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Using library analytics: putting theory into practice: phase three of the Library Impact Data Project

Alison Sharman

Academic Librarian, University of Huddersfield

@asharman / @hudlib

About the University of Huddersfield

University of
HUDDERSFIELD

- 1825: Founded as Huddersfield Scientific and Mechanic Institute
- 1992: Became the University of Huddersfield
- 2003: Patrick Stewart became Chancellor
- 2013: Times Higher Education University of the Year
- 2014: Stage 2 of the Tour de France!
- 2015: top 5 of best working place survey



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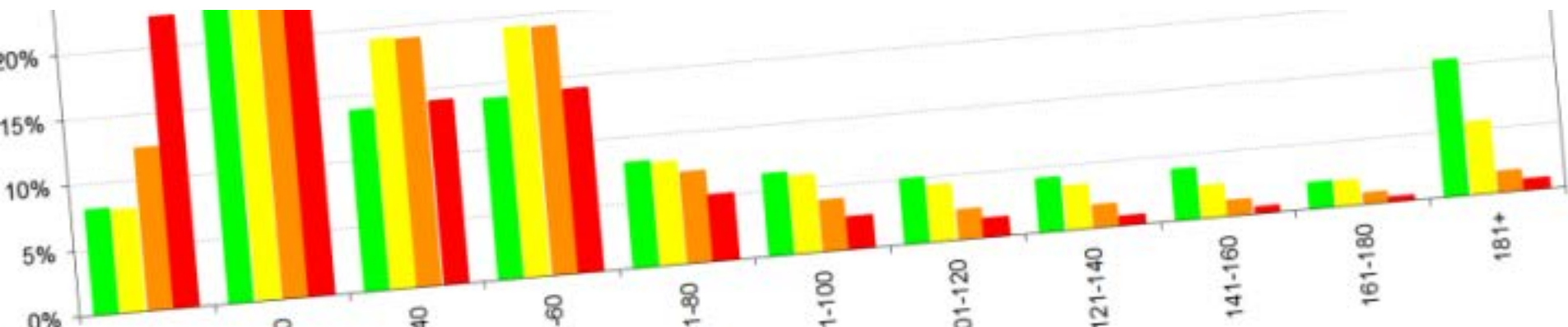
Using Usage Data since 2005...

- ...to improve existing services
- ...to gain insights into user behaviour
- ...to measure the impact of the library

ACADEMIC SCHOOLS	2005-6			2006-7			2007-8		
	zero	low	total	zero	low	total	zero	low	total
Huddersfield University Business School	45%	64%	4427	38%	57%	4450	38%	56%	4540
School of Applied Sciences	38%	56%	1814	37%	55%	2006	36%	53%	2226
School of Art, Design & Architecture	59%	82%	2514	49%	74%	2608	47%	74%	2769
School of Computing and Engineering	56%	81%	2210	53%	77%	2174	49%	74%	2088
School of Education and Prof Devel.	59%	81%	4285	57%	79%	4321	57%	80%	4614
School of Human and Health Sciences	40%	58%	5665	45%	60%	6674	44%	60%	7078
School of Music, Humanities and Media	37%	59%	1733	24%	46%	1731	19%	38%	1891
Huddersfield University Business School	51%	61%	4427	49%	61%	4450	51%	63%	4540
School of Applied Sciences	53%	64%	1814	56%	65%	2006	60%	69%	2226
School of Art & Design	35%	52%	2514	30%	48%	2608	34%	54%	2769
School of Computing and Engineering	45%	64%	2210	45%	65%	2174	43%	66%	2088
School of Education and Prof Devel.	72%	77%	4285	69%	74%	4321	70%	75%	4614
School of Human and Health Sciences	37%	45%	5665	45%	52%	6674	48%	55%	7078
School of Music, Humanities and Media	18%	29%	1733	15%	25%	1731	15%	25%	1891
Huddersfield University Business School	44%	51%	4427	44%	50%	4450	43%	51%	4540
School of Applied Sciences	40%	47%	2006	40%	47%	2006	45%	52%	2226

To support the hypothesis that...

“There is a statistically significant correlation across a number of universities between library activity data and student attainment”



Library Impact Data Project 1

Original data requirements

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- For each student who graduated in a given year, the following data was required:
 - Final grade achieved
 - Number of books borrowed
 - Number of times e-resources were accessed
 - Number of times each student entered the library, e.g. via a turnstile system that requires identity card access
 - School/Faculty

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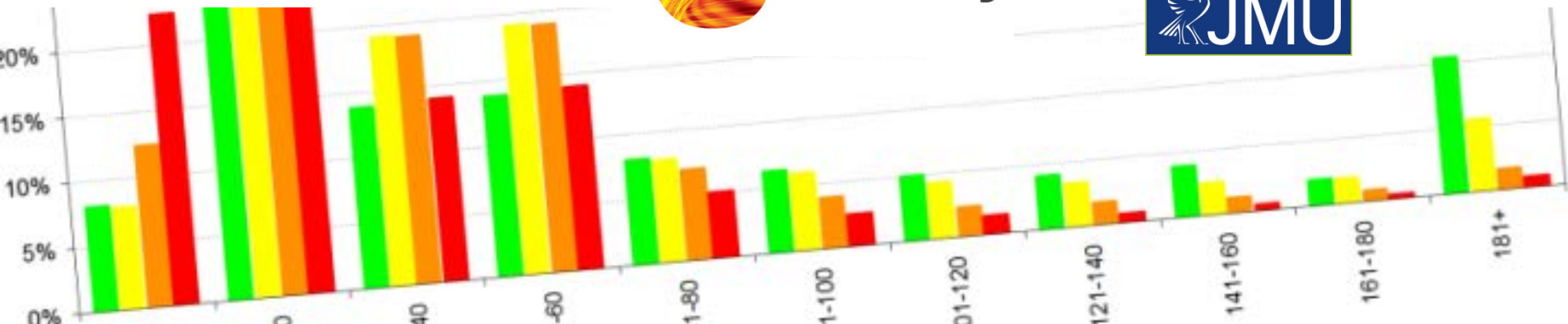
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Library Impact Data Project

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Library Impact Data Project

Phase I

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- Showed a statistical significance between:
 - Final grade achieved
 - Number of books borrowed
 - Number of times resources accessed
 - Number of partners

Not a cause and effect relationship

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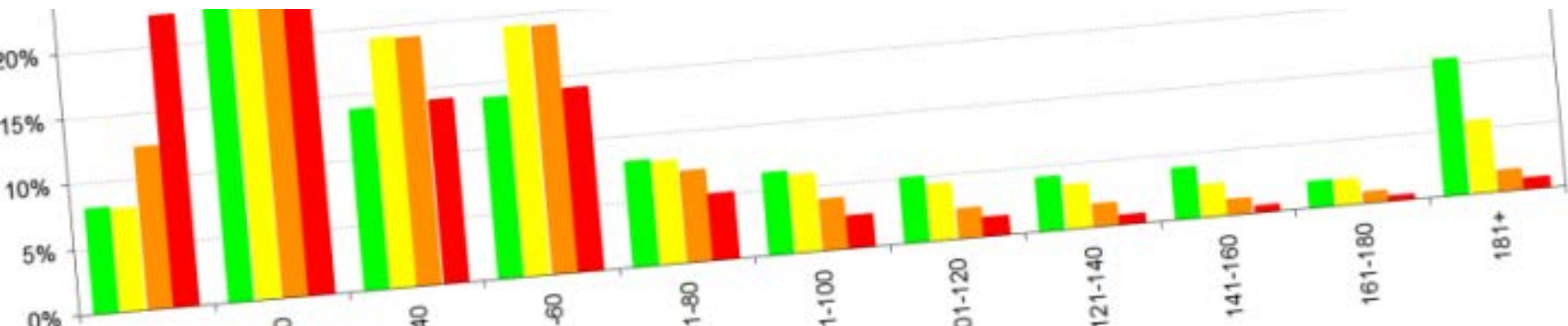
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Library Impact Data Project

