LIBRARY OF THE FUTURE
REPORT

FOREWORD BY THE UNIVERSITY LIBRARIAN

> **In the current age, if libraries did not exist and we were to create an institution or organisation to provide information-related services, what would such an institution look like? Look up the word "library" on Google (because everyone uses Google these days) and you will find definitions describing buildings or rooms with collections of books or information that people can borrow, usually without payment.**

Along with the usual definitions, you will also see articles declaring that libraries are dead, obsolete, replaced by the Internet. These examples illustrate why, in reality, libraries are not dead, nor have they been replaced by the Internet – the information presented by an Internet search is limited, outdated, and one-dimensional, not fully representing libraries as the vibrant and innovative organisations that are still thriving parts of the communities they serve. In our increasingly complex society, the need to share ideas and information and create new knowledge and new ways of understanding the world is more important than ever.

Edith Cowan University Library is a vital part of the University, providing a range of essential services to our community. Contemporary information technology has changed many aspects of library services for the better, by enabling easier and quicker access to information for staff and students, regardless of their location. Our expert Library staff, who are dynamic, forward thinking and service oriented work closely with academic staff to deliver the best teaching and learning materials and meet their research needs. Library staff ensure ECU students develop their information and digital literacy skills and have access to all the information they need to succeed at their studies. The Library has continued to evolve and develop new services to meet the University community's needs, and this report will provide us with a good basis for continued change and improvements.

– Constance Wiebrands, University Librarian

"A library needs to be a welcoming, equitable, functional, and inspiring library that meets the needs of teaching & research staff & students."

CONTENTS

PURPOSE OF REPORT

Edith Cowan University (ECU) is building a new City Campus, opening in 2025. In order to build a campus that meets the future needs of students, the University is exploring what teaching, research and student support approaches are needed in the future.

As part of this larger University project and in order to plan for a library in the city campus, the Library Services Centre decided to conduct a project in 2021 exploring what future library services and facilities are needed in the Library of the Future. In 2020, the Joondalup campus Library went through a refurbishment which included the integration of Career Services and Learning Advisers in a Learning and Career Hub into the Library space. Planning for the city campus included using this integrated service model as an exemplar for planning future integrated support services. As well as investigating what future services and facilities students needed, exploring students' experiences of the new space including use of furniture, technology and services was also a focus of the project in order to provide essential user experience data to help plan for future learning spaces needed in the city campus and future campuses or refurbishments.

METHOD

The Library of the Future project included a large user experience study of students and staff which included interviews, surveys, observation and focus groups. User experience studies in libraries or learning spaces commonly use ethnographic observation, focus groups, interviews and surveys to study user behaviour and experiences (Castro et al., 2019).

Libraries have also often utilised students to collect data from their peers (Hunter & Ward, 2011). Data collection of users' experiences in the new Joondalup refurbishment space included observation of how students use the furniture and space at different times of the day and interview questions with students on how they are using the space, and what their needs are now and in the future. The observation and interviews were conducted by Peers working in the Library, Learning and Career Hub with 1216 interviews being conducted and observation of over 25,000 students. A survey of students' technology experiences was also conducted on the Library and e-Lab computers with over 1800 students filling in the survey. A series of focus groups with 35 students was also conducted across two campuses (Joondalup and Mount Lawley) with students across all Schools and year levels exploring what services and facilities students would like to see in the future. The focus groups included two activities (ranking and picture) and two open questions. A survey which was completed by approximately 7% of staff, asked staff what current and future library services and facilities they value. Finally, a series of forums were conducted to gather insight from Library staff on what services and facilities would be needed in a library in the future.

FUTURE SPACES

In recent years, academic library spaces have been repurposed as collaborative spaces often referred to as commons, hubs or learning spaces, where students can study individually or in groups, relax and eat in flexibly designed spaces with movable furniture and walls. (Chan & Wong, 2013; Lopatovska & Regalado, 2016; McKay, 2011; Turner et al., 2013).

Results from the interviews and focus groups show that students want a variety of spaces in the future including both individual and group study space and want to be in open spaces with access to individual spaces. Students also want spaces with good lighting and views, and comfortable, adjustable furniture and seating options. Students would like facilities that are modern, comfortable and convenient with access to power, food and drinks, kitchen facilities and good bathrooms, 24/7 access to the library and more quiet and private space including booths to study in.

> Students spend long hours in the Library, on average over two hours and visit once or twice a week so want a comfortable environment with access to resources and facilities.

TIME SPENT IN THE LIBRARY AND LEARNING AND CAREER HUB

Once or twice a week	28.30%
Every day	19.45%
Over 2 hours	18.57%
1–2 hours	10.84%
Before or after class	7.87%
Other	7.60%
Once or twice a month	2.64%
1 hour	1.57%
Rarely	1.16%
Once or twice a year	0.83%
No class on day of visit	0.51%
30 minutes	0.28%
A few minutes	0.23%
Only during exam and study periods	0.14%

📢 STUDENT FEEDBACK

"As a student, sometimes you don't want to be alone and you want to be at a University with other people and noise, chatting with friends and studying at the same time."

"Great seating options, sunlight and nature coming in and very spacious. Different areas for group or solo study."

"Different areas of seating – a mix between the two as people like to sit on a chair or at a bench with a table."

Interviews with students showed that they would like more private enclosed spaces, more power points, and quiet spaces as well as more booths and charging stations.

