

Library manager perspectives of the Vocational Education Sector: investigating trends and issues within a learning commons paradigm

Natalie Pang¹

Faculty of Information Technology, Monash University
natalie.pang@infotech.monash.edu.au

Graeme Johanson

Faculty of Information Technology, Monash University
graeme.johanson@infotech.monash.edu.au

Abstract

As a joint research project between Monash University and a partner organisation, the Victorian Association of TAFE Libraries (VATL), the study reported in this paper investigated challenges which face TAFE libraries. To assess the suitability of the learning commons concept, interviews, questionnaire surveys, and a conference dialogue between library managers were used. Important themes emerged and were evaluated. The paper explores significant findings from two surveys, which show how TAFE libraries have changed as places and digital spaces.

Introduction

Since 1988, no significant work has been undertaken on the role and resources of libraries in the Vocational Education and Training sector (McIntyre and Hardy, 1988), otherwise known as the Technical and Further Education (TAFE) sector. Practitioners have expressed agreement that research (Schauder and Tanner, 2005) could assist TAFE libraries to improve services and engage in innovation whenever possible.

On a structural level, the Victorian government in Australia has been re-examining the TAFE sector, with the clear purpose of transforming it to assist firms in competing in an innovation economy, encouraging communities and individuals to acquire skill-sets which the nation needs. At the same time, the role of libraries in educational institutions has undergone profound change, as digital technologies become more pervasive, and fresh modes of learning and teaching have evolved.

The paper starts with elucidating the learning commons concept, as it applies to TAFE libraries. Insights from the literature surrounding tertiary education libraries, and challenges and opportunities of the contemporary media environment are also included in the discussion. Together they set the context for the paper.

As part of the year-long study, we organised interviews, questionnaires, and a conference which facilitated dialogue between library managers. The paper unveils findings from two questionnaire surveys that were conducted prior to the conference.

The learning commons

A recently popular concept in academic libraries, the learning commons has its origins historically in the creation and defence of shared resources. The importance of the contemporary media environment to the learning commons concept is considered in this paper.

Background

With its origins in the historical commons, the learning commons has its roots in co-operation and collaboration for the common good. Conventions for the shared use of grazing lands, and co-operative agreements about the sustained use of water supplies, and other physical resources, are cited as examples of the commons. Recent understandings include intangible resources such as knowledge resources on the World Wide Web, publicly-funded research, and public domain information. Modern commentaries also refer to the public library as 'a place for people to meet that has been likened to the village green' (State Library of Victoria, 2005). Typically resources include those that are freely available for all in a community to build relationships and cultural democracy (Benkler, 2003; Pang, 2006).

The terms information and learning commons are applied to libraries, clinics, health centres, social centres, universities and museums. Though they mean different things, in each case one feature is the same: resources are shared amongst communities of people and differentiated from the marketplace. Co-operation, collaboration and the sharing of resources are regarded as key factors for the sustainability of the commons.

Relevant modern-day usages include the information commons, the scientific commons, the knowledge commons, open content licenses such as the Creative Commons, and the learning commons. This paper will focus on the information and learning commons.

With the proliferation of the Internet, there is now a huge quantity of information resources that is freely and openly accessible. With the open design of networks like the Internet, resources on the World Wide Web are described as a type of modern-day commons (Lessig, 2004), associated with the information and knowledge commons (Beagle, 1999). The information commons emphasises free and equitable use of information resources. It is commonly applied to libraries in educational institutions, especially academic libraries (Beagle, 1999). Beagle notes two levels of meaning. On one level, it is a virtual online environment where digital services are accessed via one networked interface by a community of people. The second level of the information commons refers to a physical organisation of facilities around the digital workspace of the first level. An outcome is an integrated space providing dynamic delivery of multiple services. Many case studies of libraries with information commons as part of their physical facilities (MacWhinnie, 2003) incorporate a partnership between library and information technology services.

Libraries have built on the information commons to hybridise the learning commons concept, shifting from a primary focus on technology and digital resources to purposeful learning activities themselves. This involves greater functional integration of learning support in an academic setting (Keating & Gabb, 2005). Brown and Long (2005) discuss the shift from the information commons to the learning commons as being distinguished by a purpose-driven service integration dedicated to learning. It is therefore characterised by student learning, knowledge creation, information use, social learning spaces, and the integration of technology within those spaces. The focus of the learning commons is on the open nature of processes to capture and promote understandings and know-how from multiple forms of information.

