

Is there a need for increased ICT training in library technician courses in Australia?

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Abstract

The role of the Library Technician (LT) has evolved from maintaining a card catalogue of a collection of books to maintaining physical and electronic resources, assisting and educating clients in information literacy and information technology and providing events and activities to benefit the community they serve.

Producing a well rounded and talented LT who can fulfil all of these requirements is a complex task undertaken by Registered Training Organisations (RTOs) under the watchful eye of government and industry. The question of whether courses adequately cover the requirements of LTs and employers was investigated through the use of multiple questionnaires specifically addressing ICT skills and training.

Formal training, as well as on-the-job training and individual attitude and drive contribute to the skills and knowledge of LTs.

Our findings

To help answer this question, we need to understand exactly what ICT is. ICT has been variously described as an umbrella term that includes any communication device or application, usually in combination or integrated with telecommunications (wired or wireless) as well as computers and software specifically designed for purpose. (“Information and communications technology,” 2015; “What is ICT (information and communications technology - or technologies)?” n.d.

Literature review

ALIA is committed to ensuring that education of all library professionals equips them with the skills to provide excellent service in the field of library and information services, as well as to meet changing needs brought about by advances in technology (ALIA, 2009). To achieve this goal, ALIA works closely with educators, employers and training providers encouraging them through the accreditation process to maintain up-to-date courses based on information found through research and analysis of data from various sources and studies such as this.

The key findings of the ALIA LIS education, skills and employment report 2016 showed that during the period November 2010 and November 2015 there were 16.3% more Library Technician (LT) positions in the workforce and the Department of Employment predicted a 4.8% increase in Library Technician positions.

The top three states for job opportunities for librarians and LTs were NSW, Vic and Qld (ALIA, 2016). This study centred on Library and Information Services students and education overall, and so it is not clear what proportion of graduates surveyed were Diploma students.

This is in line with the job advertisements that we reviewed in the course of our research, which revealed available positions varied between state and territories:

Queensland	34
New South Wales	74
ACT	10
Victoria	57
Tasmania	4
South Australia	7
Western Australia	24
Northern Territory	5

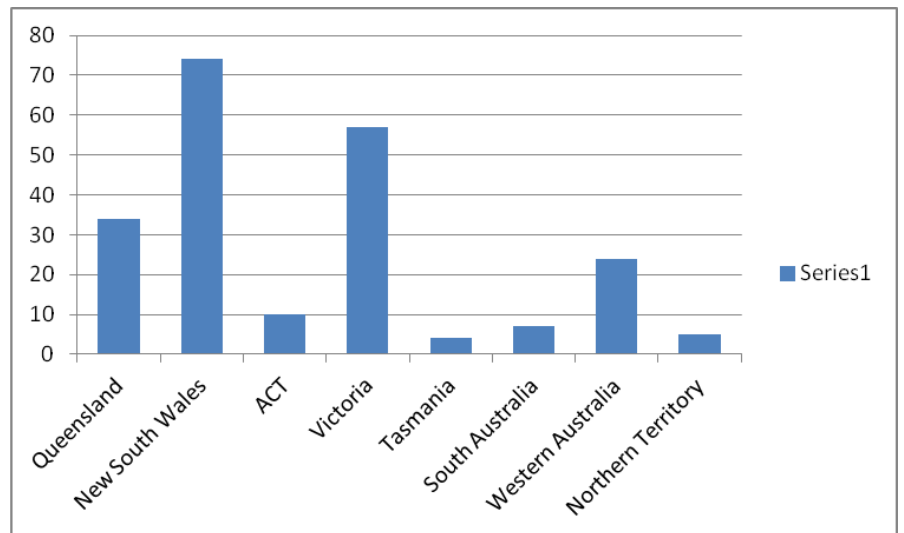


Figure 1. Library job advertisements reviewed 2016/2017

To complicate our research, job titles were not always obvious so we were guided by the ALIA definition of a Library Technician:

Whilst a library assistant works as part of a team assisting librarians and library technicians, a library technician works under the librarian, focusing on the technical aspects to assist customers:

"With a focus on operational and technical aspects of library and information, typical tasks and responsibilities may include:

- assisting with loan and reference queries at the counter and by phone
- assisting with internet and online database searches
- maintaining library resources, records and systems
- entering and editing data into computerised databases
- operating photocopiers and other IT and AV equipment
- arranging inter-library loans
- develop and present promotional programs, including displays and library tours
- undertake copy cataloguing and classification
- at a senior level – supervise other library or clerical staff; manage a small library or information service or head a section in a large library or information" (“Careers in Libraries and Information Science | Australian Library and Information Association,” n.d.).