WHAT STUDENTS WANT IN FUTURE SPACES

Other (related to comfort, convenience and facilities)	25.54%
More power points or USB ports	9.29%
More booths	9.23%
More quiet spaces	8.10%
More private spaces	7.29%
Charging stations	5.56%
More food options	4.91%
More group spaces	4.81%
More private spaces	4.64%
More tables or desks	4.00%
More vending machines	2.43%
More moveable furniture	2.32%
More sleeping spaces	2.11%
Better lighting	1.94%
More whiteboards	1.94%
More stand / sit desks	1.57%
More fixed computers	1.13%
More guided face-to-face student support (i.e peer assistants, Library desk staff)	1.08%
More touch screens or screens I can display work on	0.76%
More self help screens	0.70%
More furniture or space access for students with disabilities	0.65%

📢 STUDENT FEEDBACK

"It's nice to have books in the background. If I'm in front of a blank wall, I don't like it – I like to look out of a window."

"It's nice to have windows – if you get tired you can look outside and then go back to your assignment."

"It would be good to have more comfortable chairs with cushions. If you are sitting for some time, they can be uncomfortable."

The most common themes around what students would like to see in future spaces related to comfort, convenience and facilities including:

– Power points on all tables and more power points and charging stations for phones
– More individual and quiet spaces
– More vending machines (i.e coffee) especially for after hours
– More food options including healthy and cheaper options
– Fridges/coffee machines

– Adjustable furniture (chairs, sit/stand desks) and ergonomic chairs for people with disabilities
– 24/7 access
– More comfortable furniture such as booths and couches
– More sleeping pods
– Better soundproofing in study rooms and more study rooms
– More spaces like Kaarla Mia with booths and different seating options

Students also ranked individual spaces as the most important thing to them in the Library with access to online resources and computers being the second most ranked important resource or facility. Students in the focus group ranked laptop loans as the least important. Demand for the laptop loan service remains high, so this ranking relates more to the personal ownership of laptops for the students in the focus group, rather than a reflection on the need and demand for the service.

MOST IMPORTANT LIBRARY RESOURCE OR FACILITY

1 Individual study spaces

2 The online resources (e-books and journals)

3 Access to computers

4 Space to study in groups

5 Bookable rooms

6 The Library website (Library guides, access to Library collections, FAQ's)

7 Access to support from Library staff (i.e enquiry desk, phone, Librarian appointments)

8 Physical resources (books, CD's music etc)

9 Kitchen facilities

10 Laptop loans

Another common theme in discussions with students was around the importance of having access to quiet, private and group spaces. When asked to choose pictures of library spaces they liked, group study spaces (both private and open) often appeared in students' top choices.

Observation data shows that most students used spaces where they felt enclosed, can work in groups, or had access to power points. The least used type of furniture were ones that had no tables (e.g couches) and/or no power points.

MOST USED LIBRARY SPACES

Back of eLab / stairs / Level 1	Occupancy rate
4 green couches/tables (small group space, power points along wall)	92%
2 green booths under stairs (power points)	86%
2 small tables next to stairs (small group spaces)	86%
Long high table behind booths (individual and group space)	85%
Long table at back of e-Lab (power points along the table)	84%
Stairs (cushion seating, power points)	70%
Semi-circle couch and long couch (no tables, no power points)	35%

Kaarla Mia	
2 booths (power points)	88%
2 round tables (individual and small group space)	78%
High bench (next to booths, power points)	76%
Low seated table (no power points)	57%
High seated table (no power points)	35%

Learning and Career Hub	
Cave (enclosed space with desks and power points)	81%
2 booths (power points)	77%
4 tables next to Collective (small group spaces)	76%
Collective (enclosed space with couches, no tables)	58%
Grassy Knoll (bean bags, cushions, no tables)	50%
Huddle space (enclosed, ottoman seats, no table, no power points)	21%

Library main area	
4 booths (power points)	87%
Table with multiple ottoman chairs (power points)	74%
Tables with computers (high and low, no power points)	30%

UniPrep / PASS classroom area	
Table in kitchen (power points along the table)	89%
Desks near classrooms along window and wall (power points)	85%
Teahouse (enclosed group space with sofas and small table)	71%
Huddle space (enclosed, ottoman seats, no table, no power points)	61%
Back-to-back sofa (no table, no power points)	57%

📢 STUDENT FEEDBACK

Students mentioned wanting more access to collaborative study rooms with technology and screens. They want access to bookable media or recording rooms and rooms that are soundproof for music or theatre practice. Students also wanted interactive booking screens and more interactive whiteboards and access to rooms for online meetings.

"I'm a group person and learn more by having people around me and a space where we can share ideas."

"I really like booths with screens – if you're doing a presentation that's really good."

"I like booths and sections that close off, so you feel like you're in a private space and you talk in groups."

When it came to quiet and private spaces, students often mentioned the need for quiet places to study in the future and for it to be clear that those spaces were for quiet study and that there should be different floors or areas for different purposes.

"More quiet areas would be good. The common areas where some students are doing group activities can become quite noisy."

"Study rooms that are soundproof so if we're practicing, reading out lines or even for language practice (eg. you want to practice Italian phrases in a private space)."