At the beginning of the project, researchers spent time studying the various applications of both the information commons and the learning commons in academic libraries. The role of the learning commons within academic environments was found to be relevant to TAFE libraries and the tertiary learning environment.

The contemporary media environment: Opportunities and challenges

Planning the learning commons inevitably leads to the integration of technologies. The term information and communication technologies (ICT) has been used to refer to technological devices, including Internet applications, communication tools such as mobile phones, Internet telephony, and email applications. A significant convergence is being witnessed now – not just in terms of devices or operating platforms, but also of media and information syndication. Many mobile phones are mini-computers, allowing a user to access emails, listen to podcasts and radio, and share video files. Information resources are also syndicated to several forms of media simultaneously at an amazing speed – a piece of news or blog entry can be syndicated to several portals, be shared

alongside a video, an image or podcast, or broadcast in virtual communities such as Second Life.

PricewaterhouseCoopers (2006) refers to the ability of different network platforms to implement different services and to merge consumer devices. The contemporary media environment is more than the presence and use of ICT; it involves emergent and integrated media in which information can be accessed across multiple platforms, and participation in the creation and shaping of resources can occur almost seamlessly across platforms.

The contemporary media environment offers opportunities and challenges. Fresh knowledge resources are created daily. Blogs, entries in Wikipedia, and other discourse in virtual communities are examples. Social networking sites such as Technorati, del.icio.us, Facebook, Multiply, and Friendster help people to network, and facilitate the distribution of resources. These are not limited to the Internet. Because of the convergence witnessed in the media, electronic resources are distributed in the physical environment as well. Gannett publishes *USA Today* (and 90 other newspapers as one of the largest newspaper publishers in America), and has restructured to capitalise on user-generated content using technologies and the Internet (Howe, 2006).

The collective intelligence of communities is amplified by technologies, and knowledge is made affordable in new ways. People participate directly with one another and with institutions, and knowledge resources are generated more rapidly than before. Lessig (2004) refers to non-commercial publishing; instead of relying on mainstream media such as broadcasters, newspapers, or publishers, people create their own content or respond to the thoughts of others and publish them easily – with their own words, images, videos, and sounds.

It is not hard to realise why the information or learning commons typically involve the inclusion of networked computers as part of a library. The contemporary media environment offers a very rich, deep source of knowledge, which is also affordable in 'wired' countries. For the library, resources on the Internet are used to complement existing collections. There are many other innovative possibilities – engaging the participation of users and librarians through blogs and other social networking sites, getting feedback and generating dialogue more effectively, delivering or customising services within an integrated environment.

Traversing through this huge web of resources for relevance and quality can be very challenging. Mediating or managing participation can also prove to be difficult; the temporary closure or suspensions of participatory communities are prime examples. Indymedia is a global network of independent journalists, an alternative media outlet that uses open publishing to allow free contributions and access. In 1999, it began as a project allowing participants to report on protests against a meeting of the World Trade Organisation (WTO) in Seattle, Washington. Since then, the Indymedia network has grown to include over 150 centres, mainly in the United States. Indymedia has enjoyed well-known success since it started, but there are also struggles within some Indymedia

centres. The lack of filters in open publishing has led to heated debates, conflicts, and difficulties in reaching consensus between people. The temporary closure of Indymedia in Italy is an outcome of such disputes.

Libraries are not spared from these challenges, especially within the information or learning commons. Is the library a custodian, mediator, or an isolated observer of such challenges? Or all three? This project tried to answer some of these questions. The next section explores background and issues relevant to TAFE libraries.

Relevance to TAFE libraries

Since the establishment of the vocational education and training institutions, TAFE institutions have seen significant growth in scope and number. A directions paper prepared by the Australian Department of Education, Science and Training (2005) recognised this. TAFE institutions contribute to the economic success of Australia. Government identifies needs as capitalising on success and position to meet training needs and skills-shortages, in an ageing population and a competitive global economy.

