivers, in order to protect themselves against any potential injuries suffered. The Westport Library Maker Space has such a waiver and the Fayetteville Free Library (FFL) has developed both a user agreement and a safety guide, identifying the rules associated with using their space. FFL also recommends checking with your building insurance representative about your creative space in order to determine any local requirements or code compliance issues.

Whether you organise a risk assessment or not, investigate whether there is a need for your creative space to include a liability waiver and/or user agreement. Develop a safety guide, detailing the appropriate guidelines to follow when in the space and operating any equipment. Ensure copies of the guide are clearly visible within the space. Ensure training on safety and usage rules is also provided to staff. It is important that staff know how to use any equipment on offer and that they feel comfortable about the space and being able to assist users and/or answer questions.

You don't need to reinvent the wheel when providing rules and safety procedures for your creative space; as mentioned above there are many examples out there to provide a starting point. If your space has equipment such as laser cutters and/or 3D printers, consider creating a document similar to Fab Lab Adelaide's induction kit. This document includes an FAQ about the culture of the space, information on safe conduct, fire extinguishers and emergency procedures as well as an OH&S induction acknowledgement to be signed

by the participant prior to them being allowed to use the equipment.

See the Fab Lab website for full details:

http://fablabadelaide.org.au/wp-content/uploads/2013/07/Fab-Lab-Adelaide-OHS-and-TC.pdf

Similarly, a fantastic set of guidelines has been printed in chapter 4, 'Safety', of the *Makerspace Playbook, School Edition*, Spring 2013, pages 13-16 which can be accessed online:

http://makezine.com/2013/09/02/safety-in-school-makerspaces/

Guidelines should reflect the culture you are trying to establish for your space.
The Dallas Makerspace wiki (https://dallasmakerspace.org/wiki/Rules_and_Policies), for example, provides rules and policies to its members, including these pearls of wisdom:

> '*1.   All members are required to 'Be excellent to each other'.*
>
> *2.   Don't catch on fire or set others on fire or set anything else on fire which has not been designated or designed to be on fire.*
>
> *3.   All members are expected to maintain a safe and clean environment at all times.*
>
> *4.   All members are expected to follow all posted notices.*

It is the responsibility of each member to enforce the Code of conduct. Failing that, a grievance or complaint may be filed.'

**Image from:
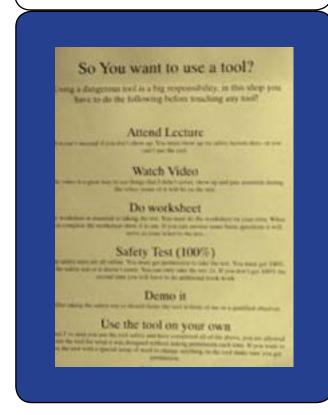http://makezine.com/2013/09/02/safety-in-school-makerspaces/**

**Image of William Gurstelle's 'The Safe Workshop:
Rules to make by' printed in the Makerspace
Playbook. http://makezine.com/2013/09/02/safety-in-school-makerspaces/creation**

Copyright and other legalities

Other operational considerations include managing copyright and the legality of what people may make in your space. Draw on any protocols your library already has in place in these areas, seek advice from the Australian Copyright Council (www.copyright.org.au) and also stay up to date with what other library-operated creative spaces are doing to address these things.

Producing operational documents

Safety guidelines, participation rules, copyright guidelines, volunteer application forms and agreements, insurance paperwork – decide what you need to assist in the smooth running of your space. If you don't already have something in house, all these should be developed as you need them, for example, for recruiting volunteers, training staff, opening your space to the public. See examples of some of these documents in the 'Sample operating documents' section of the Further resources list.

Setting a budget and obtaining funding

Now that you have a clearer idea of the activities, equipment and staffing options that suit your needs, you can develop these into a detailed budget and work out the best funding model. You cannot commence implementing your space without first securing your funding, so be thorough in developing your budget at this stage so that there aren't any budget surprises later. Note also that you may need to revise your budget depending on the financing you can achieve.

Producing budget costings

Keeping the *Libraries 2030* recommendations in mind, it is important to consider the costs of your creative space and how you are going to manage these for the lifetime of the project. As part of your planning, list out every cost that you foresee for the project, including 'maybes', and try and build in capacity for hidden and unexpected costs.

Remember that you can start small and scale things up as community interest and budget increases. You can utilise existing spaces and provide small, inexpensive kits to gauge interest and suitability. Also keep in mind that multi-purpose spaces can cater to different types of making and allow you flexibility while you grow your program.

Equipment costs

To work out what your equipment costs might look like:

- see our sample equipment list starting on page 20 and equipment and suppliers resources in our Further resources list to determine what will suit your proposed space

- refer to page 17 for the broad types of creative spaces (by making type) that can be developed and where they fall on the budget spectrum.

- see our case studies of local and international creative spaces and where they fall on the budget spectrum

Put it down on paper

Make a master list of all the equipment costs you can think of. This could range from big-ticket items (that 3D printer!) to consumables (printing filaments) and seemingly small items like pencils and paper.

Spend some time brainstorming to ensure your list is complete. Remember to refer back to your community's needs when selecting your equipment. And be both creative and competitive when choosing suppliers – there are a range of ways to source equipment to suit your budget.

Building costs

Building costs will depend on the type of equipment and activities your space will host. To work out what your building costs might look like, refer back to your community's needs, and equipment and facilities requirements and consider:

- the size (and type) of space you will need to house your equipment and people – does one already exist or do you need to build extra space?

- whether any new furniture or alterations (such as painting or adding walls, or adding data or power points) to existing spaces are needed

- consulting with your building manager or an architect to assess requirements and costs.

Put it down on paper

Make a master list of all the building costs you can think of. If your budget is known, and limited, you may need to think about mobile spaces or temporary re-use or sharing of existing spaces.

Staffing costs

To work out what your staffing costs might look like, assess:

- the kind of equipment you have and whether it requires supervision or not

- whether you plan to have orientation sessions and tutored activities, and/or independent use of the space

- the number of tutored and independent sessions you will provide

- how the space will be staffed

- whether existing library staff will need training or upskilling.

These considerations will dictate whether you are able to use existing staff within your regular day-to-day staffing budget or will need to hire new staff, upskill existing staff, use paid sessional teachers or utilise volunteers. Costs will vary accordingly.

Paying tutors or instructors to run short courses or one-off events may be something to consider, and worth setting aside budget for if you can. Even if you run a regular program without a paid tutor, bringing one in for a special event can help build more interest and patronage of your space. Budget sustainability is key here, however. If you don't know how long you will have the budget to pay an instructor, it's best not to structure your creative space around them.

Staff time is a cost which can be easily overlooked at the early planning stage. Although it may seem like a straightforward option to use existing day-to-day library staff for the space, consider how this will impact on other library services. Have you got wriggle room within your on-desk roster to have staff in the space with

out it impacting on library customer service? If existing staff are used to run, facilitate or supervise activities, will this mean there are other tasks they won't have time to complete? Will they also need preparation and clean up time?

Another important staffing cost consideration is that of training and upskilling staff to be able to assist the community in using the space's equipment and facilities. Again, training can be costly in terms of staff time, plus the costs of an external trainer if required. A model of upskilling staff that may be more cost effective is to train a small number of staff initially to a standard where they then become 'champions' of that piece of equipment, and then have them train their colleagues in less formal (and time-consuming) settings. If you plan on hiring staff specifically to run the space, it could be part of their PD to spend time training their colleagues.

Put it down on paper

Make a master list of all the staffing costs and contingencies you can think of, including potential growth in activities over time.

Consumables and ongoing maintenance

To work out what your consumables and ongoing maintenance costs might look like:

- take a good look through your master list of equipment and list out all the ongoing consumables (such as 3D printer filaments and craft supplies) associated with your equipment and activities. Some things which may not seem obvious at first glance can end up being costly in the long term (such as ensuring graphic design software is always kept up to date).

- factor in budget to cover any ongoing maintenance you may (or may not!) foresee, such as minor equipment repairs and servicing

- investigate the insurance cover your library currently has. Will it be appropriate if you are running programs in your creative space which could involve sharp tools or hot glue guns? It's always best to find out exactly what your insurance covers before you actually need it!

Put it down on paper

Make a master list of all the ongoing consumables costs and maintenance costs you can think of.

Putting it all together

With all your cost considerations complete, work your information and costings into a budget. Your organisation may have a budget template you are required to use; otherwise, there is a very functional template that may prove helpful in the *Makerspace playbook*.

You may need to revise your budget several times and either tweak your preferred creative space proposal to suit your budget, or adjust your budget to reflect your proposed space's needs.

Once your detailed budget is in place, use it to guide you in financing your space.

Sorting out funding options

There are a range of ways you can finance the establishment and operational costs of your creative space, and you should be governed by what is appropriate, and possible, for your library service and community. Many funding options require forward planning, as does planning of building works, so even if you refine

your proposal later, ensure you secure funding well in advance of your implementation timeframe. Ensure you're clear about the goals and benefits of your space, so that you can promote these outcomes to potential funders.

Library budget

In low-cost creative spaces, you may be able to use an existing space and absorb staffing and initial supplies into your annual budget. If your project is simple and you'd like to get it off the ground quickly, it may be worth making some sacrifices in order to achieve this. Once your creative space is underway and you have some proven successful outcomes, you may be able to justify requests for increased budget.

For higher-end creative spaces, the financing of staffing, equipment and other costs will depend on the flexibility of your library's budget and making a strong business case that aligns with your library's strategic framework.

Familiarise yourself with your organisation's budget processes, especially if you're able to access council funds as there are different streams of funding potentially available.

Grants

Grants are available from a range of philanthropic and government bodies to fund establishment costs such as the purchase of equipment and building work, as well as ongoing operational costs like staffing, consumables and maintenance. The trick is to find a funder whose eligibility guidelines reflect the strategic aims of your creative space.

These websites are a good place to start:

- http://www.philanthropy.org.au/seek-funding/
- http://awardsgrantsproposals.com/insider-tips/list-of-australian-grantmakers/
- http://www.rosstrust.org.au (Victoria only)
- http://www.frrr.org.au (rural areas)
- http://www.ianpotter.org.au (Australia wide)
- http://www.johntreidtrusts.com.au/ (Australia wide)

Corporate sponsorships and community partnerships

Community engagement is key to the success of creative spaces, in terms of setting them up, running activities and creating an active group of users. Community partnerships can be made with local groups, clubs and individuals, and corporate sponsorship can be sought from local businesses. It may also be possible to partner with another department within your organisation, for instance a Youth services or Arts & culture department. Utilising these groups can help lower your costs in a range of ways.