We utilised job alerts from Seek as well as regular email alerts from ALIA via the ALIA RecruitLIS to monitor job vacancies. Some job advertisements were obvious in their job title, using the actual title "Library Technician". Others were less obvious, ranging from Library Officer, Learning and information officer, Library Teacher-Aide, Library client services officer, Digital collection support officer, Library assistant, and Collections officer.

The main requirement of most positions was the Diploma qualification, followed by "proficiency in computer software, applications, systems, databases and web publishing" and the more generic "Proficient or demonstrated IT skills". Experience with ClickView was another highly sought after skill.

Registered training organisations and ALIA accreditation

The Diploma of Library and Information Services is comprised of a training package which is made up of a nationally endorsed and recognised set of integrated components for training and assessment for a specific industry. These training packages are developed by Service Skills Organisations (formerly Skills Councils) and include units of competency defining the skills and knowledge required to work effectively in the respective workplace; qualification framework (the groups of units ranging from Certificate 1 to graduate Diploma) and assessment guidelines (the industry’s preferred approach to assessment). Only registered training organisations (RTOs) are authorised to deliver training packages provided they are registered to do so. Training packages are monitored in a number of ways and are subject to the National

Skills Standard Council's (NSSC) Continuous Improvement Plan designed to bring changes to training packages to RTOs as quickly as possible (National Skills Standard Council, 2012).

ALIA commenced formal course recognition in 1978 in order to achieve consistent results over library technician graduates (ALIA, 2010).

In order to achieve ALIA accreditation the RTO must:

- Consist of a curriculum that delivers the core knowledge, skills and generic attributes to ensure the highest standard of professional practice
- Offered courses in a number of delivery modes and through flexible delivery options across the institutions providing library and information management courses
- Are appropriately resourced by the providing institution in the number and levels of staff qualified to teach and administer the course and in the infrastructure available to support the course
- Have appropriate quality-assurance mechanisms set in place by the providing institution
- Are advised and supported by industry through mechanisms which enable consultation between course providers and practitioners
- Encourage and facilitate teaching staff exchanges into industry and practitioner exchanges to the teaching environment
- Provide workplace experience as an integrated component to link theory to the practice of the profession
- Offer opportunities for students to engage in authentic learning activities [for example, fieldwork, project work and access to resources in libraries and information agencies] (ALIA, 2010).

A 2011 report funded by the Australian Government Office for Learning and Teaching surveyed library student graduates who reported that the LT course would benefit from the following additions or increased content:

- Advanced searching, IT/web technologies

- Audiovisual
- HTML
- IT skills
- Learning management systems
- New technologies web 2.0
- Website management (Australian Learning & Teaching Council, 2011).

The course

The Diploma of Library/Information Services training package includes 65 units of competency. In order to qualify for the Diploma of Library /Information Services award a student would need to complete 19 units, with 7 core units and 12 elective units divided into specific areas of activity: information and computer technology, information organisation and management, library customer service, library practice, multimedia, preventative conservation, public programmes and recordkeeping (ALIA, 2010). However, the RTO has the ability to decide what units they offer regardless of the area of activity provided they offer 19 units (7 core and 12 elective), with the electives divided between three sections. The RTO may also include subjects from other packages if they are relevant to the course. To complete the Diploma qualification, the students must complete all 7 core subjects plus at least 7 subjects from group A, with the remainder subjects chosen from groups B & C.