In another report, the focus on learning is highlighted. The Australian National Training Authority Report (ANTA, 2003) outlines an overall strategy for the sector from 2004-2010. A number of values were identified, such as the need to proactively remove barriers to learning, a shift towards users, and customising services to meet their needs, and a greater emphasis on life-long learning. In looking to prepare young people for entry into industry, and meeting the learning needs of mature workers, there is a growing emphasis on using innovative methods to cultivate the knowledge of learners. This requires the use of new technologies and re-creation of learning spaces and improved dialogue.

There are significant challenges as the libraries align themselves closer than before to TAFE needs for teaching, learning, and assessment. As library professionals struggle to keep up with changes, shaping policies that will be robust and adaptable, they have to be aware of increasing convergence between learning and technologies. Such pressure and indications from successful implementations of the information and learning commons in other academic libraries (MacWhinnie, 2003; Keating and Gabb, 2005), led to the proposition that the learning commons was an appropriate model for TAFE libraries.

In a formal report, the Victorian Minister for Education and Training (Kosky, 2002) recommended better innovation, improved accessibility for communities, greater flexibility (not just in the use of technologies, but also in the planning of resources), dialogue, and accountability to ensure the effectiveness and success of TAFE institutions. The development of new learning environments – led by libraries -- was regarded as strategically advantageous for Victorian TAFE institutions. Innovative service delivery and espousal of the historical commons tradition of social justice would guarantee accessibility for communities and individual learners. The report (Kosky, 2002) pointed out that the TAFE workforce must take a proactive role in the creation and sharing of new knowledge. Users of TAFE libraries are expected to actively lead in

knowledge creation and distribution. The report stated that this could only be facilitated by collaborations among interest groups and industry partnerships.

Most information and learning commons in libraries involve collaborations between the library and other services, such as the information technology services, language and learning departments, and student groups. Such collaborations are not coincidental. Because the focus of the learning commons is placed on purposeful learning by communities, there is a conscious effort to integrate resources – be it knowledge resources, human resources, student volunteers, technological support, spaces, language and learning support – to achieve this end. While the usefulness of the learning commons model is well recognised, it has not been clear before now that the concept could be applied to address specific issues arising for TAFE libraries, nor what it implied for library professionals. This project was set up to explore such issues.

Methodology

The study clearly required the strategic involvement of the Victorian Association of TAFE Libraries (VATL). First known in 1972 as the Victorian Association of TAFE College Librarians, it later became the Victorian Association of TAFE Institute Librarians. Today it exists as a network of TAFE libraries providing expert advice, seminars, forums, products and services with the aim of improving the quality of vocational education and training. Currently it has 19 member libraries, consisting of 14 libraries in stand-alone TAFE institutions, four libraries in dual-sector tertiary institutions (along with universities), and one joint-sector library, which is a partnership between the Centre for Adult Education (CAE, a TAFE) and the City of Melbourne, combining CAE and public library services. Dual-sector tertiary institutions provide higher education and TAFE courses, which means that libraries in such institutions serve user communities from both the higher education and TAFE sectors.

The longitudinal study of over a year saw the conduct of several interviews, literature reviews, two questionnaire surveys that were informed by insights from the interviews and literature, and finally a Search Conference to share discussion and thoughts among library managers. For the purpose of this discussion, this paper will focus on the findings that arose from the surveys.

Forty questions were derived from what was already learnt from the implementations of the learning commons in existing case studies. The questions sought perspectives from library managers on changes anticipated and already observed from the learning commons. A first questionnaire was distributed to all VATL members, and 43 responses were counted in total, with no invalid or null responses amongst the questionnaires returned. Some qualitative comments were also collected, as respondents enthusiastically provided their feedback on the issues in the questionnaire. The follow-up questionnaire survey, qualitative in nature, focused on research gaps that were highlighted by the time of the end of the first questionnaire survey. This second questionnaire was distributed to the same respondents and 6 responses were counted in total. The lower response rate from the second questionnaire was anticipated, since the second questionnaire was only constructed with the aim of probing deeper insights

that were not adequately covered by questions in the first questionnaire. This also meant that the second questionnaire was based on the first questionnaire, and participants who had completed the first questionnaire and felt that they had no further insights did not respond to the second questionnaire. Although the lower number of responses to the second questionnaire reduced its significance compared to the first questionnaire, and its findings would not stand on its own, the qualitative findings helped to inform analysis from the first questionnaire.