Libraries have traditionally been built as places for print collections, but with the continuing shift towards digital collections a major shift has occurred in libraries towards more collaborative and interactive learning spaces with libraries needing to be student centred spaces that embody new pedagogies that align with the institutions teaching and learning priorities (Oliveira, 2018).
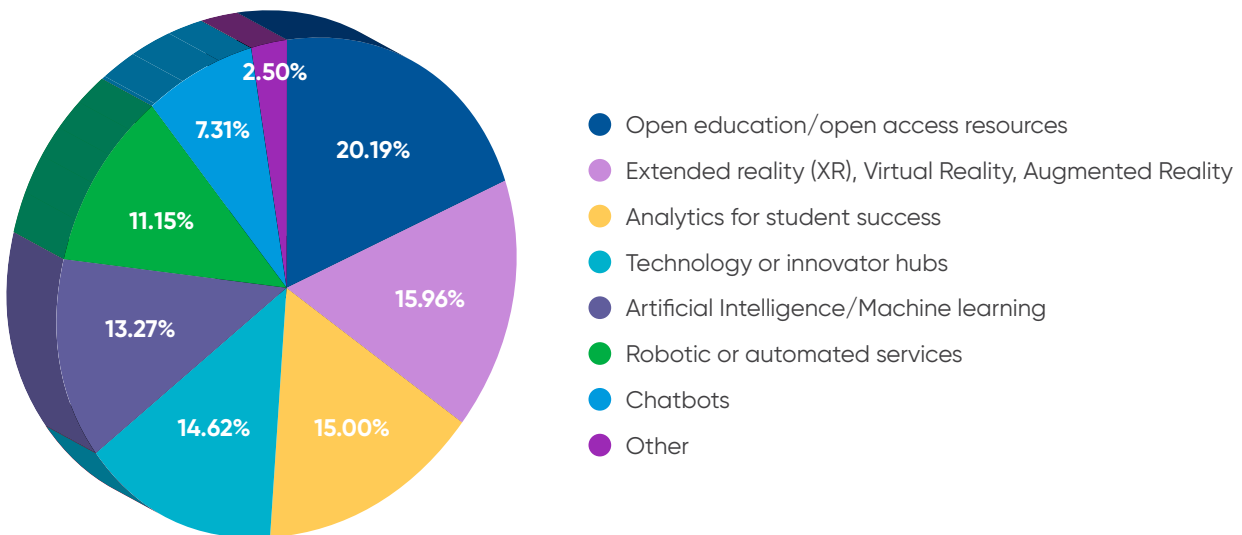
FUTURE TECHNOLOGY

Library buildings are increasingly open 24/7 and technology will continue to help libraries provide continuous support to students. Chatbots are one technology that is being used to answer user queries using natural language processing outside of normal hours (Vincze, 2017). Robotics is another technology increasingly being used to save time and provide more efficient space and retrieval processes for print material with RFID technology also now being used to improve shelving processes with machines able to scan shelves and produce reports (Llewellyn, 2019).

The higher education sector is experimenting with Extended Reality (XR) technologies in the curriculum including Virtual Reality (VR) and Augmented Reality (AR) according to the *Horizon Report Teaching and Learning Edition 2020* (Brown et al., 2020). Libraries are also adopting VR and AR technologies through enabling gaming and free play and using VR and AR to teach classes and workshops (Pope, 2018).

Staff at ECU felt that emerging technologies such as XR and VR and analytics would have the most impact on universities in the future. Some other technologies they felt would have an impact were online simulations and holographic technology. Staff reiterated the importance of blending the digital and face-to-face environments seamlessly in libraries, and the importance of library spaces as informal spaces for students to meet and study in.

EMERGING TECHNOLOGY AND PRACTICES

Pie chart segments:
- 2.50%
- 7.31%
- 20.19%
- 11.15%
- 15.96%
- 13.27%
- 15.00%
- 14.62%

Legend:
- Open education/open access resources
- Extended reality (XR), Virtual Reality, Augmented Reality
- Analytics for student success
- Technology or innovator hubs
- Artificial Intelligence/Machine learning
- Robotic or automated services
- Chatbots
- Other

📢 STAFF FEEDBACK

"A library that creates a sense of community for students, a safe place to gather with peers for study and catching up. Seamless fusion with technology-assisted products (eg. touchscreens, AI, virtual personal assistants)."

"A library that meets the interface between a digital and technology rich space that has some physical resources for students to read in surroundings that facilitate quiet and group-based learning."
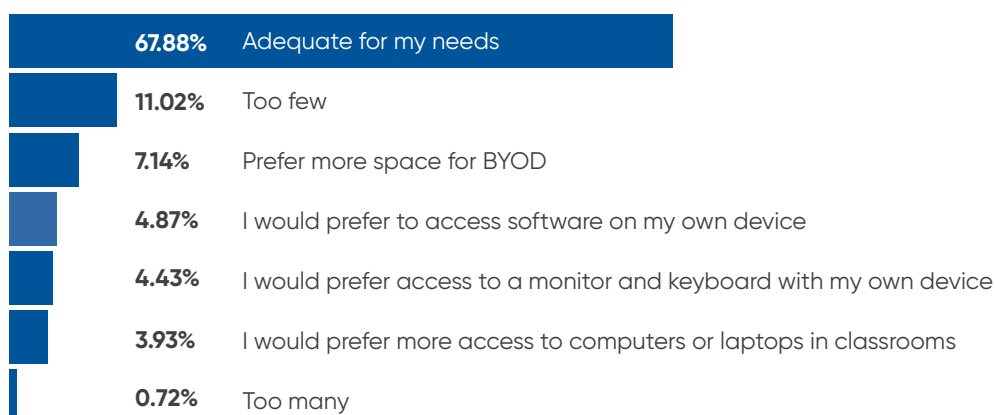
> **ECU Library has a popular laptop loan service, which students have indicated they would like to borrow for longer periods. The laptop loan service is especially popular with international students (around 50% usage) and students from equity groups such as first in family, students with disabilities and regional and remote students, therefore this will be an important future service to provide to ensure digital equity for students.**

