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University of
HUDDERSFIELD

Does library use affect student attainment? A preliminary report on the Library Impact Data Project

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<http://eprints.hud.ac.uk/10208/>
#lidp
#jiscad



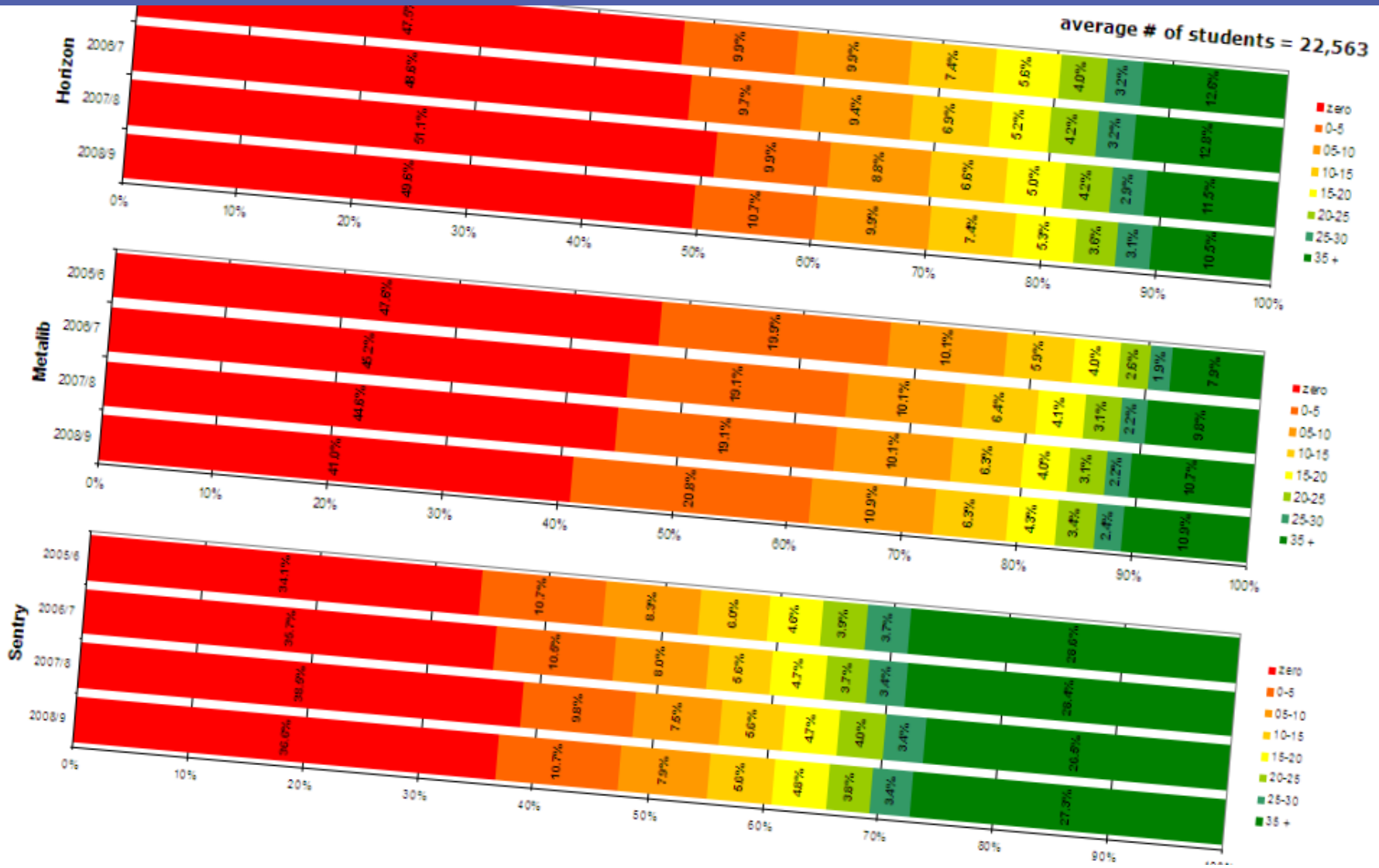
- Huddersfield's non/low usage project
 - Data from 700+ courses from 2005 onwards
 - White, S and Stone, G (2010) Maximising use of library resources at the University of Huddersfield. *Serials*, 23 (2). pp. 83-90. <http://eprints.hud.ac.uk/7811/>