The selection of librarians and library staff to participate in the study has been intentional. Recognised as gatekeepers, they are involved in direct interactions with library users and patrons, and, through other work-related roles, they are also informed about backend operations. They had discursive and tacit knowledge that was of significance to the study. The project set out to solicit their valued views and perspectives.

Findings

Insights from the literature and consultations with members of the project team were used to identify emerging issues that were most relevant to TAFE libraries during the construction of the questionnaire. Table 1 shows examples of the themes, issues, and resulting questions.

Theme	Issues	Questions
Spaces	<p>Changing spaces</p> <p>Infusion of technologies and digital resources</p> <p>Increasing communal spaces and participation</p>	<ol style="list-style-type: none"> 1. The physical spaces of the library have changed over the years to include more communal, interactive, and open spaces. 2. Communal, interactive and open spaces are more effective for the library users and staff of today. 3. There are changes in the types of resources available in the library (e.g. increase in collections of digital journals, decrease in books, etc). 4. There is an increase in the number of computers and laptop workstations in the TAFE library.
Availability and Access	<p>Improved accessibility and availability of services and resources</p> <p>Impact of converging media on learning spaces</p> <p>Integration of other services (i.e. technical support).</p>	<ol style="list-style-type: none"> 1. Generally, there is an increase in the availability of services and facilities in TAFE libraries. 2. Services, resources, and facilities in TAFE libraries are accessible. 3. Access to electronic and physical resources is easily available in TAFE libraries. 4. There is remote access to resources and services in TAFE libraries. 5. Library users have become very mobile (this also refers to their use of mobile devices). 6. Policies governing authentication of users need to be re-examined. 7. Technical support is an essential service of the TAFE library to facilitate learning. 8. Technical support is part of the TAFE library I belong to.

Table 1: Examples of themes, issues and arising questions.

Perspectives were then solicited from library managers on these questions, which enabled the study to gain views on what were the actual current and potential desired developments in TAFE libraries. Due to space constraints, it is not possible to explore all of the findings that have come out of the survey. This discussion will focus on the impacts and implications on changes in the physical and digital spaces in TAFE libraries. Five themes are explored, namely: staffing, sharing, spaces, availability and access, and shifts (with regards to educational and organisational trends).

Staffing

Alongside the changes and demands of applying the learning commons concept within libraries, the need for multi-skilled staff emerged as a consistent issue. This hypothesis was tested in the survey for its validity in TAFE libraries, and whether or not this need could be met. In particular the study was interested to explore how staffing has influenced the library in TAFE institutions.

As expected participants responded with overwhelming agreement (98% who strongly agreed or agreed) that the scope of staff roles in TAFE libraries has changed significantly in the last decade, and there is strong need for staff to be multi-skilled. Figure 1 displays these results.

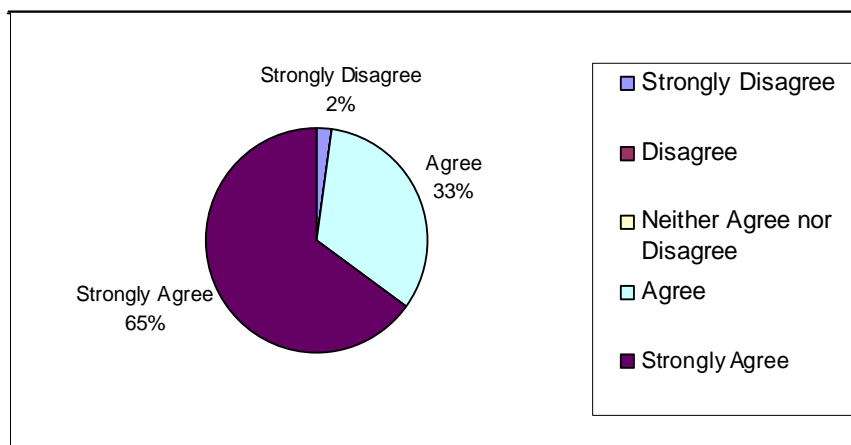


Figure 1:
The scope of staff roles in TAFE libraries has changed over the last ten years.