The Diploma course is updated regularly to reflect current requirements and standards. Between 2004 (course code CUL50104) and 2016 (course code BSB52115) the number of IT related units rose from six in 2004 to nine in 2011 (course code CUL50111). The nine IT related units were subsequently updated or elevated from elective to core on 14 January 2016, with the release of BSB52115 (Training.gov.au, n.d.). A number of other courses were also updated at this time and the Australian Government Minister for Vocational Education and Skills and state and territory Skills Ministers agreed to extend the teach out period to 18 months (Australian Government, 2016). As a result of this agreed extension, RTOs now have until 14 June 2017, to complete students who are currently enrolled in CUL50111 and issue them with their qualification. The diploma course is estimated to take between, on average, 12 months (full-time) and 38 months (part-time) therefore students wishing to commence study towards a

Diploma in Library/Information Services must now be enrolled in the new qualification, BSB52115.

The table below shows the courses currently on offer around Australia and the units offered in those courses (IT related units highlighted):

BSB52115

	ACT - Canberra Institute of Technology	NSW - TAFE NSW Western	NSW - TAFE NSW North Coast	NSW - TAFE NSW Western Sydney	NSW - TAFE NSW Illawarra	NSW - TAFE NSW Hunter	Qld - Library Training Services Australia	Qld - TAFE Qld East Coast	Qld - TAFE Brisbane	Vic - Box Hill Institute	Vic - Swinburne Uni	Vic - Victoria University/TAFE	Vic - Chisholm Institute	SA - TAFE SA
Core Units														
BSBCUS501 Manage quality customer service	x	x	x	x	x	x	x	x	x	x	x	x	x	x
BSBLDR403 Lead team effectiveness	x	x	x	x	x	x	x	x	x	x	x	x	x	x
BSBLIB402 Consolidate and maintain industry knowledge	x	x	x	x	x	x	x	x	x	x	x	x	x	x
BSBLIB503 Develop and promote activities, events and public programs	x	x	x	x	x	x	x	x	x	x	x	x	x	x
BSBLIB513 Monitor compliance with copyright and licence requirements	x	x	x	x	x	x	x	x	x	x	x	x	x	x
BSBLIB604 Extend own information literacy	x	x	x	x	x	x	x	x	x	x	x	x	x	x
ICTSAS410 Identify and resolve client IT problems	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Elective Units														
Group A														
BSBEBU401 Review and maintain a website		x						x		x				
BSBLIB403 Complete a range of cataloguing activities	x	x	x	x	x	x	x		x	x		x	x	x

BSBLIB406 Obtain information from external and networked sources	x	x	x	x		x	x	x	x	x	x	x	x	x
BSBLIB407 Search library and information databases	x	x	x	x	x	x	x	x	x	x	x	x	x	
BSBLIB506 Maintain digital repositories	x			x	x	x	x		x	x	x	x	x	x
BSBLIB507 Promote literature and reading	x	x	x	x	x	x	x	x	x	x	x	x	x	x
BSBLIB508 Analyse and describe information resources							x			x				
BSBLIB509 Provide subject access and classify material	x			x						x	x	x	x	x
BSBLIB510 Use and monitor advanced functions of integrated library management systems	x		x			x	x	x	x	x		x		x
BSBLIB511 Research and analyse information to meet customer needs	x	x	x	x	x	x		x	x	x	x	x	x	
BSBLIB512 Develop and maintain community and stakeholder relationships		x		x	x	x			x	x				
BSBLIB603 Contribute to collection management	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Group B														
BSBCON601 Develop and maintain business continuity plans														
BSBLIB501 Manage lending and borrowing processes for collections														
BSBLIB502 Manage the development of collections		x												
BSBLIB504 Develop exhibition concepts									x					
BSBLIB505 Develop disaster management plans										x				
BSBLIB601 Research and document collection material														
BSBLIB602 Develop and monitor procedures for the movement and storage of collection material														

BSBLIB605 Analyse and describe specialist and complex material	x												
BSBPMG522 Undertake project work		x	x		x							x	x
BSBRKG502 Manage and monitor business or records systems													
BSBRKG601 Define recordkeeping framework													
BSBRKG608 Plan management of records over time													
BSBRSK501 Manage risk			x										
BSBSUS501 Develop workplace policy and procedures for sustainability		x	x										
BSBWHS501 Ensure a safe workplace		x	x				x	x					
BSBWOR501 Manage personal work priorities and professional development	x		x		x			x			x	x	x
BSBWOR502 Lead and manage team effectiveness		x											
CHCVOL003 Recruit, induct and support volunteers		x											
CUAATS504 Work with Aboriginal and Torres Strait Islander cultural material													
CUACNM501 Assess the significance of collections													
CUAEVP501 Coordinate the installation and dismantling of exhibitions													
CUAEVP502 Develop and implement exhibition interpretive strategies													
CUACNM601 Manage collection maintenance and preservation procedures							x						
FNSORG501 Develop and manage a budget		x											
ICTWEB417 Integrate social web technologies				x	x							x	x
ICTWEB418 Use development software and IT tools to build a basic website	x					x						x	x