These groups or organisational departments may have equipment they can loan you, or you might be able to work out a co-tenanting agreement where they use your space (or you use theirs) in return for housing the equipment. They may also be able to fundraise for you or make in-kind or cash donations. Community volunteers can also alleviate your staffing budget while bringing a rich array of skills and experience to your creative space. (Note that volunteers, like staff, come with their own recruitment and management considerations – see page 32).

Fee for use

There are a number of options for structuring fees, including:

* covering costs only ('pay the gap') – for certain materials (eg 3D printing plastic) or for class tuition
* charging full fees for classes
* charging for open-access workshop use.

Your financing model could subsidise amateur use, classes and materials by charging fees to small business and entrepreneurial users for space use, classes, tutoring support and materials.

When considering implementing fees, you may also think about charging only certain demographics. For example, you may not charge children and teenagers plus those with a concession card, but charge all other adults. This same thinking can extend to what kind of audience a particular activity or event is targeted at, where you will need to consider if that audience would be able to afford the fee.

The "freemium" concept is another fee for use model that can be implemented successfully in creative spaces. This is where basic access to a tool or resource in your space may be free, but additional supplies may have a cost. This works particularly well when you have a tool that has expensive consumables.

Pay the gap

As suggested in Libraries 2030, a 'pay the gap' fee may be appropriate for the services you plan to provide. This financial model, if implemented well, could mean that your space will remain sustainable even if budget flows tighten. If you do decide to charge a fee, do so from the start, and be clear about its purpose (e.g. '$5 fee to cover cost of materials') as this may help convince those who are used to their public library providing services for free.

Depending on how you have moved through the different phases of activity, at this point you may need to return to earlier decisions and plans and fine-tune them in accordance with your budget and project timeframe. You may already have done significant groundwork on some of these components during your discovery and planning stages, or you may need to now flesh out the details from a skeleton plan so you can move forward.

Staffing your space

Staff

Developing a staffing plan

Your staffing requirements will depend on the type and size of creative space you establish, as well as your budget. Some lower-budget spaces with minimal high-tech equipment may be able to operate with current library staff (with or without extra training), while other spaces may need extra, specialist staff recruited and trained. In both scenarios, it may be possible to support library staff with paid sessional teachers or facilitators and/or volunteer sessional teachers.

Spaces such as the Edge have leveraged a multidisciplinary approach to their activities and staff, with scientists, artists, librarians and others working together to create exciting programming. Even on small budgets, diverse community teachers can bring this cross-disciplinary approach into the mix for you.
Note also that a creative space can also be unstaffed and still be successful. Mill Park Library's Maker Space is an example of this. The space is open and flexible and the needs of community members determine how the space is used.

Staffing considerations may need to be explored and put into play well in advance to meet budget cycles and recruitment timelines, and satisfy human resources requirements.

Library staff

Gaining staff buy-in

No matter what your staffing model looks like, it is important to consult with your entire library staff about the creative space concept, and support them as they come to grips with change, whether they work in the space or not.

'*When creating new spaces in libraries, staff involvement and 'buy in' is integral to the success of reinventing roles and service models.*' [ix]

Ensure that library staff are actively involved in the implementation of your space. Consult your staff in the same way you have consulted with your community. What aspects of a potential space excite your staff? Does anyone have a particular interest or skill? Harness the power of the hidden talents of your staff. You might obtain valuable information, know-how, and in the process find some of your most valuable advocates. You may also find that your staff are as curious as the wider community.

Expect that some staff may show resistance to the creative space concept. Change can be difficult, and creative spaces are a shift in focus that may be perceived as something outside of the responsibilities of libraries. It is important to support all staff with appropriate and comprehensive training, and to allow them to play and get to know the fundamentals of the basic technology that the community will be using.

In their 2013 article '*A place to make, hack, and learn: makerspaces in Australian public libraries*', Dianne Slatter and Zaana Howard describe four tactics originally outlined by Agocs to help achieve staff buy in to organisational change. They are eminently applicable to creative space scenarios:

- 'Creating allies within the organisation: garnering support from a few key individuals can help successfully promote change.

- Endorsing change: by explaining the reason for the change as well as the benefits of doing so, staff support is more assured.

- Utilising existing resources: familiarity with current procedures and materials has multiple benefits, including support from upper management and cost reductions.

- Mobilising politically: leveraging support from upper management is crucial to successful change, as well as gathering community support.' [x]

Consider allowing staff to attend some creative programs as a member of the community and to collaborate and learn from others who have come to collaborate, experience and enjoy the space.

Encouraging and rewarding innovation within your staff is seen by many   successful creative spaces as key to being able to facilitate creative opportunities for the community. Keep this in mind when recruiting and planning how your staff will work in your creative space. Bear in mind also that creativity is an essential skill for staff to develop when deal-

> '**One of the most important contributing factors to the FFL's (Fayetteville Free Library Fab Lab) success is the culture of innovation that requires the team to think beyond the limitations of the past and to imagine a new vision for the community.**'

> http://thedigitalshift.com/2012/10/public-services/the-makings-of-maker-spaces-part-3-a-fabulous-home-for-co-creation/

ing with both the problems and opportunities that may arise.

Developing a creative space requires a lot of energy, creativity, problem solving, advocacy, change management and communication from staff. Ensure there is adequate forward planning, budget and personal support to avoid staff burnout or overload and to keep the momentum going.

Recruiting staff

When looking for staff, Nathan Connors, of Melbourne Library Service, suggests that you:

- Think about what it is you want to achieve with your creative space and search 'outside the box' for the skills required to deliver these objectives.

- Look for people who have delivered similar projects to the ones you wish to accomplish.

- Don't shortlist people solely based on their resumes.

Volunteers

If your library allows for the use of volunteers, they can be a rich addition to the skill sharing and collaboration in your creative space, either through programmed teaching of activities or being on hand in a space as mentors.

Recruiting volunteers

Creative spaces encourage volunteering as a natural by-product of collaboration; however, you may have to look for and more actively recruit community experts. Your promotional activities should help to raise their awareness of ways they can connect and share their skills with the wider community through your creative space.

Refer to your analysis of community needs and existing community programs to identify the types of volunteers you wish to attract. If you want to recruit someone with a particular skill set, create a position description and advertise for this role, like you would for a vacant position.

Don't overlook teenagers as a great source of volunteers. Finding out what teens are interested in and getting them to lead activities in these areas allows them to become the experts. As it is often hard to engage with this demographic, creating an opportunity like this can help give them a real purpose in the library.

Inducting and training volunteers

Make sure you have a clear volunteer policy or agreement, so that all parties are aware of their rights and responsibilities.

It is important to include volunteers in the running of your space. You should consider offering similar training to that of your staff to allow them to navigate through the new technologies or disciplines with ease.

Be open to suggestions, such as program ideas, that volunteers may bring to you.

An excellent resource to view is *The ProTeens Tool Kit* (http://proteens.net.au/tool-kit/), a recruitment and induction manual to help libraries engage young people as volunteers.

The Public Libraries Victoria Network website has useful information on volunteers in libraries, with

examples of policies, information kits and position descriptions:

http://www.plvn.net.au/node/100/

Promoting your space

Start early

Marketing and promotion of your creative space is important. It should be part and parcel of your overall community engagement strategy, beginning during your planning stages as well as being targeted around key programs, events and news once your space has opened.

Be clear about your aims

Your promotional needs will vary during the life of your space, but in general your aim should be to alert your community (including your library) to the benefits of your space, its equipment and programs, and the results of people's making activities so:

- your space, activities and equipment are well patronised

- you can recruit volunteers or paid teachers from your community

- you can establish partnership, donor and sponsorship opportunities

- you can hear feedback and ideas about your classes and equipment so they continue to reflect the community's needs.

Use different kinds of promotional tools

Promotion can include traditional advertising, flyers, media releases and radio interviews, digital marketing, social media, meetings with community groups, invitations to see and use your space, and
requests to visit other maker spaces.
Utilise your web and marketing departments
to create effective promotional campaigns.

Promote widely

You should promote your space to your local maker community, local schools, universities, businesses, groups and individuals. Get involved with local maker groups – promote their activities and events as well as your own, and participate in activities and projects with them. This will benefit your creative space.

'Having a designated area in which to display children's maker space creations is wonderful. It advertises the types of maker activities other library customers could enjoy and it allows the makers to feel pride in both their creations and the library'

Adam Koester
http://www.showmelibrarian.blogspot.com.
au/2013/10/my-maker-philosophy.html/

Promote the making

Sharing the creative efforts of participants

makes for great marketing to the community. Create a display space in the library for people to showcase their projects or take photographs and share on social media sites such as Facebook.

Some social media tips

As well as using more traditional forms of marketing, Nathan Connors from Melbourne Library Service (MLS) recommends also adopting the following social media approach, in order to target specific audiences with information that is relevant to them:

> **'In terms of training, there are so many different skills with creative technology and it is almost impossible to find someone who possesses them all. For this reason, search for someone who is likely able to learn new skills easily and who has a general understanding of many things.'**
>
> **Nathan Connors, Melbourne Library Service**

- Utilise Twitter effectively, including establishing and utilising # tags and @handles, continually adding more people to follow, including individuals, and integrating Twitter into events and programs.

- Using Facebook as a place for conversations and further growing a fan base. Also using Facebook advertising to target specific audiences for programs and events, especially related technology and creative programs.

- Building a repository of images and documentation of events to showcase the ongoing excitement of programs at the service. This could also be integrated with a blog.

- Having multiple enews channels that deliver different types of news stories, for instance, MLS produce Library at The Dock Tech and an MLS Update as separate items.

- Creating a strong and appealing visual identity for programs.

- Using a registration system that allows for effective social sharing for participants and is easily managed by MLS to produce detailed reports.

- Producing ongoing customer feedback surveys for all workshops and programs.

Other public libraries, such as Fayetteville Free Library and Ipswich Library, utilise Pinterest to communicate not only with their own local community, but also to engage with the online community, to share ideas, to show images of their programs and to inspire others. Fayetteville and Chattanooga Libraries use Flickr to the same end. Keep in mind that your library's privacy policy may require that you gain patrons' (and children's parents) permission before you publish images on the web.

Evaluating and maintaining your space

Toolkit, part 2

Despite the best intentions, even the most carefully planned creative spaces will invariably change shape during their life. And this is a good, albeit challenging, thing; you don't want a static, unresponsive space that no longer meets your community's needs.

But how do you tell if you've gone out of style like last year's fashions? Reviewing and evaluating regularly will help answer this question and allow you to make continuous improvements along the way to ensure you're actively maintaining your space to meet your community's needs.

Evaluating your space

Build evaluation into your planning
Evaluation is best thought about from the early planning stages of your creative space project, and your ideas about how you will measure success should guide you as your space evolves. Ask yourself how you could evaluate your space. How often? What factors would be indicators of success?

You may wish to use statistics to indicate the number of people through the door; however, remember that creative spaces are about the experience. It will be important to regularly capture qualitative experiential data about your space and users via written or verbal feedback, or short surveys.