While implying that there was a need for training and professional development, the acquisition of staff from external sources (in order to complement existing knowledge and introduce innovations) was also implicit. Although there was a strong indication that multiple skills are needed in the learning commons of the library, there were mixed perspectives coming from respondents on how to fulfil this need:

- by acquiring new staff,
- revising position descriptions,
- providing training where required,
- by collaborating with other libraries and community organisations to share resources especially in regional TAFE institutions, or
- by internal collaborations with other departments.

An example was provided by a participant from a regional TAFE library:

A formal liaison service to departments and Admin areas was established 3 years ago. It has broken down barriers and increased dialogue and collaboration. We also administer the loan of data projectors, laptops, digital cameras and special needs equipment which has brought more staff into the library. Promotion and facilitation of information literacy sessions, referencing workshops etc has lifted our profile within teaching departments. Most now come to us to arrange specific sessions for students. Our small staff also researches and compiles a monthly Board of Studies Education Update of current events affecting VET in Australia and overseas.

This example demonstrated how internal collaboration between departments in a small regional TAFE library provided the cohesion needed to make up for its lack of resources and multi-skilled staff. Such collaborations -- motivated by a need to bring in multiple skills of staff working in the learning commons -- change the library to a shared place, physically and figuratively. It became a complex sphere of learning.

In another example from a dual-sector TAFE library, the library acquired 'new staff' by working with student groups to employ them as 'roaming' helpers in the learning commons. These roamers provided support for learning – be it technical or information literacy help. This action was motivated by the rationale that student users preferred to have peers to help them with their queries. Student roamers had similar learning experiences, and were regarded as being better equipped to provide relevant advice. They were also up-to-date with the newest forms of information and communication technologies. Collaboration with students was mutually beneficial; it proved a direct way to engage with students, spaces in the library were quickly filled with student helpers and users, and, over time, students who were roamers also gained a deeper knowledge of knowledge resources and services from the librarians.

Sharing

The focus on community-centred services implied a shift to greater collaboration with other institutions and libraries. Libraries which adopted the learning commons framework became integrated spaces, taking advantage of resources and services in other units such as information technology and learning services. This study investigated whether such sharing was detectable in TAFE libraries.

While there was general consensus that sharing can be observed, a significant proportion of responses indicated that library managers neither agreed nor disagreed that this was the case for TAFE libraries. These responses are summarised in Figure 2.

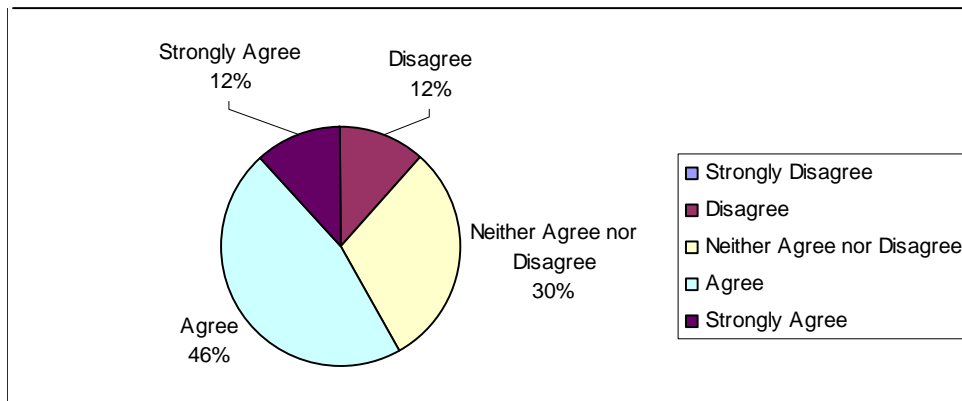


Figure 2: In my own library, I have observed a shift to greater sharing of resources and services with other libraries, institutions, and/or internal departments.

This perspective was contrasted with responses to a question as to whether or not such collaboration was desirable, and needed to enhance the quality of library services and resources. A greater percentage of responses agreed or strongly agreed (82% of responses) that the sharing of resources and services was desirable and required in order to enhance the quality and availability of services and resources, even though such collaboration may not have been observed. This implied that more needed to be done towards enhancing both external and internal sharing of resources and services, and that dialogue between TAFE libraries is desirable to help make this a reality.

Researchers delved further into this highlighted gap after the first questionnaire survey. In the follow-up questionnaire survey, participants were asked for existing and future/desired collaboration in key identified areas of services and resources, such as: database access, reciprocal borrowing, inter-library loans, technical services and processes.