Non/Low Use Project

digging deeper into data

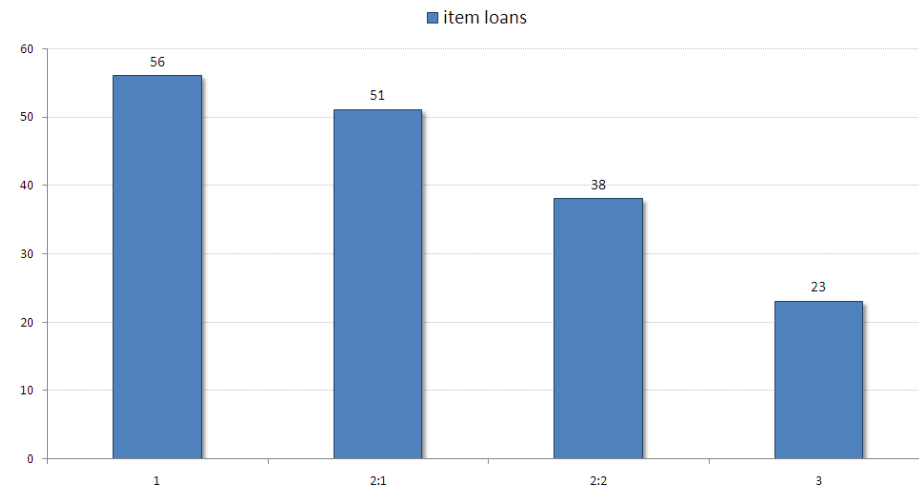
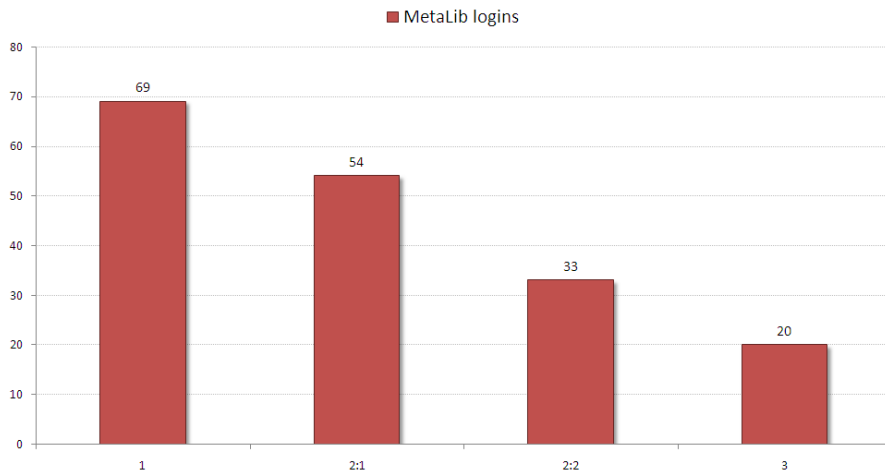


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Measuring Library Impact

2008/9 honours graduates



Analysis of the results consistently revealed a correlation between e-resource use, book borrowing and student attainment

This appears to be the case across all disciplines

Inspiring tomorrow's professionals



- Not a cause and effect relationship
- Never proven statistically significant
- Potential for collaboration on future projects



<http://www.flickr.com/photos/atoach/3344411469/>

JISC Activity Data Call

- Obtained funding from the JISC Activity Data Call
- 6 month project (Feb-Jul 2011)



The screenshot shows the JISC website page for the Activity Data Call. The page features a search bar at the top right with the text "Search for Enter your search in the whole JISC site" and a "Search" button. Below the search bar is a navigation menu with links for Home, About JISC, Supporting your institution, Projects, programmes & services (highlighted), Funding, Publications, Blog, News, Events, and Contact us. The main content area is titled "Activity Data" and includes a summary of the call, a list of data types, and information about the projects. The left sidebar contains a "Activities by Topic" menu with various categories like Programmes, Information Environment 09-11, e-Infrastructure, Preservation, Rapid innovation, Resource discovery, Shared infrastructure, Digital repositories: start up & enhancement, Scholarly Communications, Deposit, Exposing digital content for reuse, Library management systems, 27 questions the programme has addressed, and Evaluation workshop.