Ensure you measure the benefits your space is creating as well as user satisfaction rates – along with any other metrics that reflect your goals. Successful, ongoing engagement with your community is critical, whichever point you are at in your creative space lifecycle, so some kind of evaluation around this will also be important to measure. It is notoriously difficult to measure benefits and impacts on the community. For example, how do you tell if a large visitation rate is more meaningful than a smaller but potentially more engaged audience.

Evaluation should tell you not just about your space and its users, but also the general environment in which your space is operating. So stay up to date with the external factors that shape its success. Determine what changes there have been in creative space trends, your community and its needs, your library's strategic aims and budgetary context, and broader library strategy. Use this information together with your other data to reflect on your goals.

It's also important to listen to your community outside formal evaluation activities and be able to respond to emerging needs. Allow some room in your budget, space plan and programming to do this.

Goals, targets, objectives

In our 'Selecting the right type of creative space for your library' section, you will have set out your goals and objectives for your creative space. Take these and develop them into some specific, but flexible, targets. For example, you may aim to have three groups using the space on a regular weekly basis by the time your space has been open for a year, or you may aim to have a particular piece of equipment (maybe that 3D printer!) booked for a certain number of hours each month. These specific goals don't need to be set in stone – you may want to tweak them once the space is open and you see how the community responds.

When it comes time to measure up how the space is going, don't look at the goals and objectives as being absolutely a yes or no in terms of achievement. For instance, it may be that though you don't have three groups using the space on a regular weekly basis, you may instead have six groups who each book the space out for three evenings each month.

As with anything new, you won't be able to predict exactly how things will pan out, so for your first year at least don't set yourself up to fail with unachievable goals. Use the goals to keep you focused on what you want to achieve with the space, then reassess after the first year and adjust your goals accordingly.

Statistics, statistics and more statistics

From the outset, it's good to keep statistics. Statistics can come in handy in all kinds of ways, so have a think about what statistics you can collect and how you will collect them. This can range from simple 'people through the door' counts to how many hours a particular piece of equipment is used, to how many community group partnerships you form in using the space. You might want to keep track of particular age groups that are using the space, or what hours of use are most popular. Create a spreadsheet for yourself and add to it as the space develops, keeping in mind what specific statistics might come in handy for you – for example, if you are looking at justifying spending some budget on a youth event, you may want to use statistics of how many young people per week are already using your creative space. Statistics will come in handy in all kinds of ways!

Surveys

You may have already surveyed your community when investigating your demographics, but surveys in various forms are a staple of evaluation also. However, to get the most out of your survey results you need to put some careful planning into what your survey will actually ask.

Keep your evaluation simple and targeted so that you get the feedback you need in order to assess what is and isn't working for your space. Go back to your initial planning and look at your original goals and aims, and the basis on which you justified the need for a creative space in your library. To assess whether the space has achieved these goals, shape your questions around these outcomes. For instance, if you aimed to help build small business in your community through skills learnt in your creative space, you may ask whether respondents have learnt specific skills which they have gone on to further develop into their own small business. Be specific with your questions, but also allow room for the respondent to give more information if they would like.

A further consideration when developing survey questions is to include your 'baseline' questions. These will be consistent questions that you include each time so that you can draw direct comparisons between regular surveys. For instance, you may want to have a question around age ranges if your goal is to increase the number of youth using your creative space in the following year.

Keeping a survey concise and as quick and easy as possible to complete will encourage people to respond more readily. Also, have a think about the best way to deliver your survey to make it as easy as possible for your community: sometimes just a quick chat with staff taking notes is much more effective than a written survey.

There may be someone within your organisation who can give you some good advice in shaping your survey – for example, many local governments have staff who specialise in demographics and social research who are very knowledgeable about survey implementation. If not, there are a number of online resources you can access – see our Appendix for some starting points.

Reassessing and re-establishing your goals

With your information gathering complete, take some time to analyse the data you have gathered to see what improvements you can make to how your space works. Revisit your goals and set new ones for the coming year so that you can continue with your ongoing evaluation. (Ensure that the metrics you are collecting reflect your new goals.)

Use the information you've collected to make decisions around updating your equipment and activities, tweaking your staffing and even looking for new ways to fund your space.

Maintaining your space

Just when you thought the job was done – it's not! It takes ongoing energy, good planning and evaluation, not to mention sufficient budget, engaged and supported staff and an enthusiastic community, to maintain a successful creative space.

Aside from the more formal evaluation discussed above, you will find that from day one of your space opening you will be making numerous day-to-day ad hoc evaluations as the space evolves. This will form the basis of your ongoing maintenance. Stay flexible and open to how the community responds to the space so that you can easily make small changes as needed, as this will ensure that your space remains sustainable over time.

Some general principles that may prove helpful include:

- keeping a clear focus on forward planning
- prioritising continuous improvements
- developing your staff and volunteers
- collaborating with your community
- advocating widely for the importance and benefits of your creative space.

There are a number of specific ongoing maintenance considerations to keep in mind, depending on the size and scope of your space.

Staffing

Depending on how your community ultimately engages with your space, you may find that your initial staffing plan doesn't quite fit. It may be that the community is far more self-sufficient that you anticipated, or you could find that you need more staff input than you budgeted for. If the latter is the case and you don't have room to move budget-wise, consider some more cost-effective options such as volunteers or partnerships with community groups (e.g. you provide the space, and the group provides the facilitator).

Equipment and activities

When you first selected your equipment, your budget would have taken into account potential ongoing consumable or maintenance costs. These can change over time, however, and you may find some equipment is no longer financially viable for your space – software upgrades in particular can be a maintenance cost that snowballs. Take this into account when evaluating your space, as ultimately you may need to balance up the ongoing costs of different pieces of equipment to decide which to prioritise.

When a piece of equipment reaches the end of its life and requires replacement or significant repair, this is also a great opportunity to look at current trends and consider whether it is time for a change. Keep informed about emerging technology and creative trends and pass this knowledge on to your community too, so they can feed into your decision-making process. Don't be disappointed if something that has worked really well at other creative spaces doesn't mesh well with your community, requiring you to change your space around; each community has its own unique needs.

Finally, when considering ongoing maintenance to equipment and activities, it is worth remembering that despite the best planning it can be almost impossible to escape fads and trends. Things that seem of the utmost importance to the community one year may fade away the next. Consider, for instance, loom bands. If you are reading this in 2014, you may have crowds of primary-aged children enthusiastically making endless loom band creations – but in 2016, you may not even be aware of what a loom band is. If something is clearly no longer of interest remain flexible and move on. Where you can, invest small and scale up as things look like they have longer-term interest to minimise your exposure to short-term trends.

Marketing and promotion

Even if your initial marketing and promotion was a success, reviewing and keeping this fresh is key to the longevity of your space. Investigate what new marketing tools are available, and don't be afraid to try new social media campaigns. If your organisation is hesitant about using emerging social media tools, talk to other libraries and see what social media marketing successes they have had to build up a justification for your library to follow suit.

It may also be useful to do a low-key survey using a white board or posters in your creative space to ask the community how they found out about it and allow them to write up their own responses. This can help shape your future promotional campaigns. If you are looking to target a particular demographic, it can also be very worthwhile to talk to certain groups – for example, parents attending your story times, or youth who come in every day to use your computers – to see where they most often access information.

Demographics

Keep building on your initial demographic investigations, and let it guide how your space evolves. For instance, if at launch of your creative space you had discovered that your community had a high number of families with primary-aged children, once the space has been open a few years it will probably be time to review and look at developing more opportunities in the space for teenagers to be involved.

Exploring fabulous creative spaces around the world

Innovation Lab

Where:
Adelaide City Library, Adelaide, South Australia

Budget:
High

Space type:
Dedicated, permanent space with flexible features

Features:
The Innovation Lab offers a social, collaborative, creative environment and provides access to 3x 3D printers, 5x 3Doodler Pens, 1x Laser scanner, 2x PCs and a laptop. They run maker sessions, meetings and trainings and collaborate with Fab Lab Adelaide (amongst others). The Adelaide City Library also have a Media Hub and a Digital Lab.

http://www.adelaidecitycouncil.com/your-community/library-services/home-library-service2/innovation-lab/

Fab Lab Adelaide
*non-library

Where:
College of the Arts, Adelaide, South Australia

Budget:
High

Space type:
Dedicated, permanent space with ongoing, adaptable projects
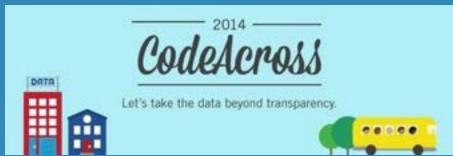
Features:
This is Australia's first fabrication laboratory (Fab Lab). It's managed by Australian Network for Art and Technology. It features 3 D printers (3D Touch, UP!, and 3 Maker Bot Thing-O-Matics) a laser cutter, milling machine, vinyl cutter, digital fabrication tools and soldering equipment. Trained and enthusiastic staff members offer in-house and external workshops.

http://fablabadelaide.org.au/
Image thanks to Geek Girl blog http://geekgirl.com.au/blog/2013/06/07/8285/

4TH Floor

Where:
4th floor of the Chattanooga Public Library, Tennessee, USA

Budget:
High

Space type:
Dedicated, permanent

Features:

This library has converted 14,000 square feet of storage space into a collaborative space which offers a plethora of ways to make, play, read and learn. Its resources include:

- 3D printers
- laser cutters
- sewing machines
- space for business meetings.
- cafe space including its own blend of coffee, aptly named 'Shush!'
- video and audio production software
- video games
- button makers
- zine library

Chattanooga offers space for female business starters to develop their business whilst their children are occupied in the library.

http://www.chattlab.org

Images courtesy Chattanooga Library
Image 1: http://chattlibrary.org/content/arduino-wants-meet-you,
Image 2: http://chattlibrary.org/content/4th-floor-launches-chattanooga-zine-library, Image 3: http://chattlibrary.org/content/codeacross-2014-coming-library

MakerSpaces Mackay

Where:
Mackay Regional Council Libraries, Queensland

Budget:
Medium

Space type:
Portable technology station

Features:
MakerSpaces Mackay provides young people (Ages 9-16) with opportunities to experiment with science and technology and to complete projects involving soldering, drilling and basic circuitry.

The aim of the space is to inspire young minds, to provide a place where they can 'tinker' and to help bridge the gap between more traditional activities, such as sewing and woodwork and newer activities such as 3D printing and robotics.

The makerspace rotates between the different libraries in the Mackay region, with sessions held each week. Participants have worked on various projects, such as Light Up Paper Houses, Squishy Circuits (Basics) and a Banana Piano. A more in-depth list of projects can be found on their website's 'Projects' page (http://www.makerspacesmackay.com/?page_id=451). Each project comes with downloadable instructions, so that they can also be attempted at home.