In student surveys and interviews, some students indicated that they would like to borrow or have access to other types of technology in the future, including tablets, cameras, recording or filming equipment, specialised software (either to borrow or to install on their own device), headphones, 3D printers, VR equipment, mouse, monitors, chargers and gaming equipment.
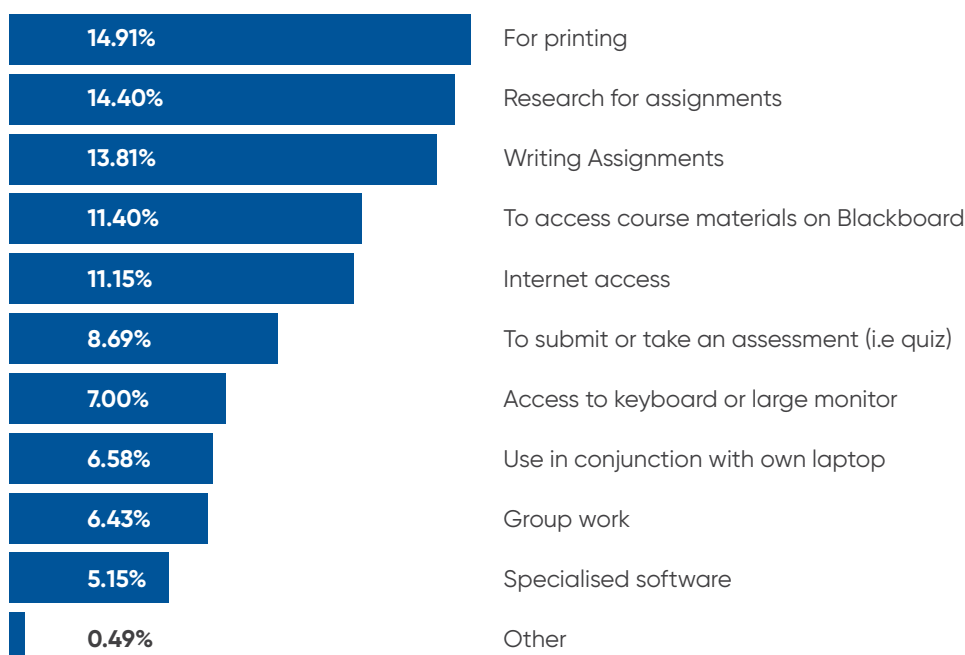
Although observation of students in the Library indicated that 77% of students are using their own laptops, students in the survey and focus groups indicated that they also want to have access to computers in the e-Lab and Library, therefore in the future the Library needs both BYOD (bring your own device) space and access to fixed computers.

NUMBERS OF COMPUTERS

%	Category
67.88%	Adequate for my needs
11.02%	Too few
7.14%	Prefer more space for BYOD
4.87%	I would prefer to access software on my own device
4.43%	I would prefer access to a monitor and keyboard with my own device
3.93%	I would prefer more access to computers or laptops in classrooms
0.72%	Too many

Students indicated that they used the computers in the e-Lab and Library for printing and researching and working on assignments.

REASONS FOR USING COMPUTERS IN LIBRARY AND E-LAB

%	Category
14.91%	For printing
14.40%	Research for assignments
13.81%	Writing Assignments
11.40%	To access course materials on Blackboard
11.15%	Internet access
8.69%	To submit or take an assessment (i.e quiz)
7.00%	Access to keyboard or large monitor
6.58%	Use in conjunction with own laptop
6.43%	Group work
5.15%	Specialised software
0.49%	Other

Students discussed wanting technology to be more accessible in the future, wanting more access to specialised software on their own devices as well being able to print from mobile devices. Students also indicated they wanted access to bigger screens, left-handed mice and access to dual screens and touch screens.

Students overall indicated across all the interviews, focus groups and surveys that they are happy with the provision of computers and technology in the Library, but that in the future the Library and University should ensure they have access to the latest technologies available.

📢 **STUDENT FEEDBACK**

"Laptops or tablets would be of great help. Certain software is not available on all computers. For example, School of Engineering students have to use particular software in the computer labs and they're not open 24/7, so it's quite inconvenient if you have a project and its expensive to own the licenses to this software."

"I am very satisfied with what ECU has provided so far in my degree. Coming from a University over east I was a little nervous coming to the library/computer lab for the first time as it can be overwhelming. I am blown away with the amount of resources and support that ECU provides and I am extremely impressed. I have not stopped talking about my experience so far with ECU to practically anyone I meet! 10/10 university. The support, guidance and equipment provided by ECU is very helpful and is making my higher education process a lot smoother. Thank you so much."

FUTURE SERVICES

As the shift away from collections and libraries being the only source of information continues, libraries are becoming more dynamic in creating new types of services to support changing practices in research, teaching and learning. (Pinfield et al., 2017). New pedagogies such as blended, collaborative learning, Hyflex and hybrid learning necessitate that librarians are embedded in curriculum and that librarians reconsider student's information seeking behaviours in these new learning environments (Gwyer, 2015; Stark & Samson, 2010). According to the Horizon report 2021, adoption of blended or hybrid learning models has also necessitated the adoption of new learning technologies and tools that support learning (Pelletier et al, 2021).

One of these new service-orientated roles includes the curation and preservation of digital content to both the higher education institution and wider audiences (Dempsey, 2016).

Another continuing trend is a tiered service model in which libraries utilise a combination of library professionals, paraprofessionals and students (Keyes & Dworak, 2017). With the integration of services into the new refurbishment at Joondalup, a tier service was implemented where Peer Assistants worked as a concierge and referral service to other professional services in the Library, Learning and Career Hub. The Peer Assistant service managed around 7300 queries during the first year of the service.

Students in the interviews and focus groups were happy with the level of support they received in the Library and wanted to ensure that these services remained visible, easy to access and available in the future including services from peers and professional services and online services such as chat services. Students also wanted access to self-help facilities in the future.