JISC

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Home » Projects, programmes & services » Programmes » Information Environment 09-11 » Activity Data

Activity Data

Companies such as Amazon have proved that careful use of data about users' actions and attention can improve services to end users and provide advantages in managing and targeting the service. Many systems in institutions store data about the actions of students, teachers and researchers. The purpose of this programme is to experiment with this data with the aim of improving the user experience or the administration of services.

Projects funded under this programme will identify tools and techniques that prove beneficial to university services. Once identified, JISC will fund further development to enable as many Higher Education institutions as possible to benefit from them.

The term activity data has a number of different connotations. In this programme we will be exploring two types of data:

- User activity data – a record of a user's actions on a website or software system or other relevant institutional service.
- Attention data – the record of what a user has viewed on a website or software system or other relevant institutional service.

There is a separate JISC programme investigating Business Intelligence which can be defined as:

- Business intelligence – the use of data to provide historical, current and predictive views of business operation and the use of those views to support better decision making.

What are the projects doing?

JISC has funded 8 projects that will run for 6 months. The projects will address common challenges such as ensuring privacy, sharing data between systems and institutions, effective analysis, enabling reuse and developing or enhancing tools and services. JISC has funded a synthesis project to ensure that the knowledge developed by the projects on these and other issues is extracted, explored and presented in such a way that other institutions can benefit from it.

All projects will be encouraged to share their datasets using an open licence that permits reuse.

Summary

Start date
1 February 2011

End date
30 September 2011

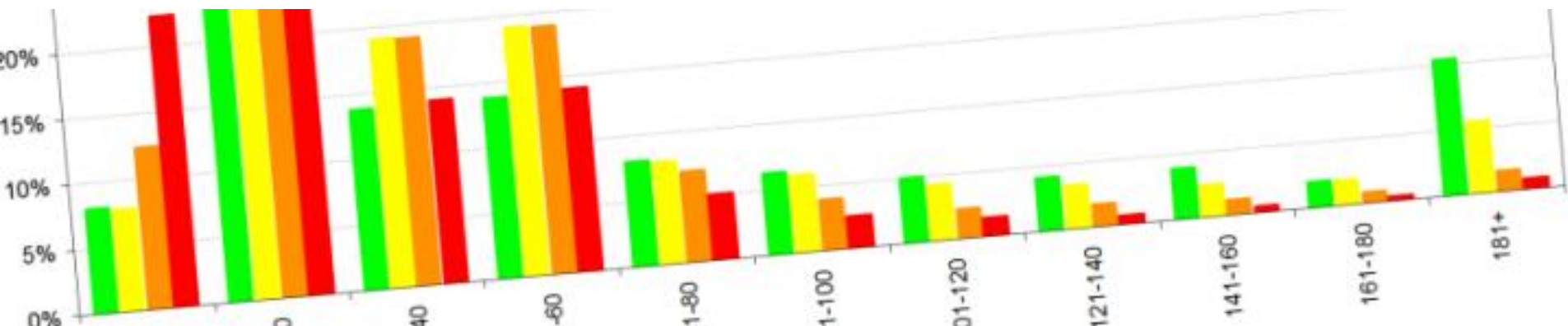
Committees
[JISC Infrastructure and Resources Committee](#)


Library Impact Data Project



To prove the hypothesis that...

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





The screenshot shows the 'Library Impact Data Project' blog page. At the top, there is a header with the University of Huddersfield logo and the text 'Library Impact Data Project' and 'Just another JISC Activity Data project blog!'. Below the header is a bar chart showing data for various age groups. The x-axis categories are: -, 0, 40, 60, 1-80, 1-100, 01-120, 121-140, 141-160, 161-180, and 181+. The y-axis represents percentages from 0% to 20%. The bars are grouped by color: red, yellow, and green. The '181+' category shows a significant spike in the green bar, reaching approximately 20%.

About

This is the blog for the Library Impact Data Project, which is part of the JISC Activity Data programme.