ICTWEB420 Write content for web pages														
SITTGDE304 Prepare and present tour commentaries or activities											x			
SITTGDE309 Prepare specialised interpretive content on cultural and heritage environments														
Group C														
BSBLIB303 Provide multimedia support		x	x				x	x		x	x			
BSBLIB305 Use established cataloguing tools		x	x		x			x			x			
BSBMKG413 Promote products and services														
BSBWRT401 Write complex documents														
CHCDIV001 Work with diverse people						x								
CHCLLN001 Respond to client language, literacy and numeracy needs														
CUAEMP403 Install and dismantle exhibition elements														
CUAFIM401 Obtain revenue to support operations														
FNSPIM412 Participate in formal communication processes		x												
ICTICT308 Use advanced features of computer applications			x	x		x		x	x				x	
ICTWEB201 Use social media tools for collaboration and engagement		x	x	x	x	x	x			x	x			
SITXHRM401 Roster staff		x												
TAEDES401A Design and develop learning programs		x												
Imported electives														
BSBLIB405 Assist customers to access information	x											x		x
BSBLDR501 Develop and use emotional intelligence									x					
CUAPRE401 Implement preventive conservation activities										x				x

BSBPIR401 Use and respect copyright



Our research

To get a sense of what employers want, what LTs actually do in the workplace and what experience LT students have prior to and during their studies, we circulated surveys to Employers or supervisors of currently working LTs, currently working LTs and LT students. In order to distribute these surveys to as many people as possible, we utilised the many eLists that are available through library networks.

We received 89 responses from employers/supervisors, 244 from currently employed LTs and 108 responses from LT students.

The results were similar in many areas with the majority of responses from employers being from Victoria (29.2%) and current LTs (36.5%). The majority of responses from students were from Queensland (25%) and Victoria (24.1%).

The types of libraries again were very similar, with the majority in senior schools (employers and current LT). However the majority of students who are currently working are in council libraries.

The size of the libraries was consistent across employers, current LTs and students, with 61.8% of responding employers in 2-10 person libraries, 58.6% of LTs in 2-10 person libraries and 55% of students in 2-10 person libraries. Fifty-five percent of students are currently working in libraries.

Students undertaking Diploma studies were seeking more knowledge (54%) and hoping to gain employment (50.9%). Just under 40% of students had had previous ICT training (76.7%) with this training having taken place on the job.

In the area of equipment for meetings, employers deemed many of the skills as essential and current LTs generally responded as having a level 3 skills (on a scale of 1 (beginner) to 5 (advanced)). There was a slight discrepancy between employer's perception of the LT role in setting up or troubleshooting equipment for presentations with 56.2% responding "yes, their LT was involved in setting up or troubleshooting presentations" and 51.6% of LTs responding they were not involved in setting up or troubleshooting presentations, although employers did rate this as an essential skill and the majority of working LTs rated their experience with projectors as a level 4 (on a 1 to 5 scale). A little over 80% of students

had not had any experience with setting up or troubleshooting equipment for online meetings. Experience with headsets, webcams, microphones and videoconferencing ranged fairly equally within the LT group from 23.8% beginner and 23.8% expert user (headsets and videoconference) and 19% beginner/23.8% expert user for audio. Of the student respondents 58.3% of students had had experience with setting up equipment for presenting, with 27% rating themselves as 1 (beginner) and the highest level of experience (3) estimated by 30.2% of students.