📢 STUDENT FEEDBACK

"If you had a help desk like the ones in shopping centres that show you where to go, that kind of information would be really good."

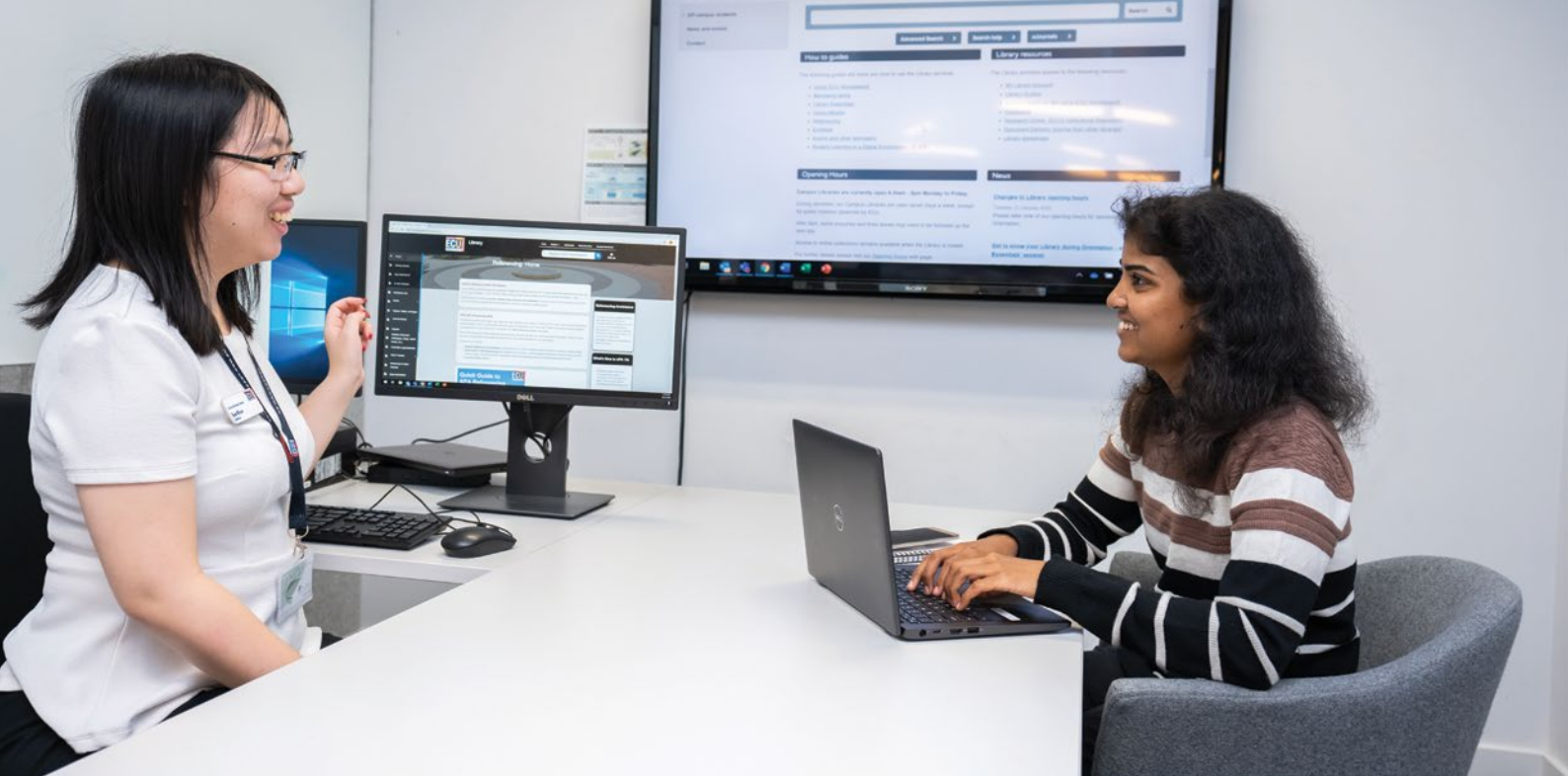**"There is always someone available to help with services, and I would like to see this at the new city campus."**

"I feel like we have good enough resources and it seems that all is working well right now. Career Hub is just around the corner and we have the Peer Assistants that can answer questions too."

"Access to Librarians is very useful for research students."

> Staff also value and want services in the future such as digital literacy support for students, research support workshops and curated services such as a literature search service.

FUTURE SERVICES – SURVEY RESULTS

1 Digital Literacy and learning technology support for students (i.e workshops, appointments, drop-in's, resources on research skills, referencing, copyright, Blackboard, Panopto, PebblePad etc)

2 Research support workshops (for staff and students, e.g open access, ORCID, research performance analytics, re-using open data, data visualisation)

3 Literature searching service (students and staff)

4 Library enquiry service (staff led, desk, phone, email, chat)

5 Technology loans (i.e laptops, Virtual Reality equipment, Recording equipment)

6 Document Delivery and Inter Library Loan service

7 Integrated service and support for students (i.e Library, e-Lab, learning support)

8 An institutional repository (research online)

9 Community engagement services (workshops, tours, exhibitions with Schools, public etc)

10 Online chat services

11 Concierge services (peer student led welcome service)

12 Other

There is an increasing trend of academic institutions and libraries incorporating services into integrated service learning spaces such as commons or hubs. The most common services that are integrated into library buildings are writing centres, counselling and advising services, career development centres, disability services, diversity centres, student learning centre (Student Success), ESL services, technology support, teaching support and tutoring services (Oliveira, 2018). This continued trend of integrated services at ECU will help to ensure learning spaces in the city campus and all campuses in the future are student focussed, flexible and provide seamless access to support services.