Responses expressed the desirability of some collaboration in some areas, most notably in the functional areas of service provision and resources – with the exception of a standalone TAFE library located in the metropolitan area. There was a significant divide observed between TAFE libraries located in the city or suburban areas, and those in regional areas, especially standalone ones. This brought up the wider problem of the gulf between regional and city TAFE libraries, and the divide between dual sector and standalone TAFE libraries. Dual-sector libraries often had the benefit of having to serve a wider population of students, staff and researchers, and therefore had bigger reason to justify sharing in the acquisition of resources and in services. In other words, they gained the benefit of having access to the higher education sector. This is different for standalone TAFE libraries. One participant regretted the divide:

The gulf between the electronic resources 'rich' and 'poor' is really noticeable in TAFE libraries, particularly small standalone TAFEs, which can't provide the same level of access.

Because of such divides, the spaces of TAFE libraries will vary according to location and type. Understandably, the virtual spaces in these libraries will vary: as with regional and standalone TAFE libraries, there are limited technologies and digital resources available, and whether or not they can keep up with technological changes and digital resources is of concern.

Spaces

Another significant area of change addressed by the study is the transformation of physical spaces in TAFE libraries. Generally, such changes were observed to reflect the integrated services and resources, and collaborative arrangements with other departments and institutions, to share services and resources. Specifically, changes in physical spaces were observed to include more communal, interactive, flexible and open spaces in TAFE libraries. This was indicated by library managers with overwhelming agreement (86%), and complemented by agreement (93% who strongly agreed/agreed) that such spaces were more effective for the learning needs of users. A participant pointed out that

spaces should be more flexible and social -- real one-stop shops for student support and integration of services.

Although it was recognised that communal spaces are necessary, participants also recognised that individual spaces are still in demand. One participant commented:

There is the need for communal spaces, however, silent study places are still in demand.

A significant observation was that the proliferation of digital spaces creates more demand:

It seems that we never have enough computers!

This was also a reflection of how expectations have changed in the contemporary environment. With the increase in demand for computers, libraries are challenged to continually upgrade and increase their computing facilities every year. Funding is an issue – access to computers and digital resources is often directly restricted by inadequate funding and space. The significance attached to digital spaces is clear. Also, one participant noted the increasing importance of the aesthetics of spaces:

Physical environments appear more and more important for students – TAFE library [needs to be] a pleasant, attractive, safe environment with appropriate levels of student support (particularly for international students).

We have noted that the learning commons concept emphasises equal accessibility, and to that feature can be added a safe, pleasant refuge.

Availability and Access

The learning commons ensures fair availability of resources and services. Early in the study, there was consensus by researchers that there have been significant changes in the provision of resources and services in TAFE libraries. This sentiment was affirmed by participants in the questionnaire surveys. As a start, participants were asked if they had observed an increase in the availability of services and facilities in TAFE libraries. A large majority of the participants responded in agreement that there was generally an increase of new services being created in response to changes in the environment (91% who strongly agreed/agreed). Figure 3 displays these results.

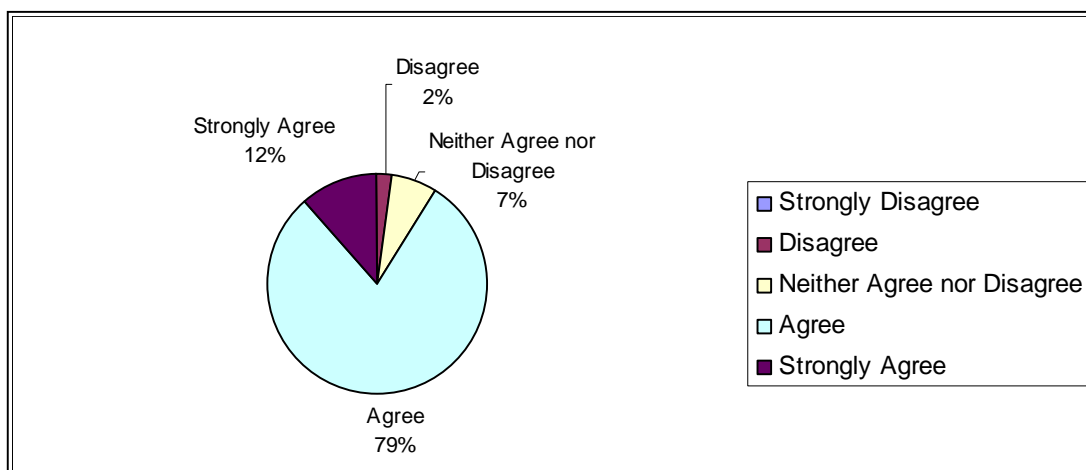


Figure 3: TAFE libraries are creating new services in response to changes in the environment.

