

# Skills for the future academic library

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# New horizons for Academic Libraries?

Progressing new services through collaboration.

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# This presentation will cover:

## **Part 1**

Embedding key services across your HEI through situated understanding

## **Part 2**

Expanding Learning Resources services through collaboration

## **Part 3**

Makerspaces: From theory to practice

## **Conclusion**

Evolving Academic Libraries' critical role

# Part 1

**Embedding key services  
across your HEI through  
situated understanding**

# Situating Professional Practice

→ Understanding the specific culture you are in can lead to new service ideas:

“information literacy is a situated practice that is shaped through the interactions between people. This explains why it is so difficult to articulate a single definition for information literacy because each definition is a product of its particular setting with its underlying discourse about what information is and what forms of knowledge are legitimate.” (Lloyd, 2010, p.182).

# Situating Professional Practice

- Brookes Graduate Attribute of [Digital and Information Literacy](#) includes the “agile adoption of a range of technologies for personal, academic and professional use”.
- Importance of exploratory dialogue and negotiation with other key professional services.
- Increase informal contact as well as formal meetings (may not be without initial tensions!).

# Relational Agency

- Relational Agency/ Common Knowledge (Edwards, 2017)- find what *matters* to other professional groups you deal with from their perspective so meaningful collaborative projects can occur.
- Find normative terms for key services where possible so students are not bamboozled with a completely different discourse across support areas.

# Relational Agency

- Relational Expertise (Edwards, 2017) - through understanding the standpoint of others, collective shared goals can be more effectively achieved.
- UX- Make sure your user experience research is triangulated with other professional services' data to understand student needs more holistically.

# Part 2

**Expanding Learning  
Resources services  
through collaboration**

**Relational Expertise** has been key in these new library services at Brookes:

- Academic Liaison Librarians' TeachMeet:  
Academic Library Pedagogy- eg [Evolving Learning Models](#)
- [Technology Experimentation Group](#)
- Associate College Partners - visits to all/ invited to TeachMeets/ break out session in Brookes ACP conference. Result: Agreed [standards](#) between Brookes and ACP Senior Management.

# Relational Agency/ Relational Expertise

- Copyright Course for students involved in the Brookes [Get Published](#) project (wordpress).
- [Digital Capabilities for staff](#) including pool of expert practitioners (Communities of Practice- Wenger, 1998)
- Digital Capabilities for students project (information literacy as part of a wider support framework including organisation skills, academic skills and wellbeing).
- Academic Integrity Course for undergraduate students (information literacy/ plagiarism/ referencing; find your academic voice and confidence whatever your background).

# Part 3

**Makerspaces:**

**From theory to practice**

**Research Project:** Online group interview for one week with three library professionals in America involved in supporting academic library makerspaces.

Key research questions:

- 1) How is learning achieved and supported in Academic Library makerspaces?
- 2) What can Academic Library services bring specifically to the effective organisation and support of makerspaces?

# Literature Review

- The Makerspace is the more DIY-oriented cousin of the hacker-space” (Willingham and De Boer, 2015, p.2).
- Schrock (2014) draws on the philosopher and educator John Dewey’s thoughts on the importance of social experiential learning through observation, problem solving and enquiry in a playful interdisciplinary environment. (Dewey, 1909).

# Literature Review

→ RSA: (Royal Society of Arts) Research report: “Ours to master: How makerspaces can help us master technology for a more human end.” (Dellot, 2015):

- “A new institution through which to reimagine capitalism.” (Dellot, 2015, p.45).
- But also found tensions including financial pressure, environmental issues and engaging “with particular demographic groups, notably women.” (Dellot, 2015, p.7)

# Literature Review - Academic Library Focus

- “Libraries in particular hold promise for democratization, given their history as free, embedded community resources open to all.” (Halverson and Sheridan, 2014, p.500)
- Connecting physical to virtual spaces including relevant information sources: “subtle ways to link this to finding information” (Fourie and Meyer, 2015, p.522) including promoting key hard copy material.

# Literature Review - Academic Library Focus

- Pragmatic difficulties of creating a makerspace from scratch that may have to be overcome (eg, space, budget, culture)
- A paradigm shift for academic libraries?

Academic library examples:

1

2

3

# Data Collection

- Data was collated from a five day a-synchronous online forum with three participants involved in running makerspaces in three north American HEIs where the makerspace is part of the library service: Participant A - Assistant Professor/ Digital Resources Librarian; Participant B - Library Support Specialist; Participant C - University Librarian (involved in running a makerspace since 2012).
- All with experience of organising events, promoting activities/ projects, troubleshooting issues and providing instruction.
- Thematic review of data using Template Analysis (King, 2016).

# Data Analysis

- **Self-directed learning:** Academic, personal and entrepreneurial: “students can come and work on whatever they want...a lot of the makerspace is student driven, and their own creativity and innovation can guide their progress.” (A)
- Participant A described an interesting variety of clubs that use the makerspace: “Robotics club, fashion club, maker club, architecture club, engineering club, computer science club..”