The makerspace was funded by the State Library of Queensland's Vision 2017 Grant Program: Creative Communities Spaces, with the grant totalling $24,900. The workshops are largely run by the Young Adult Librarian and volunteers. They are always on the lookout for more volunteers in the community, that have a skill they would be willingly to share. Volunteers need only have, or be willing to apply for, a working with children blue card.

http://www.makerspacesmackay.com/
Further Information: Mackay City Library (07) 4967 9387

Images courtesy of Makerspace Mackay
Image 1: http://makerspacesmackay.com/
Image 2: http://plconnect.slq.qld.gov.au/news/2013-news/mackay-makerspaces
Image 3: http://www.makerspacesmackay.com/?p=638

Craft and conversation

Where:
Werribee Library, Wyndham City Libraries, Werribee, Victoria

Budget:
Low

Space type:
No dedicated space – run within existing library space

Features:
Werribee Library began their monthly Craft and conversation program with the dual goals of providing an opportunity for the community to learn basic craft skills as well as a space for their multicultural patrons to practice English conversation. Ultimately, however, they have found that despite attracting a diverse cultural attendance, participants usually speak English fluently (but are still very happy to have a chat!). The program is aimed at adults and there is a maximum of 12 participants due to space, budgetary and staffing constraints. Usually different people attend each month, and it has become a great program for social inclusion.

The program has been built around the existing strengths, interests and skills of staff. Two staff run each session, teaching a different skill each month such as knitting, beading and cross-stitch. The staff running the program varies depending on the skill being taught.

The schedule of what will be taught each month is planned for a full year, and the program put on the library's events calendar so that the community can book in. Only basic skills are taught, and staff promote other library resources to encourage participants to develop their skills. Each attendee is provided with a kit of basic supplies for the session, for which the library budgets around $30–$40 per month. The library has also purchased some tools (such as a beading tool-kit) which remain at the library for use in the sessions. Tea and coffee is also provided.

http://www.wyndham.vic.gov.au/residents/culture/library/welcome

http://wyndhamlibrary.webwiredsolutions.com.au/web/webcal.php?event=view&event_id=3170&t=1403532000

The Library at the Dock

Location & library service:
Docklands, Melbourne Library Service (MLS), City of Melbourne

Description, definition and objectives of space
Melbourne Library Service describes the Library at the Dock as "a community hub enabling people to come together to create, explore, connect, belong, learn and participate" (MLS). The children's area, for example, embraces both traditional and innovative library resources and "encourages discovery through books and interactive technology." (MLS)
Nathan Connors, Creative Technology Activator, MLS, elaborates:
The new Library at The Dock will feature many multipurpose creative spaces. These include a 100 seat auditorium, outdoor games and activity zone, recording studio and music practice rooms, animation lab, PC and console gaming zones and a maker space. The dedicated maker space at the library is equipped for craft, electronics, basic manual arts and 3D printing.

Demographic:
The Library at the Dock provides a community hub for the Dockland's residents, those who work locally and visitors to the precinct. The library also offers resources and programs in anticipation that it may be a destination for creative community groups and others, for example, that teachers may travel to the Library at the Dock to attend PD seminars.

Flexibility of the space:
The Library at the Dock provides highly flexible spaces set to accommodate new ideas and promote creativity. Whilst there may be some limitations in terms of fixed furniture and technological assets, these creative spaces may be manipulated to accommodate a wide variety of programs and ideas.

Inspiration in creating the space:
The inspiration for the spaces we derived from the need to provide an integrated library and community space for the Docklands precinct. When establishing the new facility a lot of attention was paid to the types of spaces that would be required to build a state-of-the-art public space to support digital literacy, creative technology and innovation. The key deliverables are to support councils 2013-17 goals of being a city for people, a knowledge and creative city.
Nathan Connors

Partnerships:
The Library at the Dock is described as a "tri-partnership between the City of Melbourne, Lend Lease and Places Victoria" (MLS). Connors elaborates:
Partnerships are a key component in successfully delivering programs for creative spaces. We have a number of partnerships in place with suppliers and external companies and individuals to help us achieve our goals. These relationships have been fostered in the usual way, by promoting the goals of Library at The Dock and finding mutually beneficial arrangements.

Timespan:
The Library at the Dock is set to open on 1 June, 2014. The creative spaces and resources provided by the service are ongoing.

Recommendations:
It's all well and good to offer the public high-tech spaces but they need to be supported with funding to deliver programs that support them. Often these require utilising outside experts to fully deliver programs that can achieve outcomes. Also, a cost recovery approach where participants pay for the materials they use has to be considered as many technology workshops require the use of equipment that is more expensive that traditional disposables that can be absorbed by the budgets of the organisation. This conversation is ongoing, but is an important one, to be able to sustain a rich programming and activation offering for the public.

City of Melbourne Library Service: The Library at the Dock
http://www.melbourne.vic.gov.au/MelbourneLibraryService/aboutus/Pages/Docklands.aspx

This case study has been completed with the assistance of Nathan Connors, Creative Technology Activator, Melbourne Library Service:
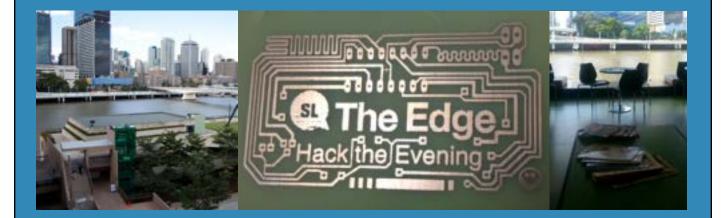nathan.connors@melbourne.vic.gov.au

Images:
http://http://www.melbourne.vic.gov.au/CommunityServices/CommunityFacilities/LibraryAtTheDock/Pages/About.aspx

The Edge

Where:
State Library of Queensland, South Bank, Brisbane, Queensland

Budget:
High

Space type:
Dedicated, permanent space with ongoing, adaptable projects

Features:
This ground-breaking space has a 200-seat auditorium, 3D printing, workshops, exhibitions, activities, and 3 dedicated labs (screen and sound, mobile and physical, record and mix). There is also a mezzanine and an outdoor plaza area. The space is focused on empowering through experimentation and staff-run courses in coding and development, video and audio production, fabrication and design.

Objectives:
To empower creative experimentation across art, science, technology and enterprise. To engage young people, 15–25, in a library service.

Users:
The Edge caters for a wide range of audiences, who have grown and changed as the space grows and changes. At the outset, The Edge was envisioned as a space for 15–25s, an audience that the State Library had historically had difficulty engaging. Soon after opening, however, it became apparent that our programs and services had broad community appeal and The Edge today enjoys working with a wide range of audiences.

On a daily basis we will see students and co-workers take over the window bays, and life-long learners, students and professionals alike flock to the programs and workshops run on a weekly basis. Designers, programmers, developers, musicians, producers, technologists and hackers all find a place in the meet-ups run by The Edge.

In partnership with community organisations we also deliver a range of programs throughout Queensland, working with marginalised communities, including recently arrived refugees and at-risk youth.

Alongside individual users, The Edge also invites corporate and community organisations to host their events at The Edge. These events are supported by our experienced front of house and technical teams.

Since opening in 2010 The Edge has seen 380,000 visitors to its spaces, programs and events and these figures continue to grow.

What it offers:
The Edge is a visionary space for 'creating creatives'; a melting pot of ideas and innovation, capacity-building, experimentation and innovation.

At our South Bank base we offer a range of facilities for public use. Like a traditional library, The Edge provides places to meet with friends, colleagues or collaborators over a coffee. There are also opportunities to connect to new networks and opportunities through meet-ups and projects.

Our offer, however, is particularly well suited to those who want to learn and create. Media labs provide specialist facilities, free of charge to the public. The Digital Media Lab offers high-spec Mac computers, complete with professional-standard software for graphic design, video editing, web and app development, and sound recording, editing and mastering. Each computer also provides access to lynda.com, a vast online library of video tutorials. This space is also a heavily used teaching space, with free introductory classes offered twice a week, providing learning opportunities around much of the specialist software.

Our recording studio is one of the only free recording spaces in the city, accessible to anyone who has completed a studio induction. This space can be used for music recording, mastering and mixing, as well as the production of podcasts, or audio for film.

Our fabrication lab, while not yet an open-access space, provides power tools, soldering irons, 3D printers, sewing machines and more for use in hands-on workshops. This space is also home to a weekly makers meet-up, Hack the Evening, who are given access to the tools and expertise of staff to pursue projects and collaborations.

These venues, as well as a 300m2 auditorium, a mezzanine and an outdoor plaza area, are all on offer to venue-hire clients looking for a space to hold their events and programs.

The Edge team also offer fee-for-service programs, making their expertise, programs and technology available to organisations across the state. This could see a team delivering a 45-minute ring tone workshop for a group of teenagers at a public library, or an ongoing ICT self-sufficiency program with kids in detention. Each offer is tailored to take advantage of the expertise of the team and the needs of the client.

Since opening, the team has presented over 1300 programs to 28,000 participants. In real terms this now equates to 40 programs per month to meet community demand.

Building and equipment:
The Edge's public spaces demonstrate an evolution of the library building. Media labs, a recording studio and fabrication space provide free, public access to specialist facilities. Visitors can access professional software for projects in design, video, sound, web and app development, and 3D modelling. Hardware such as 3D printers, power tools, sewing machines, microscopes, telescopes and microphones enable the community to design and deliver projects across creative disciplines. Spaces for performance, presentation and collaboration are also available.

Opening from midday until late, The Edge greatly improves access to library services for the local maker community, providing weekly meet-up groups such as Hack the Evening with the space, equipment and connections to plan and deliver interactive, technology-based projects.

Staffing:

The Edge team is quite small. 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 all the equipment in the space is in working order.

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 given to early-career arts workers. Catalysts and Residents also join this team on a seasonal basis. 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 period of time, and also accommodate community engagement in their practice.

The communications team then translates the efforts of each team 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.

Material charges:
This varies depending on the workshops delivered. However, charges are kept low to enable inclusivity and accessibility.

Success/outcomes:
Successes for the team are both big and small. Some day's success is just getting people to turn up to a workshop. On other days it's finding an educational rationale to shut your building down for a zombie apocalypse alternate reality game.

Building a business model that is sustainable and promotes growth has also been a key outcome for the team. From the outset The Edge was encouraged to be entrepreneurial, with revenue targets built into baseline budget requirements. The Edge mixes revenue from venue hire, a cafe, programs and fee-for-service with core funding to ensure that operations are scalable and sustainable.

Nationally and internationally, The Edge is now viewed as one of the most innovative library models. Recently, in her opening address at the 2013 annual World Library and Information Congress in Singapore, IFLA President Ingrid Parent singled out The Edge as one of two noteworthy libraries internationally, offering unique services to their users and communities.