📢 STAFF FEEDBACK

"A Library can't be planned in isolation - there's a need for an integrated service model."

FUTURE COLLECTIONS

University libraries continue to transition to digital or online collections to facilitate access to library resources wherever users are located around the globe. This conversion has been happening for decades and Australian University libraries have more online collections than print or hard copy collections.

However, this transition is not without its complexities. The first is the user perception that the move to online resources results in unlimited access to all items, when the reality is that licencing restrictions limit the number of users that can access a resource at any one time. The other complexity is the impact this has on users from different disciplines, as there is evidence that eBook and print usage patterns differ across subject disciplines or publishers (Yuan et al. 2018). This has implications for libraries that serve large cross disciplinary communities as part of its cohort of users.
ECU Library was well positioned with the transition to online collections during the COVID-19 pandemic in 2020, due to an e-preferred collections policy which meant that most of the scholarly publications needed for teaching and learning were already available online. The importance of a comprehensive collection of online resources has been echoed by staff and students in the survey results that inform this document. However, it is noted that staff also point out the importance of access to both online and print collections, especially for specialised print collections.

FUTURE RESOURCES AND FACILITIES – STAFF SURVEY

1. Access to online resources (journals, e-books, videos)
2. Individual study spaces for students
3. Group study spaces for students
4. Access to physical resources (Print resources)
5. Automated lending and return machines (i.e laptops, books)
6. Online group meeting booths for students (technology enhanced spaces)
7. Transitional spaces for students to study, meet and relax (i.e stairs, waiting spaces outside classes)
8. Spaces for listening to online lectures
9. Relaxation and well being spaces (sleeping, meditation, prayer etc.)
10. Interactive displays or whiteboards

11. Fixed computers
12. Spaces for listening to recordings of physical items
13. Teaching and drop in spaces
14. Technology makerspaces or hubs
15. Universal design (i.e furniture and software)
16. Parenting rooms
17. Automated wayfinding (directional and informational screens)
18. Access to physical resources (Music LP's, CD's)
19. Access to physical resources (Music Scores)

Students also value having access to high use collections and want space in the future to read these collections. Research students in the focus groups also pointed out the importance of inter-library loans for their specialised research needs.

Higher education institutions are actively developing and curating OER resources such as open textbooks, MOOCs, datasets and lesson plans with increased adoption due to the positive impact such open content has on affordability, equity, recruitment and retention (Brown et al., 2020; Colvard et al., 2018). The Council of Australian University Librarians (CAUL) supports the adoption, adaptation or creation, and sharing of Open Educational Resources (OERs) at member institutions (CAUL, 2019). Recent OER activities in Australia include delivering OER awareness sessions, providing guides and web pages that guide the user through the use of open resources and the possible benefits to teaching and learning practices, aligning OER textbooks with selected subject areas, publishing, delivery of an open textbook forum or events and creating a record of self-reported OER adoptions (Ponte et al., 2021; Udas et al., 2016).

Staff at ECU also see the value of open education and open access in the future. The Library can play a critical role in this trend through curating open educational resources, providing platforms and support for publishing open materials and providing access to open materials through avenues such as transformative agreements. These resources have been written and made freely available to use, there are no limitations on the number of users that can access the item and are freely accessible by students and staff alike. The use of Open Educational Resources reduces the costs to study for students as there is no textbook to purchase and there are no access restrictions on the resource. It is for this reason that University's around the world are working with academic staff to write these resources for use in their courses and to alleviate the costs of studying for students. The Library continues to advocate for the use of these resources by academics to improve access and reduce financial barriers to access for students.

In order to continue to support online teaching and the needs of ECU into the future, the Library will continue to investigate and try new models of online access to scholarly resources. In the planning for the Library of the Future and the new City Campus Library Collection there is a need to review current ECU Library collections to ensure that these meet the diverse teaching and learning and research needs of the University in the future. While there is an obvious need for access to online resources, for some disciplines multiple studies have shown evidence (Wilson et al. 2021) and (Yuan et al. 2018) that use of print resources is stronger in the disciplines of humanities, arts and social sciences.

This external evidence has also been confirmed at ECU as part of the consultation with key stakeholders from the areas moving to the new City Campus –

i.e Kurongkurl Katitjin, Arts and Humanities and the Western Australian Academy of Performing Arts (WAAPA). The key stakeholders all highlighted the need for specific physical collections to be included in the City Campus Library Collection based on their discipline requirements, these areas also supported the use of online resources in conjunction with the nominated print resources to support their discipline.

📢 STAFF & STUDENT FEEDBACK

"A Library that has its unique collection of high-quality print photo and art books that are in line with the artistic vision of the uni and not something everyone can afford to own, along with the functional and not necessarily fancy technologies."

"One that incorporates the mix of technology, face to face (nothing should ever replace this), online learning, access as a public chamber concert venue, and access to physical resources."