Phase I looked at over 33,000 students across 8 universities

Phase II looked at around 2,000 full time undergraduate students at Huddersfield



Library Impact Data Project 2

Additional data

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- Demographics
- Discipline
- Retention
- On/off campus use
- Breadth and depth of e-resource usage
- Entry data
- Correlations for Phase 1



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Throughout our analysis, we have followed Cohen (1992) in classifying effect sizes:

- .1 – small effect
- .3 – medium effect
- .5 – large effect (the closer to 1, the bigger the effect)

Ignore plus or minus figures


Look for the shading!

Library usage

Country of domicile

Factor	New EU	Old EU	China	Rest of world
Number of items borrowed		-0.113	-0.144	-0.073
Number of library visits		-0.066	-0.098	-0.099
Hours logged into library PC		-0.082		-0.089
Hours logged into e-resources	-0.159		-0.075	
Number of PDF downloads	-0.175	-0.088		
Number of e-resources accessed	-0.104		-0.119	
Number of e-resources accessed 5 or more times	-0.152		-0.074	
Number of e-resources accessed 25 or more times	-0.207	-0.092		
Percentage of usage occurring on-campus			-0.073	

Usage levels
Compared to control

 Higher

 Lower

Control group: UK

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Library usage

Aggregated subject groups

Factor	Science	Computing and engineering	Arts	Humanities	Health
Number of items borrowed	-.232	-.337	-.193		-.064
Number of library visits		-.214		-.113	-.295
Hours logged into library PC		-.106		-.064	-.147
Hours logged into e-resources			-.435		
Number of PDF downloads		-.283	-.559	-.138	-.057
Number of e-resources accessed		-.281	-.485		-.114
Number of e-resources accessed 5 or more times		-.272	-.432		
Number of e-resources accessed 25 or more times		-.157	-.183	-.087	-.147
Percentage of usage occurring on-campus		-.095			

Usage levels
Compared to control

 Higher

 Lower

Control group: Social science

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Library usage

Retention

- Looking at one year of data for every student
- Using a cumulative measure of usage for the first two terms of the 2010-11 academic year
- Only looking at people who dropped out in term three
- All the students included in this study were at the university in the first two terms, and they have all had exactly the same opportunity to accumulate usage.

Library usage

Retention

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Factor	All FT, PT
Number of items borrowed	-.056
Number of library visits	-.032
Hours logged into library PC	-.027
Hours logged into e-resources	-.060
Number of PDF downloads	-.051

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Number of e-resources accessed

Depth and breadth

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Factor	First /2.i	First /2.ii	First /Third	2.i /2.ii	2.i /Third	2.ii /Third
Number of e-resources accessed	-.102	-.243	-.350	-.182	-.184	
Number of e-resources accessed 5 or more times	-.115	-.248	-.363	-.165	-.176	
Number of e-resources accessed 25 or more times	-.147	-.273	-.248	-.121		
Percentage of total usage overnight				-.07		

Grade ■ First ■ 2.i ■ 2.ii ■ Third

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Other factors

Number of e-resources accessed

- Both borrowing books and logging onto electronic resources does *not* guarantee the item has been read, understood and referenced
- Heavy usage does *not* equate to high information seeking or academic skills
- Non-use of library resources does *not* necessarily mean students are using poor quality information

- Make use of data and insights generated from Phase 1&2 to increase library usage amongst those identified as low users
- No one size fits all
- Concentrated on 2 Schools (Art Design and Architecture; Computing and Engineering) and also Chinese/International students



**Questionnaire
to gather
quantitative
data**

**Ethnographic
research to
gather qualitative
data**

Highlights from the survey

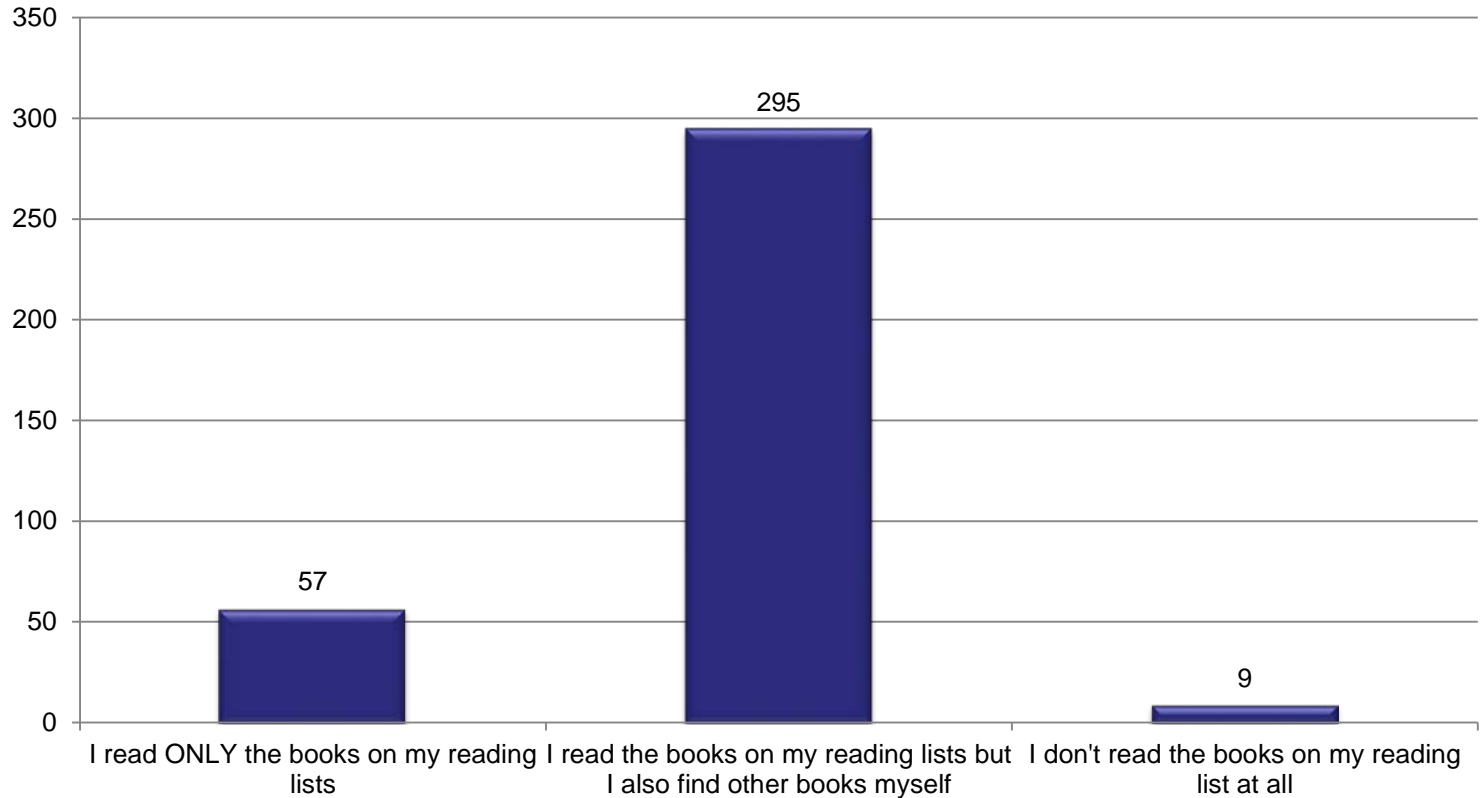
Survey: 372 responses (253 Chinese)