The Edge has also been recognised with the 2014 American Library Association Presidential Citation for Innovative International Library Projects, a first for an Australian institution.

How the space was set up initially:
The Edge was conceived by the State Library of Queensland (SLQ) as a digital culture centre, focused on creative communities pushing the boundaries of aesthetics, design, social action, green initiatives, and broadcast through new tools and technologies. The Edge development, driven by Tory Jones, the Director of Strategic Partnerships and Projects and State Librarian Lea Giles-Peters, was designed to further the commitment of SLQ to knowledge-sharing and access to resources. It was to have a strong focus on state-of-the-art tools and technology, as well as globally significant research, production and presentation opportunities.
The Edge was a cornerstone of the arts, culture + me, Action Plan for Children and Young

People in the Arts 2008–2011. The Edge's target audience was initially scoped to be 15–25 year olds, as SLQ also recognised that the way it engaged with young people needed to be developed, satisfying more than just their need for internet and study space.

From January to November 2008, a fluid mix of staff and consultants worked to manage the building fit-out design and specification and set up the model and systems for the effective operation of The Edge. This interim project team included several SLQ staff seconded from other parts of the library, the Queensland Government Chief Information Office, Arts Queensland and the Queensland Academy of Creative Industries, with specialist direction and input from consultants who had skills and expertise not available in-house.

Transformational building works began on the former Queensland Theatre Company auditorium building adjacent to the State Library at South Bank in 2009. This building had already lived a thousand lives, as the Fountain Room Restaurant, a prop store house and a space for library collections and staff, and it was about to take on yet another role as a centre for digital experimentation and experiential learning in Brisbane.

The Edge officially opened on 26 February 2010 and the opening was attended by the Queensland Premier Anna Bligh, the State Librarian and Library Board Chair and over 400 invitees. The opening event included a media preview, VIP Launch and public opening, and was attended by 30 members of the news, entertainment and street media, and included representatives from Arts Queensland, state and federal MPs, external consultants, and creative industries representatives.

Thank you to Annika Shelley, General Manager of The Edge, for generously providing this case study.

Image 1, 3: http://edgeqld.org.au/
Image 2: Michelle Collins
Image 3: http://edgeqld.org.au/catalyst/2014/02/06/pcb-making-fun/#prettyPhoto
images 4, 5: http://edgeqld.org.au/news/2014/03/23/day-1-communications-in-the-cage/#prettyPhoto

Fayetteville Free Library (FFL)

Location & library service:
Fayetteville Free Library, New York, USA

Description, definition and objectives of space:
The library initially provided a mobile maker space while it developed its permanent space, tools and programming. It currently offers three dedicated maker spaces and runs hands-on activities:

- **Creation lab (approx 250 sq ft) – focuses on digital creation, open during library hours**

- **Fab Lab (approx 2500 sq ft) – focuses on fabrication of tangible objects, open 40 hours per week**

- **Little Makers space (approx 250 sq ft) – a free play area that enables children to imagine, create and build**

Demographic:
As a free public library, Fayetteville Free Library's three creative spaces are open to the whole community. Their digital media Creation Lab and Fab Lab are for adults and children (with some rules around supervision and equipment use of younger participants), while its free-play Little Makers space caters for children 5–8. Their hands-on programs are tailored for all families and all ages, elementary schoolers, middle schoolers, teens and adults. They also run teen maker clubs.

Flexibility of the space:

The library's equipment and tools now include:

- **4 x 3D printers and a 3D scanner**

- **Laser, vinyl and paper cutting equipment**

- **Sewing equipment, including 6 sewing machines**

- **A wide array of crafting tools including crayons, sketch pads, paper punches, jewellery-making tools and knitting needles**

- **Hand tools such as hammers and screwdrivers**

- **Electronics tools including soldering irons and Arduino boards**

- **PC, Mac and Raspberry Pi machines**
- **STEM learning kits**

- **Software programs for 3D modelling and printing, vinyl cutting, technology learning**

- **Maker items for children, including MaKey MaKey kits, Bionic blocs, Snap Circuits and Lego**

The library also offers kits and tools for 21-day loan.
Users must abide by user agreements and safety rules, and participate in equipment orientation sessions.

In addition to access to Fab Lab and Creation Lab equipment and tools for self-directed making, current instructor-led activities include sewing classes, building and programming LEGO robots, 3D printer and vinyl cutting classes, quilting club nights, 3D design classes, upcycling craft nights.

Partnerships:
FFL is actively involved with the local community (and broader maker community) to secure funds, expert teachers and users for its maker spaces.

Recommendations:
The Fayetteville Free Library's Fab Lab's successful operation offers some useful principles for Australian library creative spaces. One is the importance of fostering a culture of innovation, trust and risk taking among staff in order to create new ways of serving the community. Another is active involvement with the local community (and broader maker community) to secure funds, expert teachers and users for its maker spaces.

http://fflib.org/make/ffl-fab-lab/; 300 Orchard Street, Fayetteville, New York, 13066,

information@fflib.org

MAKlab Personal Manufacturing and Digital prototyping
*non-library

Objectives:

MAKlab is an open-access digital fabrication studio, providing low-cost access to equipment, advice and skills. It is focused on industry and the creative economy; it nurtures local maker–entrepreneurs in order to support innovation in Scottish industry. By reducing capital costs (and risk) for designers and makers through access to prototyping and manufacturing equipment, it supports 'start-ups to develop, grow and bring innovative services, products and ideas to the forefront of Scottish industry.' (/about page)

Users:

MAKlab primarily services the local Scottish creative and design community, in particular those setting up new businesses and developing products for market. It also offers classes to the general community.

What it offers

MAKlab offers workshops in areas such as technical training, making vinyl decals, jewellery CAD, Arduino boards, laser cutting, python programming, tablet/phone case making and thermo-chromic dyes printing. Its equipment includes 3D printing and scanning, CNC mills, CNC router cutting, electronics, vinyl cutting, vacuum forming, digital embroidery, textiles and heat press.

Partnerships:

MAKlab was established in 2012 and is part of the global MIT Fablab family of creative spaces. It is supported by Creative Scotland and Social Enterprise Scotland, and was originally located at The Lighthouse, Scotland's Centre for Design and Architecture.

Budget

MAKlab is a registered charity, supported by Creative Scotland and Social Enterprise Scotland. It has received £100,000 from Google's Global Impact Challenge to expand to other UK cities and has also utilised crowd-funding Kickstarter campaigns to fund their needs.

While an open-access organisation, it charges (at competitive rates) for use of its facilities. Its operating model utilises memberships, fee-based workshops and equipment usage charges.

Memberships
- **Individual Membership – £144 per Annum**
- **Student Membership – £72 per Annum**
- **SME Membership – £432 per Annum**

Workshops:
- **Standard workshop (£15)**

Equipment charges:
(As at September 2013)
- **Laser Cutter 900x1200mm (£40 per hour)**
- **Plasma Table 1200x1200mm (£60 per hour)**
- **CNC Mill 200x200x120mm (£20 per hour)**
- **Micro CNC Mills ((£10 per Half Day)**
- **3D Printers (£5 to £50+ depending on model)**
- **3D Scanners (£20 per Half Day)**
- **Vinyl Cutter 600mm (£10 per Half Day)**
- **Heat Press (£10 per Half Day)**

Staffing resources:
MAKlab operates with 9 staff. It is unclear what the salary costs are:
Founding director (strategic planning and operations), studio director (oversees studio environment), technical manager (trains members, delivers tech projects), studio assistant x 2, workshop assistant, manufacturing advisor, jewellery trainer, workshop/computational design mentor.

Success/outcomes:
It is difficult to ascertain how successful MAKlab has been in delivering innovation and manufacturing growth to the Scottish economy, but it appears to be operating successfully and attracting the clientele it is targeting. The space has successfully raised money from the community through Kickstarter and has attracted significant funding from Google and key Scottish philanthropic bodies. It was originally located in Glasgow's globally renowned Lighthouse design centre, and has since expanded to larger premises in Glasgow. It is also planning expansions to London and other UK locations.

Best practice recommendations:
Two areas of MAKlab's successful operation offer useful principles for Australian library creative spaces. One is that strategic partnering with relevant organisations is important for both securing funding and reaching target maker audiences. The other is utilising passionate staff, who are experts in their fields and involved in the creative economy outside MAKlab.

http://maklab.co.uk/
Charing Cross Mansions, 30 St. Georges Road, Glasgow, G3 6UJ

Images: http://maklab.co.uk/

Mill Park Library Maker Space

Hill Park Library
May 7

Did you know we have a 3d printer at mill park??

Location:
Mill Park, Victoria

Objectives:
'The idea of Mill Park's Maker Space is to provide resources and technologies not readily available to the general public, a space where resources are available for patrons to make things'. xii

What it offers:
The space contains a 3D printer, video camera and computers that are installed with creative cloud software. There are also iPads, but these need to be requested from staff.

The library also purchased six Makey Makey kits, to be used in school holiday activities.

Budget:
The library received a $5000 grant to fund the maker space. This grant money was spent on purchasing the technology and equipment required. The physical location of the space had already been identified, with the library transforming an underutilised area of the library.

Staffing:
There is limited staffing required within the space. The space was set up so that users could simply come and go and use the space for whatever purpose. However all staff at the library received training in the use of equipment on offer, so that troubleshooting assistance could be provided, if called upon
When the space is used to run information sessions (such as 3D printing) or school holiday activities, then these are staff driven.

Partnerships:
The library has developed a partnership with La Trobe University's Department of Electronic Engineering, with students acting as mentors in the maker space and facilitating programs.

One such program was the 'Let's Get Creative; iPad Games Development' , held in April 2014, which saw representatives from the University running a two hour session at the library on how to develop software.

Success/outcomes:
The space appears to be quite successful, with the library advertising the space and associated events on their Facebook page and working in conjunction with Latrobe University to offer in-depth programs. The library has also set up their own YouTube Channel, showcasing projects from their stop motion animation workshops.

http://yprl.vic.gov.au/
Mill Park Library (03) 9437 8189

MILL PARK LIBRARY
MAKER SPACE

Images 1, 2 https://www.facebook.com/pages/Mill-Park-Library/471783789617341
Image 3 http://yprl.vic.gov.au/about/whats-new/library-news/maker-space

Wyndham YRC Rehearsal Space

Location:
Wyndham City Council's Youth Resource Centre, Hoppers Crossing, Victoria

Description, definition and objectives of space:
To provide an affordable band rehearsal space for young people in Wyndham. The room is soundproofed, so it doesn't impact on the other services/facilities offered within the Youth Resource Centre. A six month membership for a band to use the room costs $100, with hire of a drum kit, guitar and bass amps costing $10 each for six months. The room is equipped with a 16 channel mixer, power amp, microphones and CD Player. It is open 7:30am - 10pm 7 days a week. Each year roughly $1000 is spent on maintaining the space, with improving, repairing, or replacing equipment the most costly aspect.