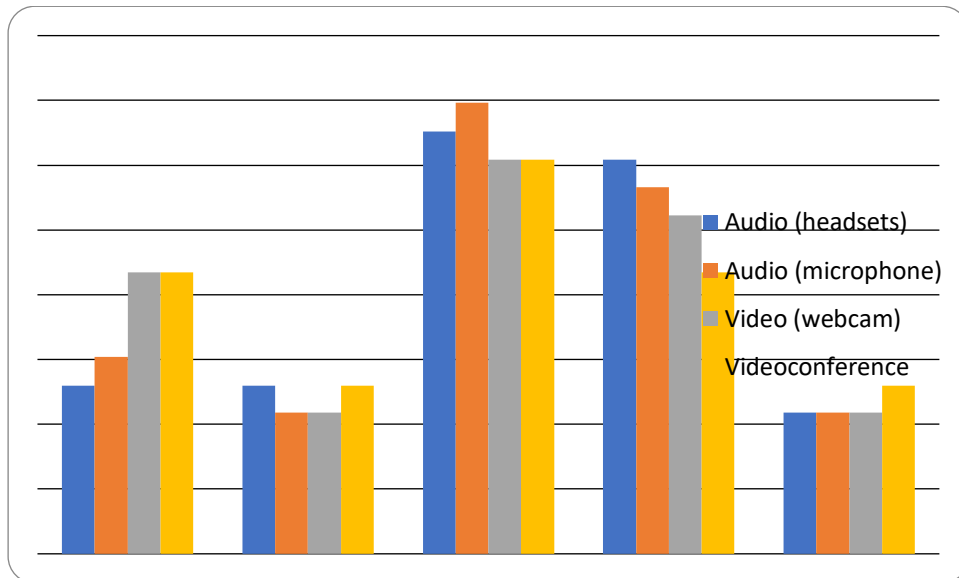


Figure 2. LT self-rated presentation set-up skills

Smartboards were again rated as an essential skill by employers with 43.2% of LTs rating themselves as 1 (beginner), with the next highest rating of 3 by only 22.9% of LTs. Similarly the majority of students rated themselves as beginners for smartboard skills.

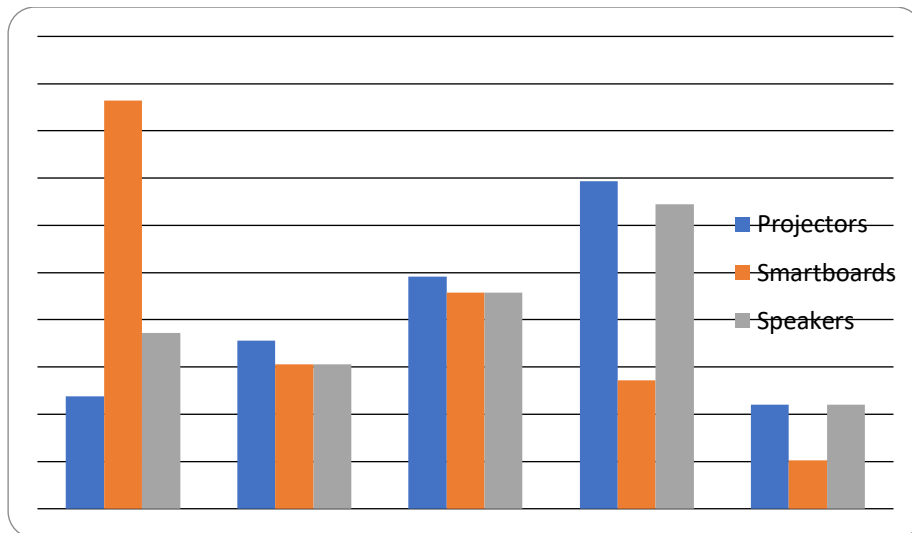


Figure 3. LT self-rated smartboard skills

The majority of Employers (62.9%) and LTs (75.8%) agreed that use of photographic equipment (camcorders and digital cameras) was not a major part of their duties, as was setting up or troubleshooting video/television recording (64% employers, 68.9% LTs). Students rated themselves between a level 3 (36%) and 5 expert user (20%) for experience with a digital camera, with the highest number of students 32% rating their experience as 3 for use of camcorders.