Aimed at ALL students on studying on the International Development Curriculum

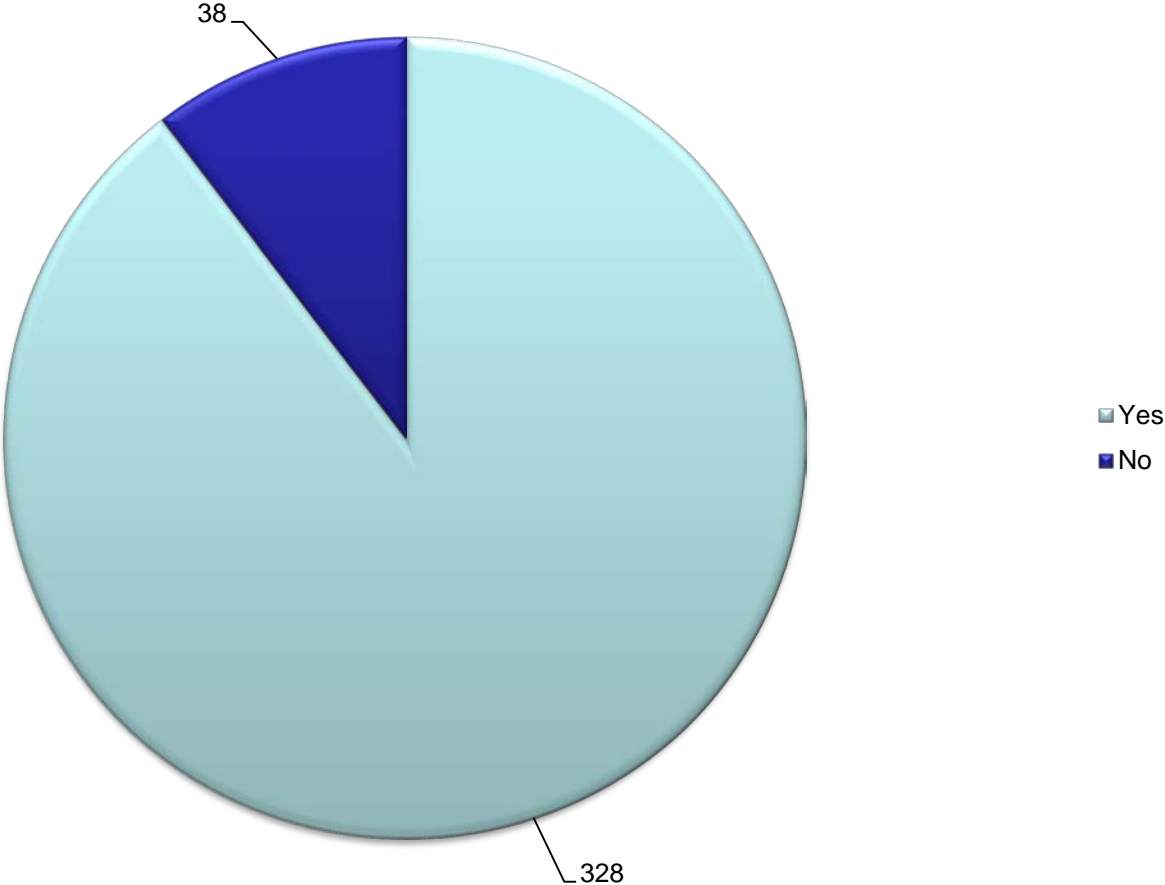
Level of study	Responses	Percentages
Undergraduate	231	62.9%
Postgraduate Masters	136	37.1%
	367	



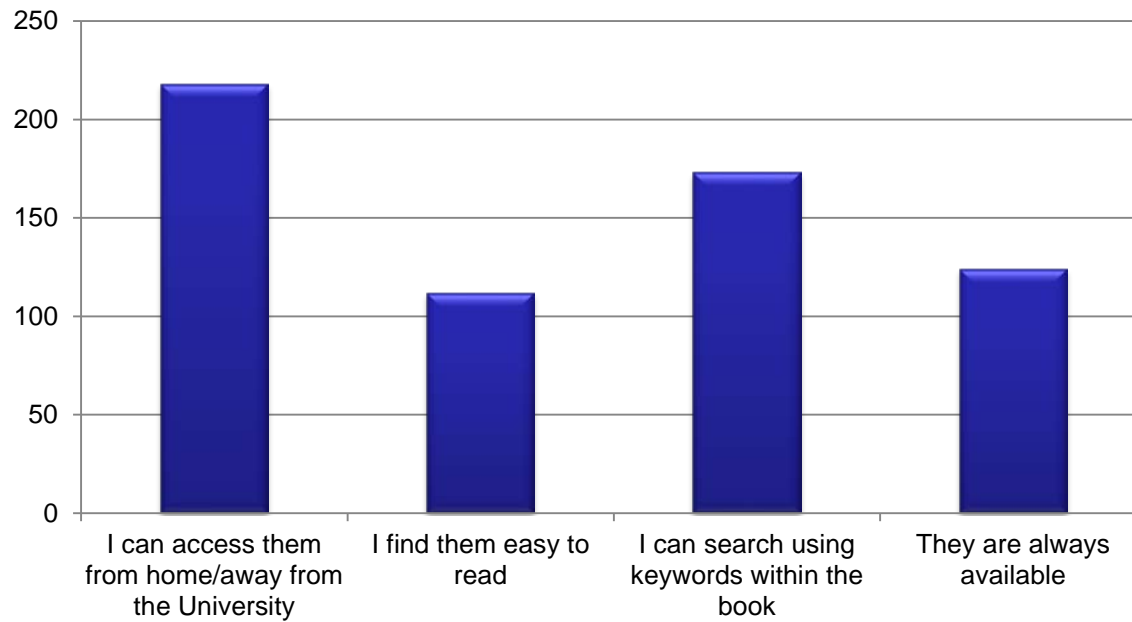
Which of the assignment statements below best describe your actions when working on your assignment?