"I like using the high use collection and I would like to sit in the room and use the book for the whole day. I would like more space and more time – currently only floor space is available and there are no charging facilities. It would be good to have this facility on different levels and not just on one level."
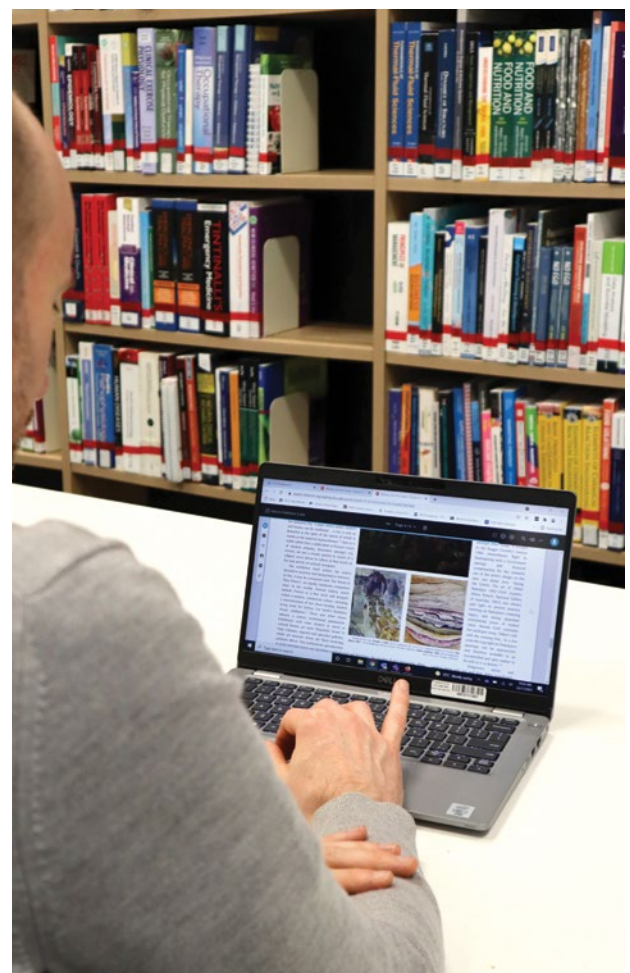
LIBRARY OF THE FUTURE PRIORITIES

The Library held a number of Library staff forums to discuss and learn staff views on what a library of the future would look like. The Library of the Future meets the University's priorities of delivering exceptional student experiences and undertaking impactful world-class research.

The DVCE's vision of a university library as an inviting, provoking, connecting and inspiring space also informed our thinking and discussion. The Library of the Future invites, provokes, connects and inspires through design of a welcoming and inclusive library space, through services that are accessible and visible, through the provision of accessible and current technology and updated collections that reflect the University values.

	INVITE	PROVOKE	CONNECT	INSPIRE
Future Spaces	Accessible (non-sensory, access for students with disabilities, students with children)	Modern design: areas that reflect Indigenous culture/LGBTIQA+/ specific disciplines	Common areas to promote cross-disciplinary conversations and collaboration	Displays through local partnerships with museums, art galleries, community groups
	24/7 access in a secure environment Access to a variety of food and kitchen options Modular, hybrid and flexible spaces and furniture for study and teaching	Areas that inspire a creativity mindset Student art displays, (e.g streaming WAAPA performances) that provoke and inspire	Entrepreneur hub: fostering connections to the public and business Partnership between Library, industry and community groups	Promote students' achievements and outputs through digital displays or live performances
	Culturally safe spaces with inclusive signage and displays Celebrate diversity	Study rooms with soundproofing, lighting, cameras, audio equipment to provoke creativity	Hold public lectures and workshops	Bookable group spaces for students
Future Technology	Digital inclusion (access to WiFi, dongles, chargers)	Use of augmented reality and gamification	Webinar meeting rooms for cross-campus (or offshore) group meetings/spanned group meeting rooms	Vending/lending machines for technology (i.e laptops, chargers)
	Charging stations and access to computers	Current and upgradable technology (i.e multimedia equipment, Interactive whiteboards)	Self-help wayfinding	Technology enabled study areas
Future Services	Equitable access to services (face-to-face and online)	Added-value services such as support for literature reviews and data management	Ensures services are equitable for offshore students and across all campuses	Create opportunities for student employment
	Services for the community, schools, alumni	Support micro-learning through curriculum resource development	Learning technologies and digital literacy support	Work with student as partners
	Visible services	Respond to user needs through user experience data Adaptable workforce that is responsive (e.g workplace or technology)	Integrated services	Researcher support services (data management, researcher identity)
Future Collections	Update outdated or discriminatory cataloguing (i.e LGBTIQA+, Aboriginal and Torres Strait Islander)	Open access	Evidence based acquisition of resources	Display and manage student and staff publications and research outputs

RECOMMENDATIONS

THEMES	RECOMMENDATIONS
Future Spaces	Design and plan future campus Libraries based on consultation with students and staff.
	Be a welcoming, inclusive and culturally safe space.
	Ensure spaces meet a variety of student space needs including access to individual and group space.
	Enable a safe 24/7 space for students to study in with access to facilities.
	Incorporate self-help and seamless wayfinding and signage into future library design.
	Design spaces that are comfortable with accessible furniture and spaces that are conducive to study with good views and lighting.
Future Technology	Ensure students have access to the latest technologies that inspire and provoke creativity and innovation.
	Promote digital inclusion and equity through technology lending services and access to computers.
	Provide easy access to technology through lending/vending machines.
Future Services	Lead and collaborate with other services on an integrated service model that offers seamless support for students.
	Provide support to researchers through offering research support services and literature search services.
	Will lead the embedding of digital literacy skills in the curriculum and provide orientation to students in information literacy and digital readiness.
	Provide visible and equitable services through peer support and professional staff support across all campuses, online and offshore.
	Develop new services in response to evolving teaching and research models and to support the teaching–research nexus.
Future Collections	Will lead future strategy on open educational resources and open access.
	Will continue to work with faculty to maintain a steady state collection of print collections.
	Will work with CAUL to ensure increased access to online resources through transformative agreements as well as continue to utilise evidence-based acquisition models.
	Update outdated or discriminatory cataloguing (i.e LGBTQIA+, Aboriginal and Torres Strait Islander).