Looking at library equipment, employers saw knowledge and use of library equipment as an essential skill, whereas 46.9% of LTs rated their skills at 4 (MFD) and 37.6% at 3 (laptops). LT knowledge and experience with iPads and iPhones ranged from 13.4% rated 2 to 27.3% and 28.4% rated 4 and 3 respectively. Although 21.8% of students rated their experience in iPads and iPhones at a level 1 (beginner), 29.1% rated the experience at a level 4.

eReaders ranged in both level of necessary skill required by employers 20.3% (not important at all) to 40.5% (essential skill). However, the majority of LTs rated their skill at a level 1(beginner) with the least number of LTs rating themselves in the 5 (expert user) range. The results were similar with the student group, with 38.2% rating their experience at 1 (beginner) down to 9.1% level 5 (expert user).

Self serve checkouts also showed a large discrepancy with 48.1% of employers rating setting up and troubleshooting as an essential skill and 43.3% of LT rating themselves as

beginners. The largest proportion of students (38.2%) rated their experience with self-serve checkout equipment as a level 1 (beginner)

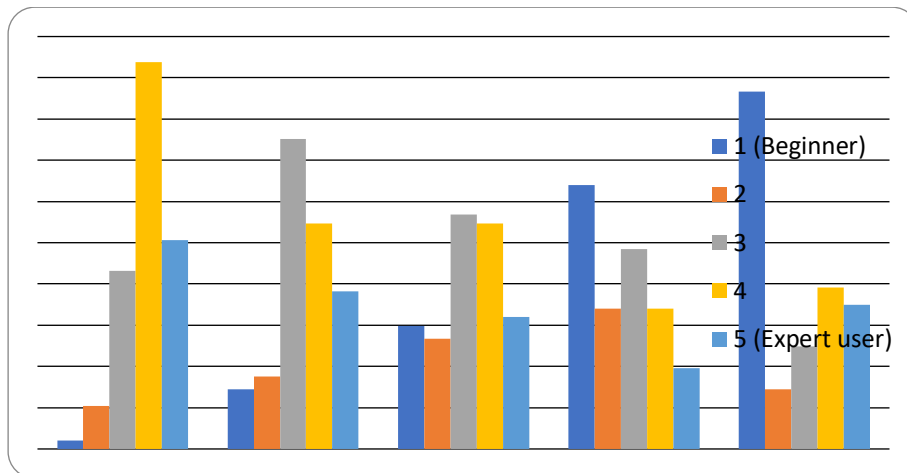


Figure 4. LT self-rated library equipment skills

Responses in relation to cataloguing and digital repositories were similar in the library employers and LT groups.

Surprisingly, 76.2% of LTs are not involved in document delivery using Libraries Australia and employers were in agreement with this at 57.3% saying their LTs were not involved in this activity. Most students (73.1%) said they were not involved in the Libraries Australian Document delivery system.

Sixty-three percent of employers saw database use as an essential skill and 55.3% of LTs giving their self-assessed level of skill at 4 (scale 1 – 5). Database skills were rated as 3 by students (33.3%) and 4 (29.6%).

LTs are involved in using and troubleshooting software with 66.8% of LTs stating they are involved in this activity and 82% of employers agreeing. Microsoft products rate the highest in LT skills: Word 52.1% rated 4; Excel 31.3% rated 4 and 37.4% rated 3; Publisher 27.6% rated 3; Outlook 43.6% rated 4. Access and Project were less important in the view of employers and not well known in LT circles. The majority of students rated their skills with MS office products at a 3 – 4 level, although some were less confident with their abilities with Excel and Publisher, Outlook and Access.

Use of photo/video editing software was not seen by employers as an essential skill. However there was a major discrepancy in the use and experience required by employers

of Clickview. Employers and LTs rated setting up or troubleshooting of Clickview on a scale between 1 and 5 with 1 not important and 5 essential skill:

	<u>Employers</u>	<u>LTs</u>
1	16.7%	31.3%
2	30.6%	14.7%
3	13.9%	19%
4	8.3%	8%
5	30.6%	4.9%