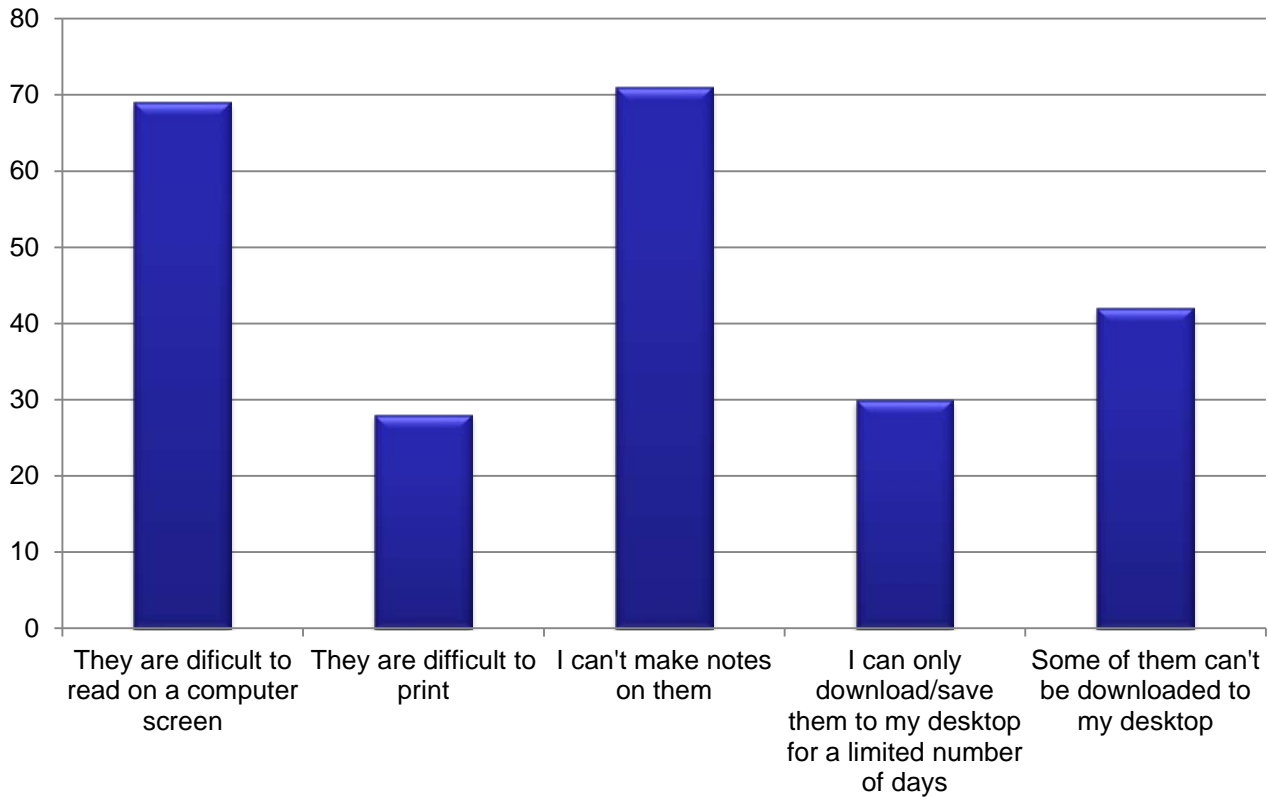
Do you use eBooks (Electronic books)?



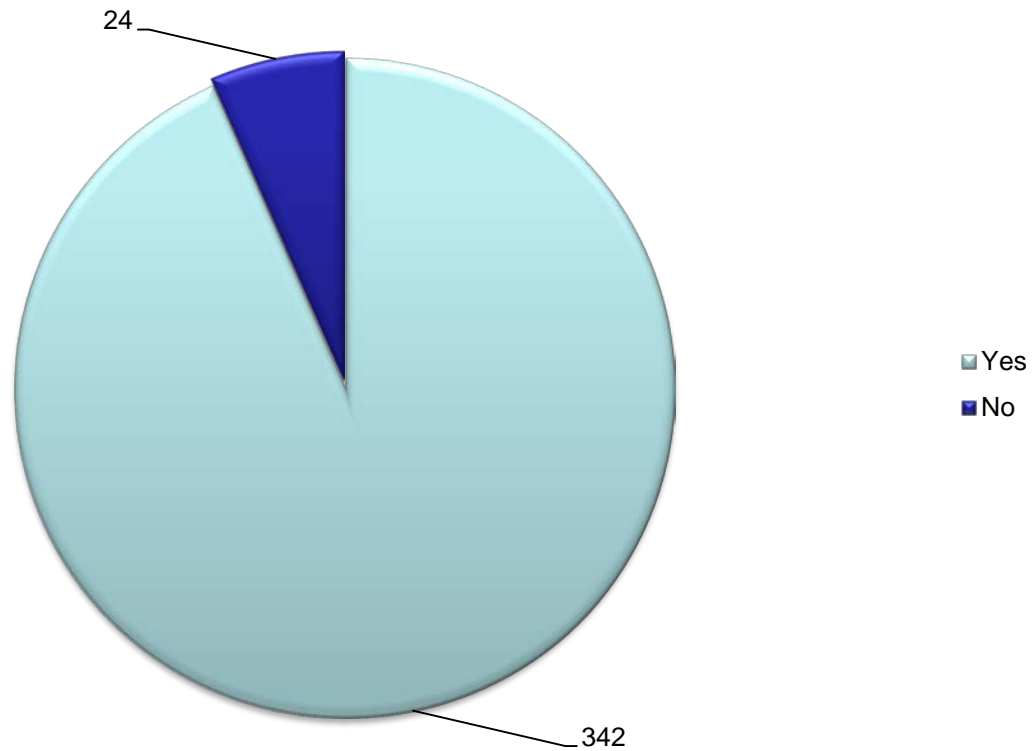
Why do you use eBooks (Electronic books)?