While this indicated that there have been attempts in revising services in TAFE libraries, in order to accommodate trends in new media environments and changing needs of the communities which they serve, it does not necessarily imply that services are current and reflective of the actual needs of the communities. This was appropriately affirmed by one participant, who simply noted:

There is an increase in services, but no dropping off outdated services.

Implicit in this finding is the further need for dialogue to be initiated around the revision and examination of services in TAFE libraries to better reflect changing needs, and to better optimise resources and services in TAFE libraries.

Digital spaces were found to be significant in relation to access. While it has been found that there are inadequate computing facilities in many TAFE libraries (see earlier discussion), they play an important role in ensuring the availability of, and access to, resources and services. The Internet and the availability of search engines and other digital resources were essential help to enhance the services of TAFE libraries according to 81%. An example was described by one participant, highlighting how such digital resources and services were especially useful for a poorly funded TAFE library:

Google was a godsend for the poorly-funded library. Teaching students to critically analyse information GOOGLED has been a primary objective.

Thus, though the open availability of digital spaces has proved to be useful to help TAFE libraries improve the overall accessibility of resources and services, there are significant gaps that still need to be addressed: the adequacy of updated networked computers, digital information literacy, funding and the attractiveness of space.

Trends

One of the strongest indications of trends affecting TAFE libraries observed was technological challenges. This was reflected by agreement on the importance of technical support as part of the total service offering by TAFE libraries (see Figure 4).

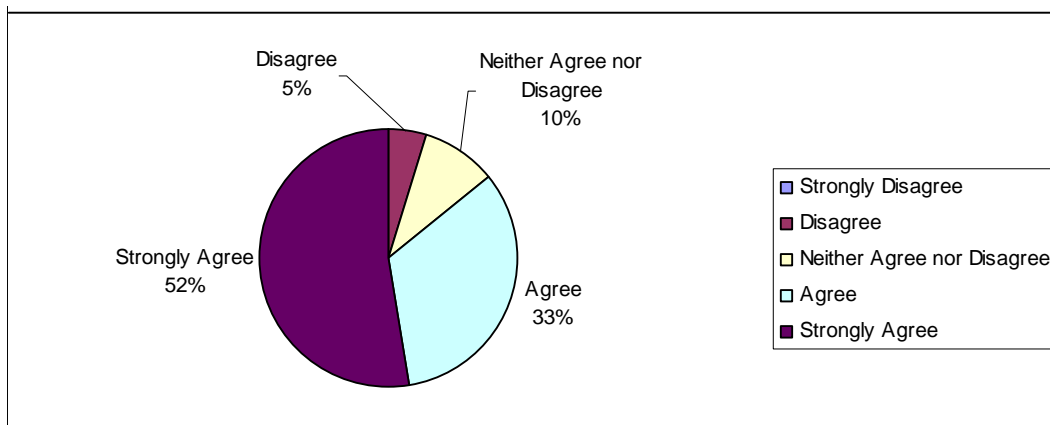


Figure 4: Technical support is an essential service of the TAFE library.

At this point, it might be argued that a causal relationship exists between three factors associated with technological trends: increase in the demand for computing literacy in staff, the integration of technical services as part of the total service offering of TAFE libraries, and the recognised need for computing facilities. In Table 2 below, STAFF_LIT represents the demand for computing literacy and skills in staff, IT_SERVICE represents the perceived importance of technological services as part of the total services offered by TAFE libraries, and IT_FACILITIES represents the perceived need for computing facilities. The causal relationship between these three factors was studied, using correlation analysis, to measure significant relationships and interdependencies between factors. The results of the analysis are in Table 2.