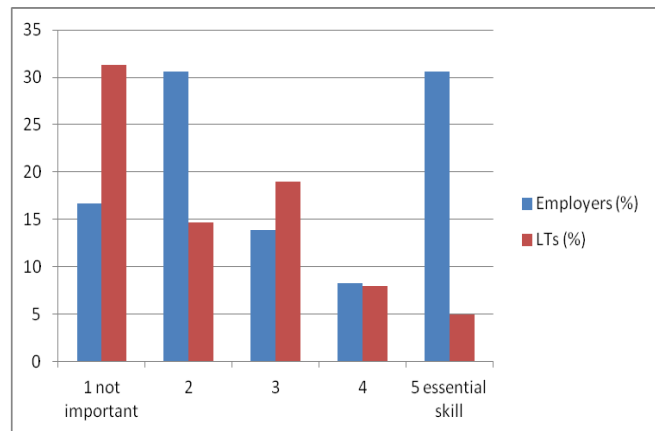


Figure 5. LT self-rated Clickview skills compared to employer requirement

Seventy-one percent of students rated their experience with Clickview at a level 1 (beginner)

Employers gave varying levels of importance to other video editing software such as Moviemaker, iMovie and Mediasite (between 2 and 4), but LTs generally gave their experience in the beginner or not applicable range, as did students.

A little over half of Employer respondents felt that their LTs were not involved in using or troubleshooting Google software products, with those LTs who are exposed to these products ranging in skill, but with the majority being beginners. We received similar response to questions regarding Mac software. Students had a wide range of response to their experience with Google and Mac products, fairly evenly spread across the levels 1 – 5.

Not surprisingly, employers rated the OPAC as an essential skill, but LTs rated themselves in quite a surprising range of 1 (beginner) 2%, 2 - 4.5%, 3 - 15.2%, 4 - 37.7% and 5 (expert user) - 35.7%. Students rated their experience evenly across the range from 1 – 5.

Knowledge of RFID was again seen as an essential skill with LT response ranging from 16% (1 – beginner), 8.2% - 2, 15.6% - 3, 14.8% - 4 and 9% - 5 (expert user). Sixty-three percent of Students reported an experience level of 1 (beginner). LT self-rated skill level for the circulation system ranged from 1.2% (1 – beginner), 3.7% - 2, 9% - 3, 36.9% - 4 and 47.5% -

5 (expert user). Students again rated their experience with LMS software evenly across the rating range of 1 – 5.

Cataloguing is unquestionably an essential skill in LTs, with 34% of LTs reporting an experience level of 4 and 5 respectively.

We looked at what involvement LTs had with network access. Twenty-one percent of employers rated this as not important and 39.3% rated it as an essential skill. Just over 47% of LTs said they are involved in using or troubleshooting the WiFi network, 41.4% are involved in user password issues and 42.6% are not involved in network access. LTs rated their experience with troubleshooting network issues as 36.9% - 1 (beginner) 15.2% - 2, 28.3% - 3, 14.8% - 4 and 4.9% - 5 (advanced). Students reported being involved in network issues (62% WiFi, 48.1% user password/network access, although they reported their experience in troubleshooting networking issues as 34.7% (level 1, down to 13.3% (level 4).