I don't like eBooks because

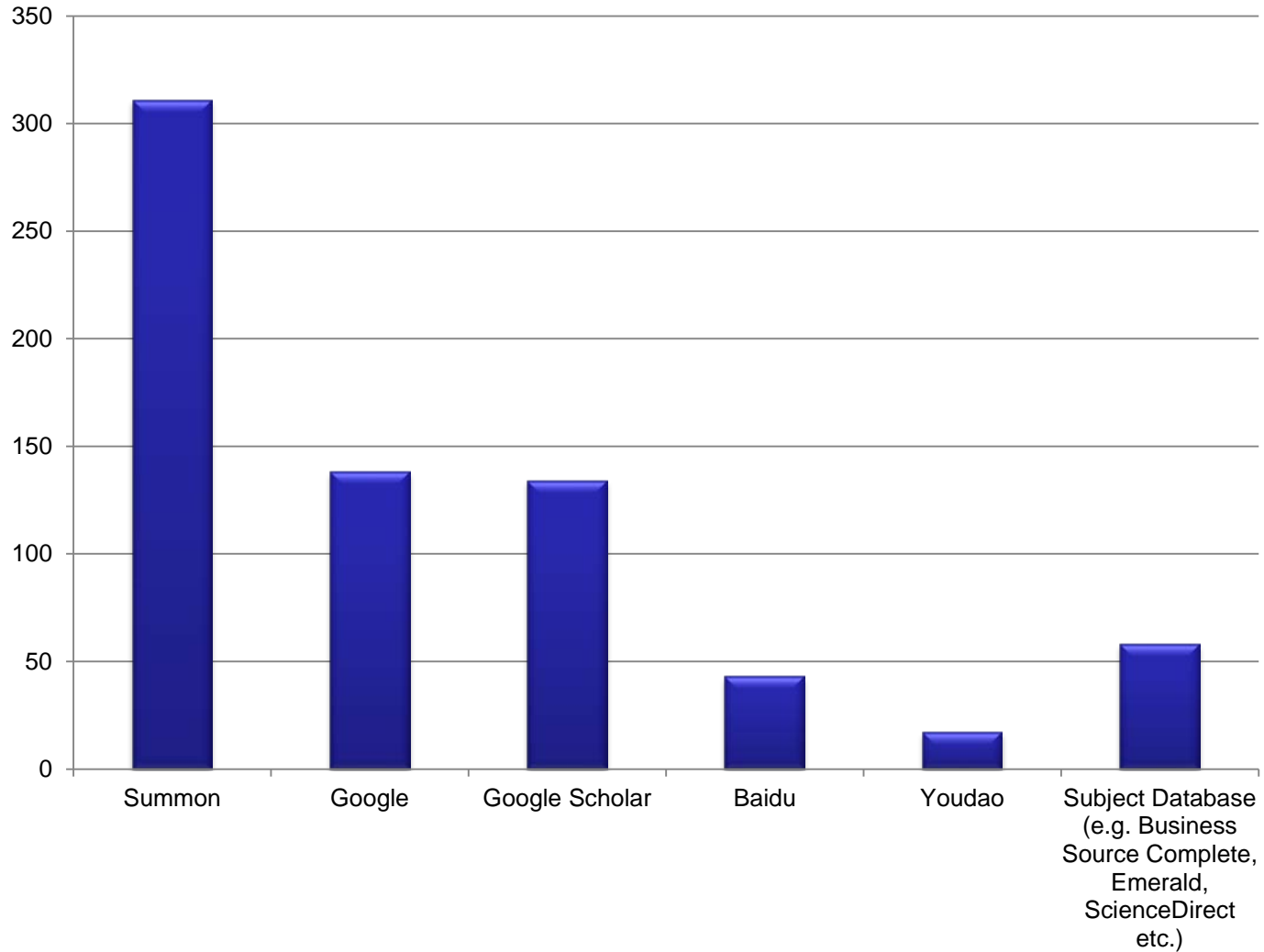


Do you use journal articles?

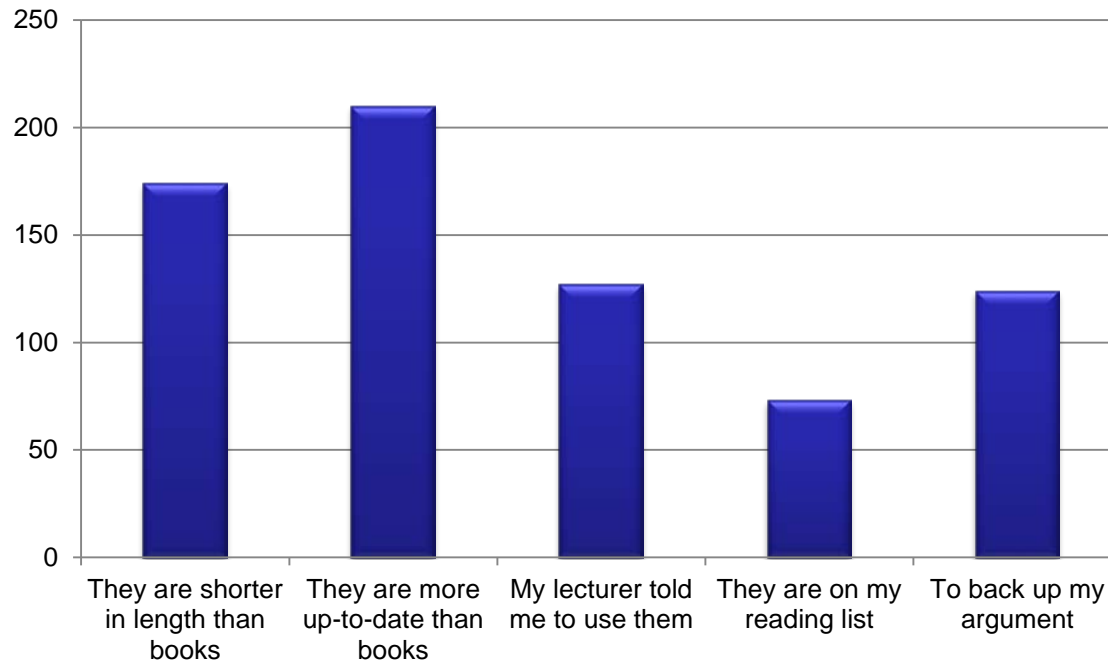


Responses	Undergraduate		Postgraduate Masters	
Yes	208	91.2%	130	97.7%
No	20	8.8%	3	2.3%
	228		133	

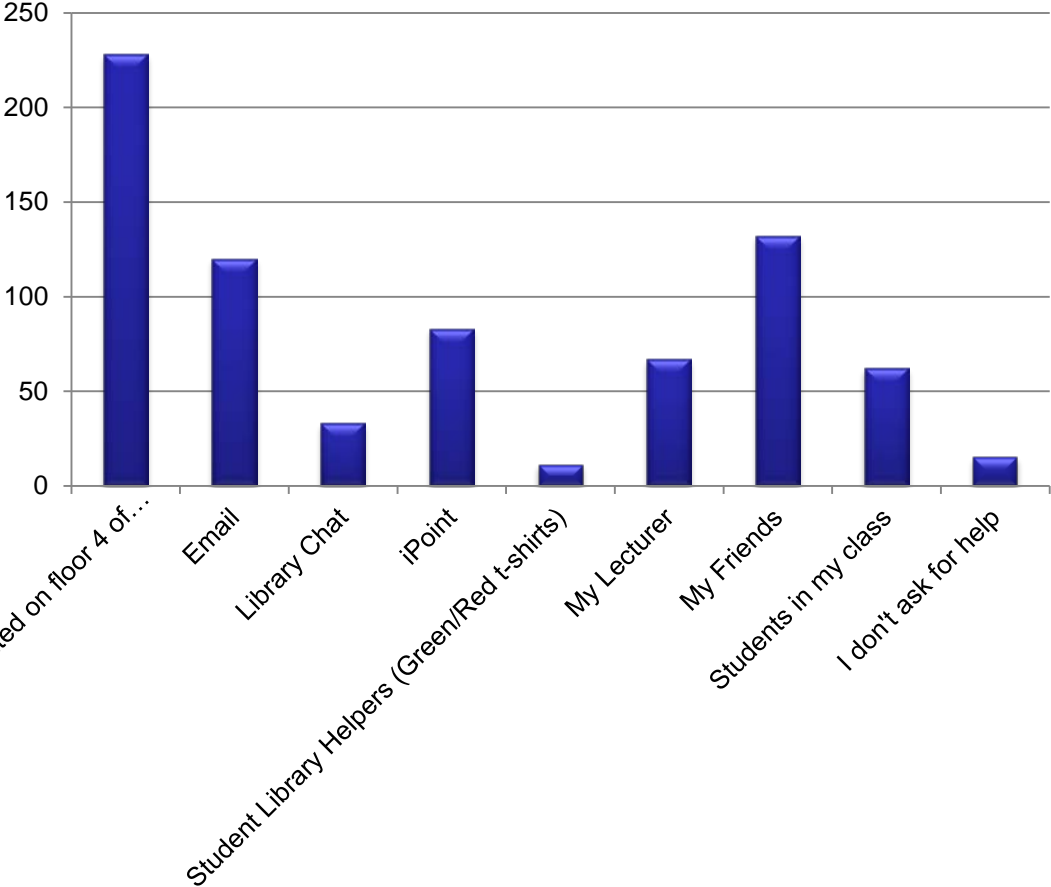
How do you access journal articles?