Demographic
The room can be booked by youth aged 12 - 25, and they must live, study, or work in Wyndham.

Flexibility of the space
The room has also been used as a photography and film studio by young people.

Inspiration in creating the space
One of the most popular facilities at Wyndham's previous Youth Services location was the band rehearsal room, so when the new Youth Resource Centre was built in 2001, the rehearsal room was included from the start.

Recommendations
Youth Services are finding there is an increasing demand for DJ equipment, which could be incorporated into the space. A further improvement would be to include full facilities within the room to enable bands to record their music.

http://youth.wyndham.vic.gov.au/centre/facility_hire
http://youth.wyndham.vic.gov.au/centre/band_facility

Clarinda Community Centre and Library

Location & library service:
Clarinda, Kingston Library Service

Definition and objectives of space:
The Clarinda Community Centre and Library facilitates a variety of programs which further the social inclusion and participation of the community, from cultural events and festivals to art, craft, knitting and crochet. A craft market is held on the 4th Saturday of every month.
A multipurpose room attached to the library is a shared space which is used by library patrons for reading and studying when not being used for more creative purposes such as WEAVE (pictured above), Book Bugs (a children's book club) or as a dance rehearsal space. The room is often used as 'a mobile office' by local freelance workers and small business owners and is also available for the public to hire for meetings, parties and, reflective of the demographic, multi-cultural celebrations such as African betrothal ceremonies.

Description:
The main creative space is a large multipurpose room with small kitchen and lots of storage cupboards attached to the library, with access to a small outdoor area. The room is furnished with moveable bench seats on wheels, collapsible tables, and has many power-points. The space may be divided in two by a divider wall ensuring library patrons space to study and read whilst an art group is facilitated on the other half of the room. The furniture is versatile, on wheels and light weight so it can be removed with ease if necessary. Two sliding doors open to make the space available to library patrons when not in use by creative groups or playgroups.

Space type:
Flexible, permanent space

Example of a project run in the space:
Local artist, Janis Morgan, received funding from a Kingston City Arts grant to run a variety of workshops entitled WEAVE. The workshops ran weekly and ranged from crochet for teens to quilting for adults. At all the workshops a loom was set up and members of the public were invited to weave threads through a communal tapestry which Janice will complete and hang in the community centre, symbolic of the many individuals who come together as a community in this space.

Demographic:

The Clarinda and Clayton South community is rich in diversity. The community includes many migrants, refugees and culturally and linguistically diverse (CALD) families. Whilst there are many young migrant families in the area, there is also an aging population. This is reflected in the social elderly citizens groups which meet regularly in the centre which include Greek, Italian and Chinese groups as well as the New Hope Grandparents Group.

The surrounding suburbs are not wealthy and many patrons walk or catch public transport to access facilities. Bad weather can sway the number of participants attending events as they either don't have a vehicle to bring their family to an event in wet weather or seek out the air-conditioned comfort of the centre.

Partnerships and groups using this space
- **Dingley Village Neighbourhood Centre,**
- **New Hope Foundation**
- **Central Bayside Community Health**
- **Lions Club**
- **Playgroup Victoria**
- **Bayside Special Development School**
- **Family Life**

Multi-cultural groups such as the multi-cultural sewing group facilitated by New Hope and art groups, local artists, (for example Janice Morgan, an artist and facilitator whose project, WEAVE, was funded through Kingston City Council Grants).

Budget & staffing resources:

Community Centre staff, cleaners, outside facilitators
Recommendations
Community Centre Co-ordinator, Bronwyn Hughes recommends being flexible, open to and in-tune with community needs: "It's all about the people", she reports. "The space will take care of itself. It's not about regulation, what you can and can't do; it's about being open to your community."

The centre found that facilitators with a genuine interest in the community who shared their knowledge generously for a 'gold coin donation' were more likely to succeed in achieving exactly the same program than those who desired to set up a program for profit or commercial gain. The staff warned, however, that it was best to charge something, even a token amount, for a service if the facilitator foresaw, in the future, needing to charge patrons for the service, activities or facilities provided.
Links and contacts for further information

This case study has been completed with the assistance of Bronwyn Hughes, Coordinator Clarinda Community Centre, Kingston City Council.

Bronwyn Hughes Clarinda Community Centre: 8551 1200

http://www.kingston.vic.gov.au/library/VisitUs-Pages/Community-Centres/Clarinda-Community-Centre

Image 1: http://web.kingston.vic.gov.au/Page/page.asp?Page_Id=1631&h=0
Image: 2: http://www.kingston.vic.gov.au/library/VisitUs-Pages/Community-Centres/Clarinda-Community-Centre

Appendix

Definitions and histories of creative space terminology

The handful of terms that refer to creative spaces worldwide are interchangeable to a degree, but there are some differences between them historically and in terms of the kinds of equipment and activities they offer and the communities they appeal to.

Hackerspace, hackspace

The first of the creative spaces to emerge, hackerspaces (or hackspaces) were born out of the computer programmer community in Germany (eg c-base) and then in the USA (eg NYC Resistor, Noisebridge). Focusing initially on playing with code, they extended to electronics, repurposing hardware and prototyping. Hackerspaces have been characterised as operating as more communal, clubhouse types of organisation with collective decision-making processes. The term reflects both the original meaning of getting around existing (programming) systems as well as the more contemporary term of creating shortcuts and customising things (eg lifehacking, Ikeahacking).

Makerspace

Although the word 'maker' is a not a new one, the term 'makerspace' began being used in 2005 or so and became more popular after 2011, when Make magazine registered their website name makerspace.com. Some see makerspaces as being more about creating from scratch than repurposing from other things, which hacking is more commonly associated with. Makerspaces often cater for beginners but many also have enough equipment and room (5000 sq m) to cater for new businesses and professionals with prototyping and manufacturing space. The operating model tends to be more like a business than a communal organisation. Examples of makerspaces include the US-based Artisan's Asylum, MakerWorks, and Columbus Idea Foundry.

Fablab

Fablabs were founded in 2005 by Neil Gershenfeld at the Center for Bits and Atoms at MIT's Media Lab. Although not a franchise, they have a standard charter and set of equipment and space recommendations to enable easy replication of MIT projects. They tend to be smaller than other types of spaces (1000-2000 sq ft). They are required to be accessible to the public for set periods, often teach children and are often run by not-for-profits. They focus on creating from scratch.

Techshop

Techshops are a franchise of not-for-profit spaces begun in California in 2006, before hackerspace or makerspace were well-known terms. They provide woodworking, machining, welding, sewing, CNC fabrication and other similar activities. They focus on building community and providing large-enough spaces and enough tools to achieve maximum collaboration and skill exchange.[xii]

Creative space

This is a more generic term, not associated with any particular equipment or set up, founding organisation or publication. It encompasses any space that offers creative learning, even those where there is no equipment or permanent, dedicated space. The organising principles and governance tends to be managed by a body such as a library, council or community organisation to service a local constituency.

Further resources

This resources list is designed as both an inspiring and a very practical guide for those interested in setting up a creative space in an Australian library. The list is by no means exhaustive, but it does collect in one place many of the key websites, articles and blogs that focus on creative spaces and have been talked about in the maker community in recent times.

Many resources are American so information about curriculum, budget and so on will need to be adapted for local use, but the principles, practical steps and much of the pedagogical thinking is still relevant for Australia.

Getting to know creative space culture

Discover the vast number of creative spaces around the world, get to know the online communities at the very heart of maker culture, and explore resources that can help you learn more about maker spaces, learning approaches, library thinking and how to set up a creative space.

Creative space listing sites

None of these sites are comprehensive – but together they provide good coverage of makerspaces around the world worth exploring.

Hackerspaces
This website offers a list of hackerspaces with their location, website address, founding date and whether they're active. (The site also includes a blog, news, events, projects and more.)
URL: hackerspaces.org/wiki/List_of_ALL_Hacker_Spaces

Hackerspaces in Australia
This page provides a list of around 20 hackerspaces in Australia, events and mailing list details. URL: http://hackerspaces.org/wiki/Australia

Invent to learn's Makerspaces and hackerspaces resources
Links to global makerspace and hackerspace listings, museum and library sites, and Fab Lab resources from the authors of the Invent to learn book and website.
URL: http://www.inventtolearn.com/resources-makerspaces-and-hackerspaces/

Make magazine's maker community groups
A small web-page listing of mostly US (and some global) hackerspaces, geek orgs and Make magazine's own city groups.
URL: makezine.com/maker-community-groups/

Makerspace directory
This searchable global directory of makerspaces can be added to by the community. It's part of the Makerspace website, which is also home to the Makerspace Playbook and a blog.
URL: makerspace.com/makerspace-directory

The Maker Map
This open-source project aims to create a global database of maker resources contributed by the maker community, discoverable by map, searching or category browsing.
URL: themakermap.com

US library makerspaces
This small list from the Library & Maker Culture website includes some of the key US library makerspaces worth learning more about.
URL: http://library-maker-culture.weebly.com/makerspaces-in-libraries.html

Selected library creative spaces

A list of some of the low, medium and high-budget library makerspaces that have been developed in Australia and overseas. Many have been discussed online and at conferences, so it is worthwhile investigating them further if you want more information.

Australia:

Innovation Lab
Adelaide City Library, Adelaide, South Australia
URL: http://www.adelaidecitycouncil.com/your-community/library-services/home-library-service2/innovation-lab/

Library at the Dock
City of Melbourne, Docklands, Melbourne, Victoria
URL: http://www.melbourne.vic.gov.au/MelbourneLibraryService/aboutus/Pages/Docklands.aspx

Maker Spaces Mackay
Mackay Regional Council Libraries, Mackay, Queensland
URL: http://makerspacesmackay.com/

Mill Park Library Maker Space
Mill Park Library, Yarra Plenty Regional Library, Victoria
URL: http://yprl.vic.gov.au

Multi-purpose room
Clarinda Community Centre & Library
URL: http://www.kingston.vic.gov.au/library/VisitUs-Pages/Community-Centres/Clarinda-Community-Centre

The Edge
State Library of Queensland, South Bank, Brisbane, Queensland
URL: http://edgeqld.org.au/

Wyndham Band Rehearsal Room
Wyndham Youth Resource Centre, Hoppers Crossing, Victoria
URL: http://youth.wyndham.vic.gov.au/

International:

Darien Library TEA Room & Digital Media Lab
Darien, Connecticut, USA
URL: http://www.darienlibrary.org/tearoom URL: http://www.darienlibrary.org/dml

Fab Lab
Fayetteville Free Library, New York, USA
URL: http://www.fayettevillefreelibrary.org/fablab

4th Floor
Chattanooga Public Library, Chattanooga, Tennessee, USA
URL: http://www.chattlab.org

HYPE Makerspace
Detroit Public Library, Detroit, Michigan, USA
URL: http://www.detroitpubliclibrary.org/hype

MakerStudio @ GCLS
(opening US summer 2014) Gloucester County Library System, Mullica Hill branch, New Jersey, USA
URL: http://www.gcls.org/makerstudio

The Bubbler
Madison Public Library, Madison, Wisconsin, USA
URL: http://madisonbubbler.org/

The Digital Media Lab
Skokie Public Library, Skokie, Illinois, USA
URL: http://blogs.skokielibrary.info/medialab/

Westport MakerSpace
Westport Library, Westport, Connecticut, USA
URL: http://westportlibrary.org/services/maker-space

Under the spotlight: Fayetteville Free Library Fab Lab
Take a look at a fabulous creative space in action. We've gathered together some reviews, interviews and case studies of one of the first, and most-discussed, library creative spaces worldwide.