Correlations

		STAFF_LIT	IT_SERVICE	IT_FACILITIES
STAFF_LIT	Pearson Correlation	1.000	.564**	.097*
	Sig. (2-tailed)	.	.000	.031
IT_SERVICE	Pearson Correlation	.564**	1.000	.360**
	Sig. (2-tailed)	.000	.	.000
IT_FACILITIES	Pearson Correlation	.097*	.360**	1.000
	Sig. (2-tailed)	.031	.000	.

*. Correlation is significant at the 0.05 level (2-tailed)

** . Correlation is significant at the 0.01 level (2-tailed)

Table 2: Correlation Analysis

The Pearson correlation is a calculated statistic of two factors. Measurements of significance are then derived based on this calculated statistic. In this analysis, confidence levels of 95% (0.05) and 99% (0.01) were used. In other words, significance measurements lower than 0.05 imply a significant relationship between two factors at 95% confidence level; while significance measurements lower than 0.01 imply a significant relationship between two factors at 99% confidence level. This also meant that relationships that are significant at 99% confidence levels are also relatively stronger than those that are significant at 95%.

The results showed that there are significant correlations between all three factors, using a 95% confidence level. This confirmed the proposition that causal relationships exist between factors associated with technological trends. Although all of these correlations are significant, the results also indicated stronger relationships at 99% confidence level between STAFF_LIT and IT_SERVICE, and IT_SERVICE and IT_FACILITIES.

The demand for computing literacy and skills in staff, and the perceived importance of technological services as part of the total services offered by TAFE libraries, were strongly correlated with each other, with 99% confidence level indicated by the significance measurement. This meant that the higher the demand for staff computing literacy, the higher the importance placed on technological services as part of the library. This relationship works recursively, indicating that the higher the perceived importance placed on technological services as part of the library, the higher the demand for staff computing literacy. With the earlier insight that there is an increasing demand for technological services, technical skills are also in greater demand; which imply impacts on recruitment and professional development. This was affirmed by participants in the study, who attested to increases in technical skills-training and how technical skills that came with newly recruited staff were highly valued and useful.

The second significant relationship lies in the perceived importance of technological services as part of the total services offered by TAFE libraries, and the perceived need for computing facilities. The higher the perceived importance of technological services as part of the total service offerings of TAFE libraries is, the higher the perceived need for computing facilities. Again, this relationship is recursive, meaning that the importance of computing facilities also implies a higher perceived importance of offering technological services together with computing facilities.

The last relationship between the demand for computing literacy and skills in staff (STAFF_LIT) and the perceived need for computing facilities (IT_FACILITIES) was significant at 95% confidence level, although it is a relatively weaker relationship than the other two relationships discussed earlier (STAFF_LIT and IT_SERVICE, and IT_SERVICE and IT_FACILITIES).

The responses and significant relationships reflected a clear suggestion that the spaces and service offering of TAFE libraries need to include digital spaces (technologies and resources), confirming the earlier finding on the prevalence of digital spaces in the

learning commons. At the same time, this suggested a need for an increase in the demand for computing literacy and skills in staff.

Conclusions

This paper has reported significant findings emerging from two surveys distributed to library managers as part of an overall study of TAFE libraries in Victoria, with a focus on the changing places and digital spaces of the library. Questionnaires were used to engage the participation of library managers in the research objectives of the study.

There are some limitations. Both surveys involved only library managers, so that the perspectives are limited to this group of participants. Future work could include perspectives from other stakeholders of TAFE libraries, such as from other library staff and user communities themselves. However, library managers are the prime decision-makers who will shape the learning commons of the future. They identified the need for more technologically-literate and collaborative staff, for greater cross-unit liaisons, for well-wired communal spaces, for equitable access, and for strong technical support (either in-house or bought-in).

Other possible future work will help to further enhance findings from the study. The consideration of institutional directives and how they have affected integration and the type of resources which are included in the learning commons, will be interesting to examine. It will also be beneficial to investigate how much purposeful learning has been achieved in various case studies, while looking into how libraries measure their success. These indicators will complement current methods of performance measures for libraries.

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¹ Natalie Pang was Visiting Scholar to the Singapore Internet Research Centre, Wee Kim Wee School of Communication and Information, Nanyang Technological University, from August to December 2007.