Why do you use journal articles?



Where do you go for library help?





Retrospective
process
interviews

Cognitive
mapping

Mon 11 April

Participant info

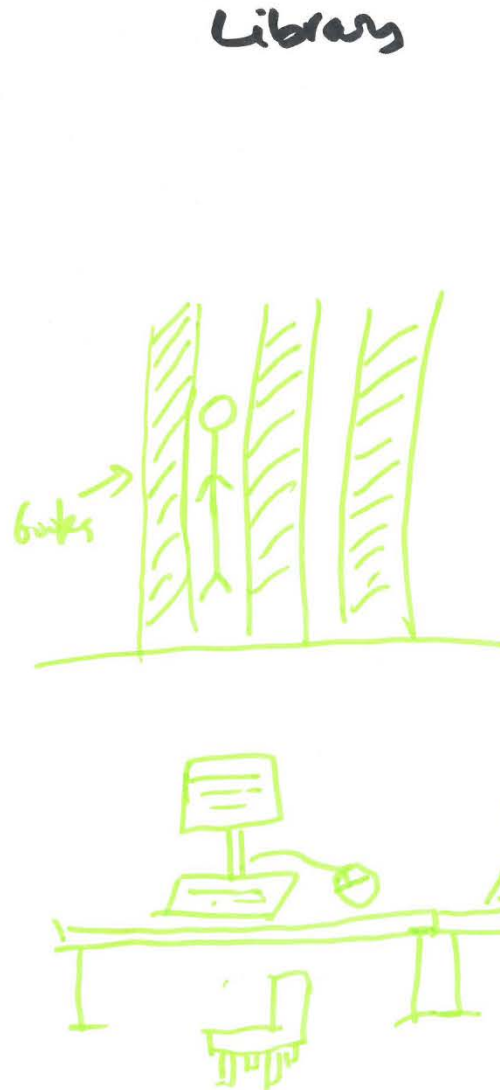
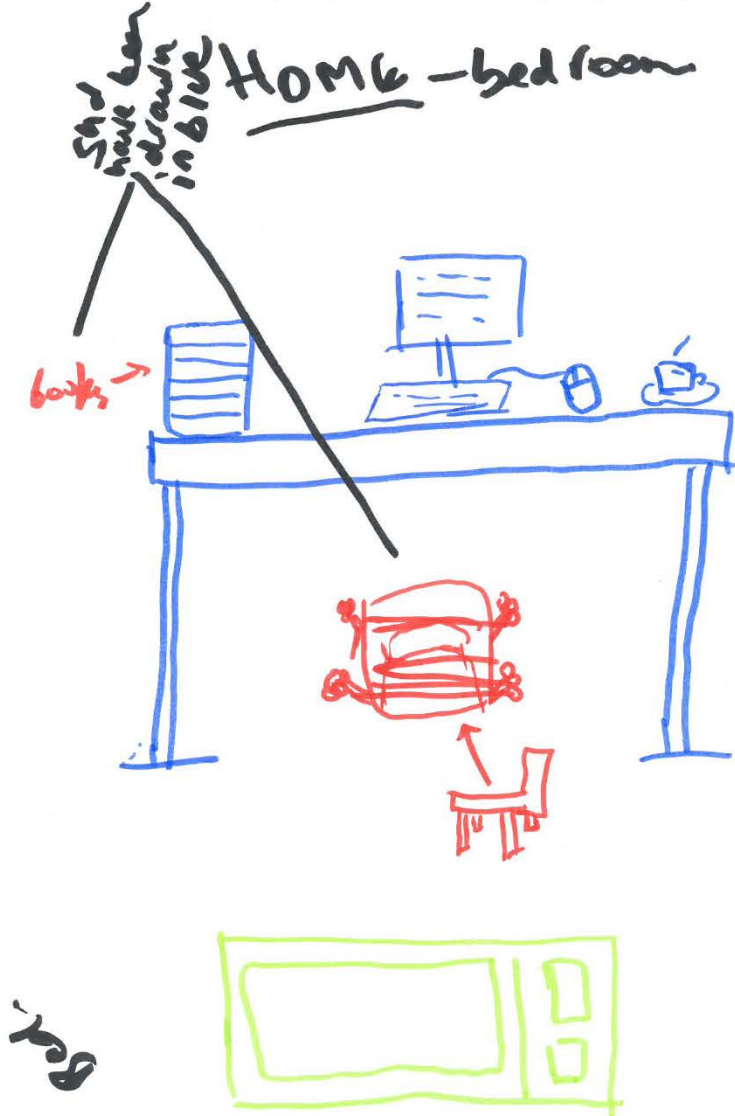
Mode of study (e.g. PT, FT, UG, PG, TPG):

Yr of study: 1st

Age:

Instructions: You will be given 6 minutes to draw from memory a map of where you go to learn or study (your learning spaces). Every two minutes you will be asked to change the colour of your pen in the following order: 1. Blue. 2. Green. 3. Red.

After the six minutes are completed, please label the features on your map. Please try and be as complete as possible, and don't worry about the quality of the drawing.



Themes established so far...

- No idea of the research help offered by librarians
- Struggle to use Dewey
- Preference for individual working rather than group work
- Working through the night popular for some students
- Positive intervention of the International Learning Development Group
- Critical thinking/reflection new experience

Working with the School of Computing and Engineering

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Devised a strategy

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Staff are the main
gateway to students