Fayetteville Free Library website
The Fayetteville Free Library (FFL) website has a section devoted to its three maker spaces. It includes images, lists of tools and equipment, class and activity listings and FAQs for librarians.
URL: http://fflib.org/make

A Fabulous Laboratory: The Makerspace at Fayetteville Free Library
An article written by Lauren Britton, who pioneered the Fab Lab at Fayetteville Free Library, describing how the lab was created. A useful article with inspiring and practical information.
URL: http://publiclibrariesonline.org/2012/10/a-fabulous-labaratory-the-makerspace-at-fayetteville-free-library/

The makings of maker spaces, part 3: a fabulous home for co-creation – The Fab Lab helps Fayetteville users build and play
An article written by Lauren Britton and FFL CEO Sue Considine about the Fayetteville Free Library's Fab Lab.
URL: http://www.thedigitalshift.com/2012/10/public-services/the-makings-of-maker-spaces-part-3-a-fabulous-home-for-cocreation/

Maker space maker
A profile of Lauren Britton, named as one of Library Journal's 'Movers & Shakers 2013 – Innovators' for her work in establishing the Fayetteville Free Library's maker space.
URL: http://lj.libraryjournal.com/2013/03/people/movers-shakers-2013/lauren-britton-movers-shakers-2013-innovators/

The oh-so fabulous lab at the Fayetteville Free Library
An interview with Lauren Britton Smedley, Transliteracy librarian at Fayetteville Free Library, about the creation of the fab lab there.
URL: http://www.libraryasincubatorproject.org/?p=3335

Indiegogo campaign page
The Fayetteville Free Library's Indiegogo crowdsourcing campaign page, including a video statement and other information about the library's proposed maker space. The campaign raised almost US$14,000 from a goal of US$20,000.
URL: https://www.indiegogo.com/projects/ffl-fab-lab

Online communities

A number of key websites act as hubs for people to learn more about and participate in maker culture. They are jumping-off points for discovering more about creative spaces, making projects, equipment reviews, news and analysis, and some of the key thinkers in the global maker community.

Library Makers Google Group
Get the latest news and participate in conversations with the library maker community. This is a members-only group; to view and take part you need to join the group.
URL: https://groups.google.com/forum/#!forum/library-makers

Maker Bridge
This US-based website comprises a blog with makerspace interviews, news and resources; a small forum; tool reviews and more. The site is managed by Sharona Ginsberg, a Michigan-based librarian and instructional technology consultant.
URL: http://makerbridge.si.umich.edu/

Makerspace
This website is home to the much-referenced Makerspace playbook, a blog and a searchable global directory of makerspaces.
URL: makerspace.com/makerspace-directory

The Library as incubator project
This international collaboration of librarians around the world promotes ways libraries and artists of all kinds can cooperate and collaborate. The site includes essays, profiles of creative spaces and projects in libraries, resources and much more. They have a specific list of posts tagged 'makerspaces' to browse through.
URL: http://www.libraryasincubatorproject.org/ URL: http://www.libraryasincubatorproject.org/?tag=maker-space

News and publications

Many creative space websites and blogs include news from the maker community, but these resources offer a one-stop shop for everything maker related.

Makezine
This website, from influential US-based Maker Media, brings together information about all aspects of maker culture, including electronics, craft and science. It features projects to try, event listings, how-to videos, Maker Faire news, books, education resources, news for entrepreneurs and maker 'pros', an online shop, a blog and digital versions of the print magazine.
URL: http://makezine.com/

Scoop. it! – Makerspaces
A curated collection of around 100 (and growing) news, cultural commentary and practical information articles from around the web on makerspaces, hackerspaces, fablabs and the tools they use.
URL: http://www.scoop.it/t/makerspaces/

Reading lists

Almost any resource you read will include its own list of further reading. But here are a few ready-made lists collated by experts in the makerspace and library communities.

A Librarian's Guide to Makerspaces
16 Resources This library-specific collection of reading material is a great starting point for discussion of issues both practical and pedagogical.
URL: http://oedb.org/ilibrarian/a-librarians-guide-to-makerspaces/

Books for educators interested in starting a makerspace
This blog article on the MakerBridge online community website provides a useful (but USA-leaning) reading list covering the maker movement in general, how to develop a makerspace, psychology and pedagogy, electronics and design.
URL: http://makerbridge.si.umich.edu/blog/130902-800

References for 'STEAM: Science and art meet in rural library makerspaces' poster at iConference, 2014
For further reading on educational pedagogy, library makerspaces and more, see this list from US-based Shannon Barniskis, a former youth services librarian and current doctoral student. Her blog is very informative also.
URL: http://shannonbarniskis.com/research-studies/

The Unquiet Librarian's makerspace bookmarks
A long list of articles and websites dealing with creative spaces selected by this well-known blogger.
URL: https://delicious.com/theunquietlibrary/makerspace

Events

Seminars and conference sessions on makerspaces regularly take place within and outside the library field. Making events/expos have also gained currency worldwide, especially in the US. Keep an eye out on library and cultural institution websites and maker forums for upcoming events; and presentation sites, such as SlideShare, for proceedings of past conferences.

ALA (American Library Association) 2013 conference annual conference & exhibition
This conference had a number of sessions on maker culture, for instance Mark Freuenfelder and maker Monday, Maker nation: providing STEM programming through partnership, Chicago Public Library: Chicago's maker ecosystem and more. (Type 'maker' into the site search for more results.) Browse the Sessions with handouts section for more information.
URL: http://ala13.ala.org/ URL: http://ala13.ala.org/node/10080

Maker Faires
Maker Faires, branded and organised through Maker Media (Make magazine), are perhaps the best known. Make magazine also helps independent organisers around the world produce smaller Mini Maker Faires. A Mini Maker Faire was held in Melbourne in January 2012.
URL: http://makerfaire.com/ URL: http://makerfairemelbourne.wordpress.com/

Embracing makerspaces
This 22 May 2014 one-day forum at the State Library of Queensland and its makerspace The Edge brought international experts Jake Henderson, Dr Andrew Zoz Brooks and Mark Frauenfelder to share best practice.
URL: https://www.eventbrite.com.au/e/libraries-embracing-makerspaces-forum-tickets-10326941159

The evolving space: 'Makerspaces' seminar
This 4 June 2014 event organised by Public Libraries Victoria Network and State Library of Victoria featured nine presentations, including sessions from Zaana Howard, Community Connected Hacker Space (CCHC), Brisbane's The Edge, and Yarra Plenty Regional Library Corporation discussing all angles of creative spaces.

VALA 2014 conference
This conference included four sessions highly relevant to creative spaces, including a 3D printing 'how to', and presentations on the Mill Park digital hub, learning to play, and maker spaces basics. Presentation details are available on the VALA website, and VALA members or conference delegates can access session videos.

URL: http://www.vala.org.au/index.php
URL: http://www.vala.org.au/vala2014-proceedings/797-vala2014-session-6-rolan
URL: http://www.vala.org.au/index.php?option=com_content&view=article&id=811&catid=139&Itemid=402
URL: http://www.vala.org.au/vala2014-proceedings/810-vala2014-session-9-barry URL: http://www.slideshare.net/connectinglibrarian/vala-makerspace-workshop-presentation-2

Planning & implementing a creative space: inspiration and practicalities

How to set up a creative space
At the start of your makerspace journey? Take a look at these practical and pedagogical resources for planning, setting up and maintaining a creative space. As well these dedicated how-to resources, there are also lots of individual resources that speak to this topic scattered throughout the different sections of this resources guide.

Design Make Play
This small website promoting an American methodology for teaching science, technology, Engineering and Math (STEM) includes the book Design Make Play: growing the next generation of stem innovators by Margaret Honey and David E Kanter, with chapters relevant to local educators and makerspace creators.
URL: http://dmp.nysci.org/#about/the-book

Invent to learn
This website, based on the book Invent to learn: making, tinkering and engineering in the classroom, while US-based and geared to classrooms, has over 20 pages of links to online and other resources relevant to library creative spaces. They cover setting up a creative space, projects to make, practical how-to guides, professional development, materials, videos, suppliers, pegadogical approaches and more.
URL: http://www.inventtolearn.com/resources/

Libraries & Maker Culture: A Resource Guide
A small but useful US-based website created by Sharona Ginsberg, who is active in and has written about maker communities. It has resources on 3D printing, maker culture, libraries and makerspaces and planning your own makerspace.
URL: http://library-maker-culture.weebly.com/

Makerspace Playbook
This free downloadable PDF, associated with Maker Media (Make magazine), is a practical guide to setting up a makerspace, including discussion of the pedagogical underpinnings of maker culture; tools, budgets and safety; project ideas; getting set up and other resources. It focuses on school-aged students but has much to offer a general library space.
URL: http://makerspace.com/wp-content/uploads/2013/02/MakerspacePlaybook-Feb2013.pdf

Makerspaces: a practical guide for librarians
This book by John Burke, to be published in 2014 by Rowman & Littlefield Publishers, will outline findings on funding models, forms of making, staffing and more from a survey into makerspaces conducted in late 2013. An article with brief findings is available now.
URL: http://www.publiclibrariesnews.com/practitioners/3d-printers-and-maker-spaces-in-libraries/maker-spaces-in-libraries-the-state-of-the-art-december-2013

Make: Ultimate Guide to 3D Printing 2014
Make magazine's second annual guide includes reviews of 23 3D printers, and articles on 3D scanners, CAD software tutorials and 3D printed applications. The full guide costs US $9.99 or reviews of the top seven printers are available free online at
http://makezine.com/magazine/guide-to-3d-printing-2014/3d-printer-overview-how-they-compare/
URL: http://makezine.com/volume/guide-to-3d-printing-2014/

School Library Makerspaces, Grades 6–12
This 193-page book by American author Leslie B Preddy (October 2013, Libraries Unlimited) provides practical information for school librarians about setting up a school library makerspace. Topics include learning, space design, safety, budget, instruction, mentoring, programming and more.
URL: http://www.abc-clio.com/product.aspx?isbn=9781610694940

Strategic documents

Libraries 2030: a strategic framework
The Libraries 2030 strategic framework aims to guide Victorian public libraries in their future planning, in particular with regards to flexibly identifying and meeting social trends as they emerge in our communities.