# Data Analysis

- **Mediated Learning:** Staff led courses, staff support available.
- Participant C described an impressive variety of organised learning, including: “Freshman Seminar: Makerbots and Mashups” helping “first year students transition into college..through highly interactive projects..demonstrating mastery of a particular skill.”
- Collaboration between a professor on the Classics program and a colleague from the College of Education on Pompeii, using “3D design programs to recreate buildings, and .. artifacts .. using our 3D printer. They also scanned themselves in Roman costumes.” (C)

# Data Analysis

- **Cross-disciplinary opportunities** were mentioned by all participants. Eg (A): Students from “Engineering..., Technology..., Art..., History..., Anthropology..., Ethnic studies..., Dance.”
- Participant A went on to clarify: “some of our offerings are more cross disciplinary than others.. However, a lot of our students from different backgrounds and with different goals come together to use the 3D printer in particular. Lots of STEAM cross-over there.” (STEAM being Science, Technology, Engineering, Art and design and Mathematics - more inclusive?)

# Research Discussion

- Overarching themes: **Experiential learning** (see Dewey, 1909; Kolb, 1984); **Self-efficacy** (Bandura, 1997); **Communities of practice** (Wenger, 1998); **Zone of proximal development** (ZPD- Vygotsky, 1978).
- Deweyian Constructivism: “...the science and philosophy of education can and should work together in overcoming the split between knowledge and action, between theory and practice” (Dewey, 1964, p.19).

# Further Learning Theory

→ **Constructivism (Piaget 1896-1980); Constructionism:**

→ “you don’t need to be taught in order to learn. This is not to say the teacher is not an important part of the learning process. The teacher is, of course the most important person there. But recognizing the importance of the teacher is very different from reducing learning to the passive side of being taught.” (Papert, 1990)

# Research Conclusion

- “As a service within the university used to providing support in terms of informal cross-disciplinary learning spaces, Academic Library services are in a position to effectively incorporate these new spaces, providing they can avoid a detrimental impact on highly valued existing services due to space and cost implications.” (Curry, 2017, p.11).

# My favourite research participant quote!

“

The makerspace is a safe space to try new things, and a safe place to fail. Failing in the classroom setting does not feel safe for students and sometimes they are afraid to try something new, or fear can prevent them from completing a task. The space of the library is neutral, and if something goes wrong, well that is okay. (A)

Curry, R., (2017) "[Makerspaces: A beneficial new service for Academic Libraries?](#)", Library Review, Vol. 66 Issue: 4/5, doi: [10.1108/LR-09-2016-0081](#)



# From theory to practice

## **Innovation/ Maker Zone:**

Explore new ways to teach and learn in our new convivial/ collaborative learning space! All staff and students welcome.

## **Equipment and Training available:**

- Virtual Reality
- 3D Printing
- Photogrammetry
- Coding using OER (eg, Raspberry Pi)
- Writable walls
- Craft Activities to encourage creativity and wellbeing
- Micro-electronics

# From theory to practice

## Library Support

- Provide access to relevant on and offline resources (technical; and on makerspace culture and maker/ curriculum overlaps).
- Deliver tailored information and digital literacy sessions in the space.
- Link to other library initiatives (e.g. e-pioneers, Digital Capabilities Course, student extracurricular activity record).
- Use student ambassadors as well as library staff/ learning technologists.

# From theory to practice

## Impact

- Some meaningful metrics are possible (eg use of space, demographics, connections to curriculum learning) alongside more in depth qualitative data gathered on learning aims/ outcomes, and observation of how the space is being used (eg which technologies are used, new tech required, project success/ failure).
- As the future workplace becomes more unpredictable the soft skills that can be developed in creative/ collaborative experiential learning spaces are becoming more important: e.g. Active Learning, Hands-on-Learning and Project Based Learning are all in the current educational zeitgeist (Horizon Report, 2018).

# Conclusion:

## Evolving Academic Libraries' critical role

The future for Academic Libraries is unstable, subject to rapid change, but full of possibilities if we are willing to evolve in tune with other professional services and our university's specific culture. This evolution will require skillful negotiating with new partners on ambitious new projects to ensure a: "rapid integration of expertise from various locations and traditions" (Engeström, 2008, p.230).

# Conclusion:

## Evolving Academic Libraries' critical role

Some suggestions for driving positive change at your HEI:

- Work closely with other professional services and academics on new collaborative projects expanding the horizons of your service.
- Get more involved in creating cross university elearning content in collaboration with others, becoming a key player in the blended learning models emerging on all course types (eg Active Blended Learning - [Northampton](#)).

# Conclusion:

## Evolving Academic Libraries' critical role

- Expand the concept of 'learning resources' to include experimentation and incubation of new technologies; library pedagogy then moves to include information, digital *and* technological literacies.
- Create new innovation spaces where students and staff can explore new technologies, and carry out creative cross disciplinary projects (innovation hub, makerspace).
- Aim to have a stronger voice: *We are all educators. We need to be part of wider HE conversations to show our ongoing worth.*

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