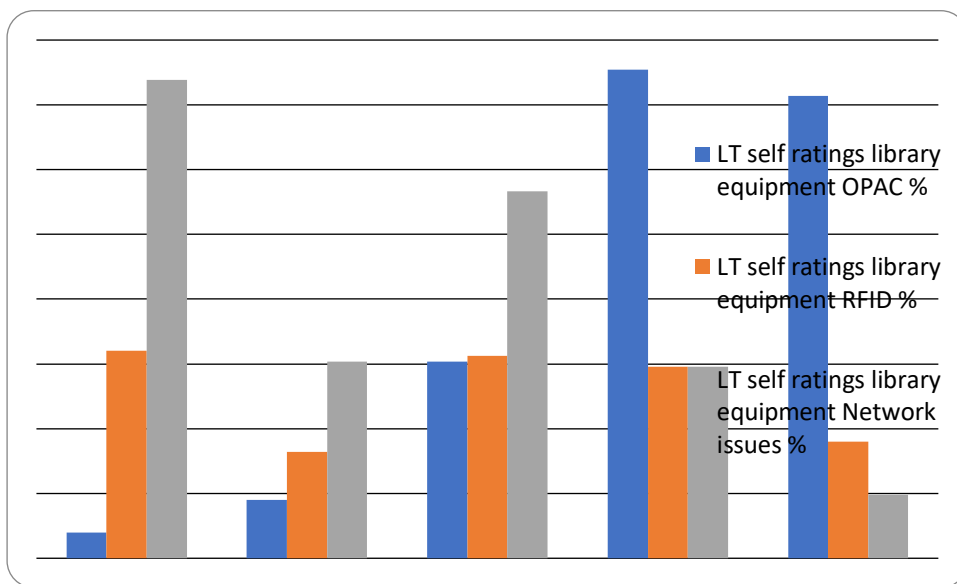


Figure 6. LT self-rated library operational equipment skills

LTs are generally not involved in social networking in the workplace with only 44.9% of employers saying their LTs are involved in social networking and 27% of LTs agreeing with that statement. However, again employers rated the use of Facebook and Twitter as essential skills. Most LTs rated themselves between 3 -18.2% and 5 – 31.8%, student responses were similar, but LTs reported a wide range of experience in Twitter use with 37.9% giving a 1 (beginner) rating and 21.2% a 5 (expert user) rating. The majority of students were less confident with Twitter use (43.9% rating their experience at a level 1. LTs were unfamiliar

with Diigo, the majority rating themselves as beginners with Flickr (50%) and LT and student YouTube users ranging fairly equally from 1 (beginner) to 5 (expert user).

According to employers 57.3% of their LTs are engaged in web site creation or maintenance with 69.7% of LTs agreeing. The majority of employers stated that preparing and maintaining content were essential skills, with 85.1% of LTs telling us that they are involved in preparing and uploading content, 85.1% in maintenance or existing content and 74.3% managing links. 58.3% of students had had experience with web site, ranging from creating and updating content and updating links.

Looking at the responses received from LTs in relation to ICT-related training received through their Diploma course, there is an obvious correlation to course content as the training progresses through its varying iterations from prior 2000 to the current date. The majority of LTs who qualified prior to 2004 listed their ICT-related training mainly as cataloguing, database use and multimedia support. From those LTs who qualified from 2005, digital repositories, web site maintenance and social media units began to filter in. From 2007, more LTs reported received training in digital repositories, social media use, web site maintenance and IT troubleshooting via their course, and LTs who qualified from 2008/2009 began to more regularly reported having studied these subjects.

Employers were asked to comment on what they felt were important skills for LTs. Many of the responses centred around confidence in the area of ICT:

"Putting greater emphasis [on] ICT skills is important - people working in libraries today need to be willing to 'give it a go'"

"Library technicians need to be able to train customers in all manner of IT and social media; they need to learn the ability to "have a go"

"... I've noticed a lack of familiarity with technology in general and a lack of problem solving skills/confidence ..."

"Would expect LTs to have good Microsoft Office skills and a good working knowledge of a LMS."

Of the LTs currently working in libraries, 78.7% reported that they perform ICT tasks as part of their duties which they did not learn in their course. On the job training was responsible for 85.9% of the skills acquired by working LTs.

Comments from LTs showed that many also acquired their skills through trial and error:

"Most of my skills were developed at home or on the job ... and trial and error for most part"

" ... reassure students that they're not going to be proficient at everything ... but stay curious and keep on learning."

"... confidence and time using technology has definitely been of benefit."

"It would be great to have more ICT training in the Diploma course."

Summary and recommendations

In summary, the recent updates to some subjects and elevation of others to core status appears to be warranted from the point of view of employers and LTs currently working in libraries. In order to provide a more consistent course across providers, consideration could be given to elevating more of the ICT-related subjects to core status.

Some areas that were identified to be in need of increased attention in LT training are:

Smartboards

Clickview

Video editing software eg Moveimaker, iMovie, Mediasite

Laptops, iPads and iPhones

eReaders

Self-serve checkouts

RTOs may consider incorporating some of these specific equipments and software types into their course content.

Catch-up units could be offered to LTs to allow them to update their skills where workplace training is not provided.

LTs are required to perform a wide range of skills in their day-to-day activities and it would be impossible to include everything in a single course. Employers should continue to provide on-the-job training to ensure LTs are skilled in equipment specific to their library whilst giving LTs opportunities to "play and explore" to become more familiar with library equipment. A "have no fear" attitude is essential in today's LTs, using trial and error and being prepared to "give it a go".

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