Summary report:
URL: http://www.plvn.net.au/sites/default/files/20130528%20FINAL%20VPL2030%20Summary%20Report_web.pdf

Full report:
URL: http://www.plvn.net.au/sites/default/files/20130527%20FINAL%20VPL2030%20Full%20Report_web.pdf

People places: a guide for public library buildings in NSW
A practical tool to help you assess what your community needs are in terms of the physical library space.
URL: http://www.sl.nsw.gov.au/services/public_libraries/library_buildings_and_spaces/index.html

Dollars, sense and public libraries
This report revealed the direct economic benefits of libraries for their communities, using a methodology that gives monetary value to services and outcomes such as literacy, access to information technology, building community connections and creating better-informed communities.

Final report:
URL: http://www.plvn.net.au/sites/default/files/20110318%20SL_PublicReport_LoRes_FINAL_0.pdf

Technical report:
URL: http://www.plvn.net.au/sites/default/files/DSPL_TechRep_pt1_FINAL_0.pdf

Appendices:
URL: http://www.plvn.net.au/sites/default/files/DSPL_TechRep_pt2_FINAL_0.pdf

VISION 2017 for Queensland public libraries
A strategic vision for Queensland public libraries from 2013 to 2017, this report suggests best-practice ways to achieve outcomes under four themes: creative community spaces; connectors – physical and virtual; technology trendsetters; and incubators of ideas, learning and innovation.
URL: http://www.plconnect.slq.qld.gov.au/manage/21st-century-public-libraries/vision2017

Survey resources for consultation and evaluation

Survey Monkey
Survey Monkey is a good free tool to set up your survey online, but it also has some good tips on how to get started creating a successful customer satisfaction survey, as well as some sample surveys to get you started.
URL: https://www.surveymonkey.com/mp/customer-satisfaction-survey-questions/

Library Research Service – Colorado State Library
The Colorado State Library's Library Research Service has some good library-specific information on how to create an effective survey.
URL: http://www.lrs.org/library-user-surveys-on-the-web/

Public Libraries Online – getting the most ROI from customer surveys
An interesting article which discusses how to best identify what it is you want to get out of the results, and how to then develop your survey to reflect this, as well as some practical examples of how survey results can be used to justify programs, events and broader campaigns.
URL: http://publiclibrariesonline.org/2013/04/getting-the-most-roi-from-customer-surveys/

Equipment & suppliers

Unfamiliar with the kind of equipment you can use in a creative space? Have a look around these supplier websites and other resources. Many are US-based, but give a clear idea of the fabulous array of tools, equipment and consumables that can be acquired to run a creative space. Check Australian hackerspace wikis and Google groups for more information about local distributors.

Australian suppliers & resources:

3D Printers Australia
3D Printers Australia is an enthusiasts website which brings together a blog, information about 3D technologies and a state-by-state list of 3D printer suppliers.
URL: http://www.3d-printers.com.au/test-suppliers/

CCHS info/hardware resources wiki page
Like most hackerspaces, the Melbourne-based Connected Community HackerSpace hosts a wiki which lists hardware and other resources including Arduino boards and shields, electronics components, robotics, motors, mechanical components, tools and datasheets.
URL: http://www.hackmelbourne.org/wiki/index.php/Info/Hardware_Resources

Robots & Dinosaurs hackerspace electronics suppliers listing
This listing of Australian and overseas electronics suppliers has been put together by Sydney hackerspace Robots and Dinosaurs

URL: http://robodino.org/
URL: http://hackerspace.pbworks.com/w/page/13758372/Suppliers

Adelaide Hackerspace electronics and other suppliers
This list includes general and hobbyist electronics retailers in Australia and worldwide; Adelaide-based woodwork, metal casting and plastic casting suppliers; local and overseas PCB (printed circuit board) and 3D printing suppliers.
URL: http://hackerspace-adelaide.org.au/wiki/Retailers

International suppliers & resources:

Adafruit
This New York City-based company founded by Limor Fried (the first female engineer featured on the cover of Wired magazine) provides electronics, open-source hardware and other making items. It also hosts an active forum, learning guides and a blog. See http://www.adafruit.com/distributors/ for Australian stockists.
URL: http://www.adafruit.com

Arduino
Arduino's open-source electronics prototyping platform enables artists, designers and makers of all kinds to use their boards to create interactive objects. Their website allows you to buy Arduino boards and accessories, download free software, find images of Arduino projects, stay up to date with news on their blog, and get inspiration and help from their community playground wiki, and more.
URL: http://www.arduino.cc/

Inventables
The website of this supplier of 'desktop', or digital, fabrication materials provides two inventory lists for setting up makerspaces at different price points; US$5000 and US$15,000. Both lists are 3D-printing oriented, and in US dollars.
URL: https://www.inventables.com/projects/5000-makerspace
URL: https://www.inventables.com/projects/15000-makerspace

Invent to learn workshop shopping list and downloads
The authors of the Invent to learn: making, tinkering and engineering in the classroom book also maintain a website which includes a list – complete with images and explanations – of some recommended hardware, software and consumables to use in your own creative space.
URL: http://www.inventtolearn.com/stuff/

Makershed
Associated with Make magazine, this online shop has a variety of making items including 3D printers, tools, robotic, Arduino and Raspberry Pi, kits, books and magazines.
URL: http://www.makershed.com

Makerspace Playbook
A list of (US-based) recommended suppliers can be found on page 72 of this resource. Pages 73 to 77 provide a series of 'Makerspace-in-a-box' inventories of tools and materials, across categories such as textiles, mechanical and electronics. They include first and next tool purchases, first and next consumables purchases, and additional tool purchases.
URL: http://makerspace.com/wp-content/uploads/2013/02/MakerspacePlaybook-Feb2013.pdf

MaKey MaKey
This American company sells tech kits of a circuit board, alligator clips, USB cable and connector wires that let everyone – especially kids – make and invent stuff using electronics. Their website also provides video showcases of projects, group activity guides, a forum, faqs and ways to buy the kits.
URL: http://www.makeymakey.com/

Raspberry Pi
This website services the global Raspberry Pi (a single-board computer) community, with a large, active forum; resources for teaching, learning and making; a help section, community news, tutorials and other resources; a blog and downloads.
URL: http://www.raspberrypi.org/

Sparkfun
A US-based electronics retailer for DIY and makerspace projects, with online tutorials and videos, re-al-world classes, a blog and products including robotics, Raspberry Pi, soldering and other kits, e-textiles, Arduino, breakout boards, books and more. Distributed locally by Australian Robotics, Canberra.
URL: https://www.sparkfun.com

Projects to make

Need help to start rolling out your own creative space activities? Educators, libraries, maker communities and suppliers of maker tools all offer up literally millions of free making ideas and how-to guides for all kinds of making bents and budgets – from 3D printing and robotics to knitting and cardboard craft.

Instructables
This US-based website showcases over 100,000 DIY make projects with video, photo, step-by-step and even ebook instructions. Makers from around the world can upload their own projects. It also has a free 'pro membership' section especially for teachers and other educators, and a forum for queries.
URL: http://www.instructables.com/teachers

Invent to learn's project collections, tutorials and inspiration
This webpage, based on the book of the same name, provides a wealth of links to other online and print resources for all kinds of fun making projects. A great place to start.
URL: http://www.inventtolearn.com/resources-project-collections-tutorials-and-inspiration/

Library makers (hands-on learning for all ages)
This American blog has lots of examples of 'making' projects, mostly for kids and teens, with some recom-mended books and FAQs on how to set up classes.
URL: http://librarymakers.blogspot.com.au

Library maker spaces
Pinterest board A small (27 pins) but interesting collection of projects, events, philosophies and presenta-tions about library makerspaces by Justin Hoenke, Michelle Cooper and Amy Koester, who presented 'The community joins in: library maker spaces' at the LJ/SLJ Digital Shift virtual conference in October 2013.
URL: http://www.pinterest.com/amyeileenk/library-maker-spaces/

Maker Machine
If you're looking to buy in ready-made projects complete with activity leaders, this small company runs mobile maker workshops for primary and secondary students, and professional development sessions for teachers around Australia.
URL: http://makermachine.com.au/

Make it at your library
This website and blog by librarians involved in the ILEAD USA makerspace project presents how-to in-formation for making Instructables projects. You can select projects based on age group, cost, time and category.
URL: http://makeitatyourlibrary.org/

Thingiverse
MakerBot's Thingiverse is a website for the global 3D printing community. You can upload your own 3D models, discover easy projects to 3D print, collaborate and customise other people's 3D designs, and more.
URL: http://www.thingiverse.com/about

Sample operating documents

You will probably need to develop a range of forms and information sheets to help guide and protect your participants and equipment; here are just a few examples that might assist you.

Safety sheet examples

Fayetteville Free Library safety sheet
URL: http://fflib.org/images/pdfs/fflfablabsafetysheet.pdf

Fab Lab Adelaide Terms & conditions and OH&S induction form
URL: http://fablabadelaide.org.au/wp-content/uploads/2013/07/Fab-Lab-Adelaide-OHS-and-TC.pdf

Maker agreement example

Fayetteville Free Library Fab Lab maker agreement
URL: http://fflib.org/images/pdfs/fflfablabmakeragreement.pdf

Liability waiver example

Makerspace Playbook sample Liability waiver
URL: http://makerspace.com/wp-content/uploads/2013/02/MakerspacePlaybook-Feb2013.pdf (p66)

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Interviews

Interviews were conducted with:

Tania Barry, Coordinator, Technology, Resources and Special Projects, Hume Library
Paula Clark, CEO, Wimmera Regional Library Corporation
Nathan Connors, Creative Technology Activator, Melbourne Library Service
Jamie Cooke, Youth Development Officer, Youth Services, Wyndham City Council
Mary Dalgleish, Horsham Library Branch Manager, Wimmera Regional Library Corporation
Christine Mackenzie, CEO, Yarra Plenty Regional Library
Susan Maclaine, Project coordinator, Public Libraries & Community Engagement, state Library of Victoria
Annalee Makara, Werribee Library Coordinator, Wyndham City Libraries
Melanie McCarten, Strategy & Business Advisor, Libraries & Learning, Darebin Libraries
Michelle McLean, Information Services Librarian, Casey-Cardinia Library Corporation
Annika Shelley, General Manager, The Edge, State Library of Queensland

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