Prioritised engagement
with staff over students

<https://www.flickr.com/photos/sonnyandsandy/795218818/>

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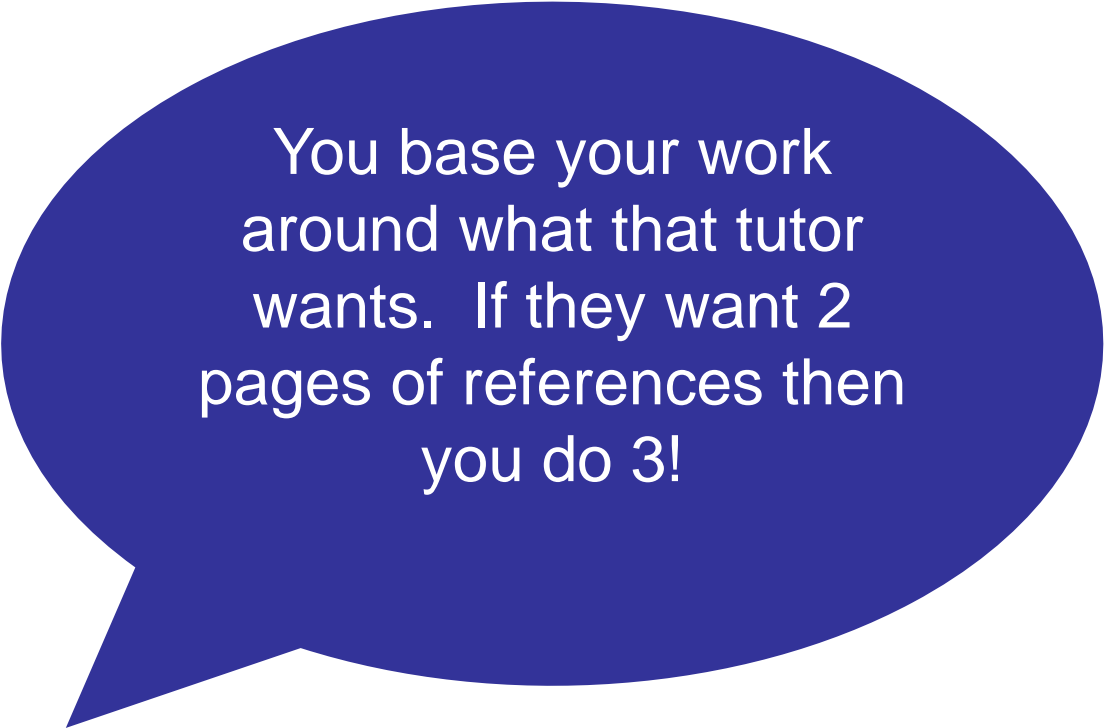


Comments from Computing Students

We don't see the point (in using x) because we're not told to use them

We've not been told about certain things so we just stick with what we know

Comments from a final year Business Management student



You base your work around what that tutor wants. If they want 2 pages of references then you do 3!

Subject: **Can we help save you time?**

Dear [name],

Are you spending too much time on fruitless searches? Want to learn how to keep up with your subject area and find information for your research/teaching [amend as appropriate] – without having to find extra time to do it?

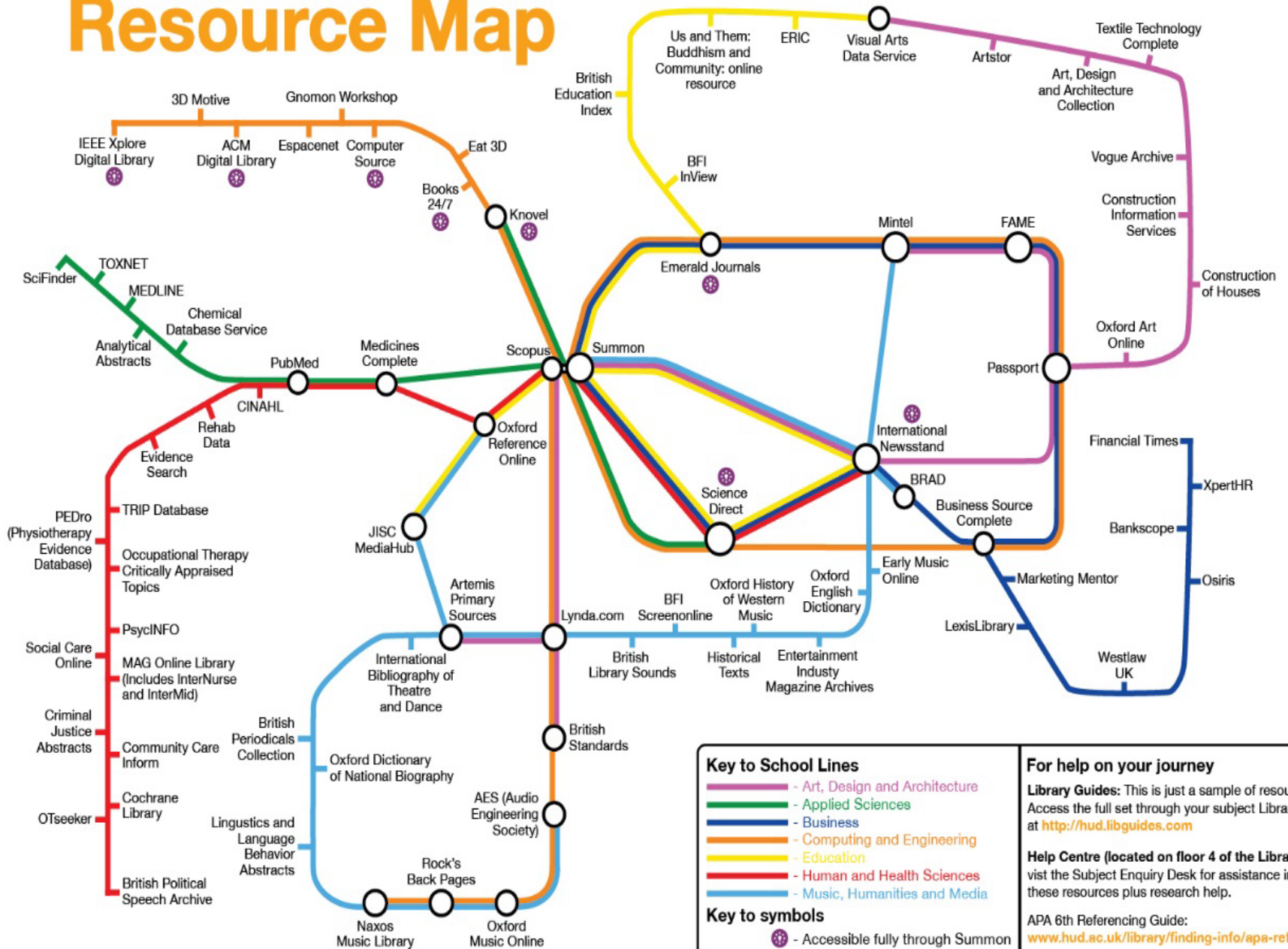
Book a Library Desktop Visit today!

Endnote...Summon...IEEE Xplore...Copyright... MyReading...Social media...Tell us what you want to know!

Just tick what you want to know more about on the attached form and send it back to [our own email addresses?], and one of our expert Librarians will [or should this just say “I will”?] come and visit you at your desk to show you some time-saving tips and tricks. It'll take no more than an hour, and we can go into as little or as much detail as you need.

Book a Library Desktop Visit: email [address] and let us know what you want to learn, using the attached form.