ACKNOWLEDGMENTS

REFERENCES

Brown, M., McCormack, M., Reeves, J., Brook, D.C., Grajek, S., Alexander, B., Bali, M., Bulger, S., Dark, S., Engelbert, N., Gannon, K., Gauthier, A., Gibson, D., Gibson, R., Lundin, B., Veletsianos, G., & Weber, N. (2020). *2020 Educause horizon report teaching and learning edition.* EDUCAUSE. https://www.learntechlib.org/p/215670/

Castro, R., Spina, C., & Xu, Y. (2019). Measuring space and furniture occupancy in academic libraries: From data gathering to visualization. *Journal of Library Administration, 59*(6), 579-605. https://doi.org/10.1080/01930826.2019.1626649

Council of Australian University Librarians. (2019). CAUL statement on open scholarship 2019. https://www.caul.edu.au/sites/default/files/documents/scholcomm/open-scholarship2019.pdf

Chan, D. L. H., & Wong, G. K. W. (2013). If you build it, they will come: An intra-institutional user engagement process in the Learning Commons. *New Library World, 114*(1/2), 44-53. https://doi.org/10.1108/03074801311291956

Colvard, N. B., Watson, C. E., & Park, H. (2018). The impact of open educational resources on various student success metrics. *International Journal of Teaching and Learning in Higher Education, 30*(2), 262-276. https://eric.ed.gov/?id=EJ1184998

Dempsey, L. (2016). Library collections in the life of the user: Two directions. *Liber Quarterly, 26*(4). http:/doi.org/10.18352/lq.10170

Gwyer, R. (2015). Identifying and exploring future trends impacting on academic libraries: A mixed methodology using journal content analysis, focus groups, and trend reports. *New Review of Academic Librarianship, 21*(3), 269-285. https://doi.org/10.1080/13614533.2015.1026452

Hunter, G., & Ward, D. (2011). Students research the library: Using student-led ethnographic research to examine the changing role of campus libraries. *College & Research Libraries News,* 72(5), 264-268. https://doi.org/10.5860/crln.72.5.8560

Keyes, K., & Dworak, E. (2017). Staffing chat reference with undergraduate student assistants at an academic library: A standards-based assessment. *The Journal of Academic Librarianship, 43*(6), 469-478. https://doi.org/10.1016/j.acalib.2017.09.001

Llewellyn, A. (2019). Innovations in learning and teaching in academic libraries: A literature review. New Review of Academic Librarianship, 25(2-4), 129-149. https://doi.org/10.1080/13614533.2019.1678494

Lopatovska, I., & Regalado, M. (2016). How students use their libraries: A case study of four academic libraries. *College & Undergraduate Libraries, 23*(4), 381-399. https://doi.org/10.1080/10691316.2015.1039742

McKay, D. (2011). Spinning straw into gold: A community college library's twenty first century transformation. *Community & Junior College Libraries, 17*(1), 1-6. https://doi.org/10.1080/02763915.2011.569247

Oliveira, S. M. (2018). Trends in academic library space: From book boxes to learning commons. *Open Information Science, 2*(1), 59-74. https://doi.org/10.1515/opis-2018-0005

Pelletier, K., Brown, M., Brooks, D. C., McCormack, M., Reeves, J., Arbino, N., Bozkurt, A., Crawford, S., Czerniewicz, L., Gibson, R., Linder, K., Mason, J., & Mondelli, V. (2021). *2021 EDUCAUSE horizon report teaching and learning edition.* EDUCAUSE. https://library.educause.edu/-/media/files/library/2021/4/2021hrteachinglearning.pdf

Pinfield, S., Cox, A. M., & Rutter, S. (2017). *Mapping the future of academic libraries: A report for SCONUL.* Society of College, National & University Libraries. https://sconul.ac.uk/sites/default/files/documents/SCONUL%20Report%20Mapping%20the%20Future%20of%20Academic%20Libraries.pdf

Ponte, F., Lennox, A., & Hurley, J. (2021). The evolution of the Open Textbook Initiative. *Journal of the Australian Library and Information Association, 70*(2), 194-212. https://doi.org/10.1080/24750158.2021.1883819

Pope, H. (2018). Virtual and augmented reality in libraries. *Library Technology Reports, 54*(6), 1-25. https://doi.org/10.5860/ltr.54n6

Stark, M., & Samson, S. (2010). Organized spontaneity: The learning commons. *College & Undergraduate Libraries, 17*(2-3), 260-272. https://doi.org/10.1080/10691316.2010.487442

Turner, A., Welch, B., & Reynolds, S. (2013). Learning spaces in academic libraries – A review of the evolving trends. *Australian Academic & Research Libraries, 44*(4), 226-234. https://doi.org/10.1080/00048623.2013.857383

Udas, K., Partridge, H., & Stagg, A. (2016). Open education practice at the University of Southern Queensland. In P. Blessinger & T. J. Bliss (Eds.), *Open education: International perspectives in higher education.* Open Book Publishers. https://doi.org/10.11647/OBP.0103.16

Vincze, J. (2017). Virtual reference librarians (Chatbots). *Library Hi Tech News, 34*(4), 5-8. https://doi.org/10.1108/LHTN-03-2017-0016

Wilson, K. M., Hooper, R., Simpson, J., & Slay, J. (2021). Comparing print and eBook usage to meet patron needs. *Collection Management, 46*(2), 91-106. https://doi.org/10.1080/01462679.2020.1833802

Yuan, W., van Ballegooie, M., & Robertson, J. L. (2018). eBooks versus print books: Format preferences in an academic library. *Collection Management, 43*(1), 28-48. https://doi.org/10.1080/01462679.2017.1365264

CONTACT

📞 (08) 6304 5525

✉ library@ecu.edu.au

🐦 @ECU_Library