Resource Map



Key to School Lines

- Art, Design and Architecture
- Applied Sciences
- Business
- Computing and Engineering
- Education
- Human and Health Sciences
- Music, Humanities and Media

Key to symbols

- Accessible fully through Summon

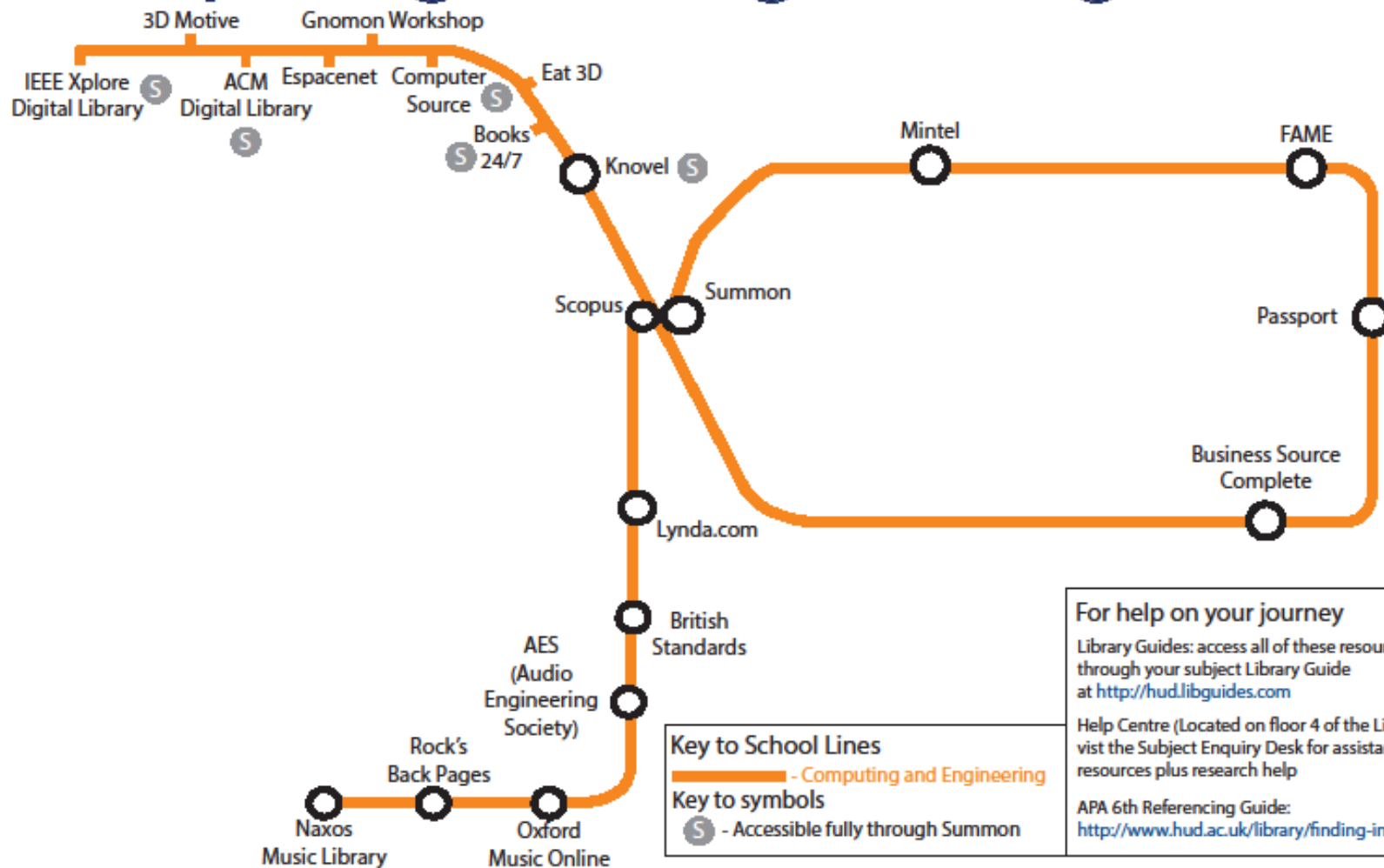
For help on your journey

Library Guides: This is just a sample of resources. Access the full set through your subject Library Guide at <http://hud.libguides.com>

Help Centre (located on floor 4 of the Library): visit the Subject Enquiry Desk for assistance in using these resources plus research help.

APA 6th Referencing Guide: www.hud.ac.uk/library/finding-info/apa-referencing

Resource Map- Computing and Engineering



For help on your journey
Library Guides: access all of these resources through your subject Library Guide at <http://hud.libguides.com>
Help Centre (Located on floor 4 of the Library): visit the Subject Enquiry Desk for assistance in using these resources plus research help
APA 6th Referencing Guide: <http://www.hud.ac.uk/library/finding-info/apa-referencing/>



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Alison Sharman @asharman · Feb 25

Roving with @Julia_Stockdale from Content Online & @Lady_PGD promoting database IEEE Xplore @HudCompEng @hudlib

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and

Academic Skills

Want to get ahead?

Attend these 30 minute workshops and improve your academic writing, researching and referencing skills.

Monday 24th February (in CW2/01) and Tuesday 25th February (in CW2/04)

Searching Smarter, Searching Faster: Finding information (13.00 - 13.30)

Make Your Examiner Happy: Structure and Stylistic Tips for Final Year (13.30 - 14.00)

The Dissertation Toolkit: Locating and Getting the most out of Academic Journal Articles (14.30 - 15.00)

Keep Calm and Carry on Referencing with APA: How to reference using the American Psychological Association (APA) Version 6 (15.00 - 15.30)

No need to book, just turn up. All sessions in Canalside West.

Future plans

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Ask Alumni students

...to actually sit with someone to go through the things I wanted to find on Summon ...People say they haven't got time to sit with the staff well I was going to spend DOUBLE or even TRIPLE the time trying to search for things on my own so **I figured it would SAVE me time if I sat with the experts who know how to get the best from the searches and the advanced searches etc.** It truly paid off because I was unable to find reliable journals but having a **thinking partner** who also suggested 'have you thought of this topic or searched for this keyword etc' **that really helped me get my First.**

Talk to students

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Conduct
ethnographic
interviews with
Computing/
Engineering students



<https://www.flickr.com/photos/craiga/17071467/>

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School action plans

- Personalised stats/highlights for the School
 - Visits to the library
 - Book purchases
 - Info lit sessions
 - ILL requests
 - Books borrowed
 - Use of online reading lists
- School action plans

The original project

- White, Sue and Stone, Graham (2010) Maximising use of library resources at the University of Huddersfield. [Serials](#), 23 (2). pp. 83-90

LIDP

- Stone, Graham and Ramsden, Bryony (2013) Library Impact Data Project: looking for the link between library usage and student attainment. [College and Research Libraries](#), 74 (6). pp. 546-559
- Stone, Graham and Collins, Ellen (2013) Library usage and demographic characteristics of undergraduate students in a UK university. [Performance Measurement and Metrics](#), 14 (1). pp. 25-35
- Collins, Ellen and Stone, Graham (2014) Understanding patterns of library use among undergraduate students from different disciplines. [Evidence Based Library and Information Practice](#), 9 (3)
- Stone, Graham, Sharman, Alison and McGuinn, Kate (2015) Using library impact data to inform student marketing campaigns. [Journal of the European Association for Health Information and Libraries](#), 11 (4). pp. 29-32.
- Stone, Graham, Sharman, Alison, Dunn, Penelope and Woods, Laura (2015) *Increasing the Impact: Building on the Library Impact Data Project*. [Journal of Academic Librarianship](#), 41 (4). pp. 517-520.

Read more:

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Library Analytics bibliography

<https://library3.hud.ac.uk/blogs/lidp/project-outputs/library-analytics-bibliography/>

Ethnography

<http://uxlib.org/links/>

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