The following institutions are involved with the project:

- University of Bradford
- De Montfort University
- University of Exeter
- University of Huddersfield
- University of Lincoln
- Liverpool John Moores University
- University of Salford
- Teesside University

The aim of this project is to prove a statistically significant correlation between library usage and student attainment. By identifying subject areas or courses which exhibit low usage of library resources, service improvements can be targeted. Those subject areas or courses which exhibit high usage of library resources can be used as models of good practice.

JISC

PAGES

- About
- Articles and conference papers
- Documentation
- Meet the Project Team

JISC ACTIVITY DATA BLOGS

- AGtivity
- RISE – Recommendations
- Improve the Search Experience
- SALT – Surfacing the Academic Long Tail
- The Synthesis Project: Activity Data
- UCIAD – User-Centric Integration of Activity Data

LINKS

- C&LS Project Blogs
- JISC Activity Data Project

- Themed posts
 - The Project Plan
 - Hypothesis
 - Users
 - Benefits
 - Technical and Standards
 - Licensing & reuse of software and data
 - Wins and fails (lessons along the way)
 - Final post

Data requirements

- 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

- Consultation with JISC Legal, University legal officer and data protection officer
- Ensured that any identifying information is excluded before it is handled for analysis
- Excluded any small courses to prevent identification of individuals e.g. where a course has less than 35 students and/or fewer than 5 of a specific degree level
- Received guidance from the Using OpenURL Activity Data

- Anticipated that there may be problems in getting enough data to make the project viable
 - Potential partners were asked to confirm that they could provide at least 2 of the 3 measures of usage as well as student grades
 - Huddersfield has provided definitions on the data required and the form the data can be accepted in
- Some partners have already run into some issues with data collection, but it is felt that there is still enough information to prove the hypothesis one way or another

Initial findings

- Are we measuring apples against pears or are we really on to something?
- Probably!



<http://www.flickr.com/photos/mammaoca2008/4163158549/>

Can we prove the hypothesis?

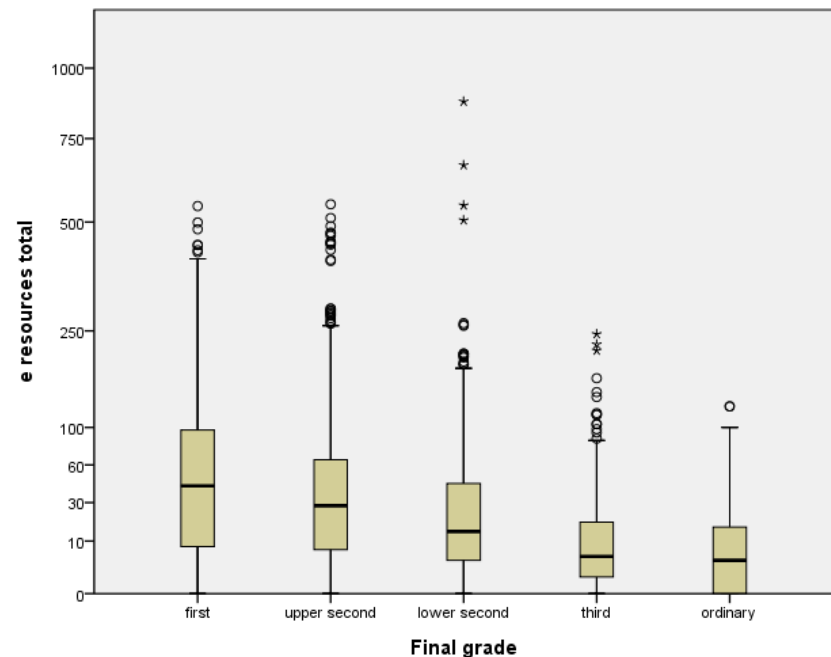
- Not quite!
- Due to the data not being continuous, a correlation cannot be calculated



<http://www.flickr.com/photos/26015375@N06/3715306069/>

Further statistical tests (1)

- Running a Kruskal-Wallis test
 - to indicate whether there is a difference between values e.g. between levels of e-resource usage across degree results
 - THEN we analyse the data visually to check which variables to compare

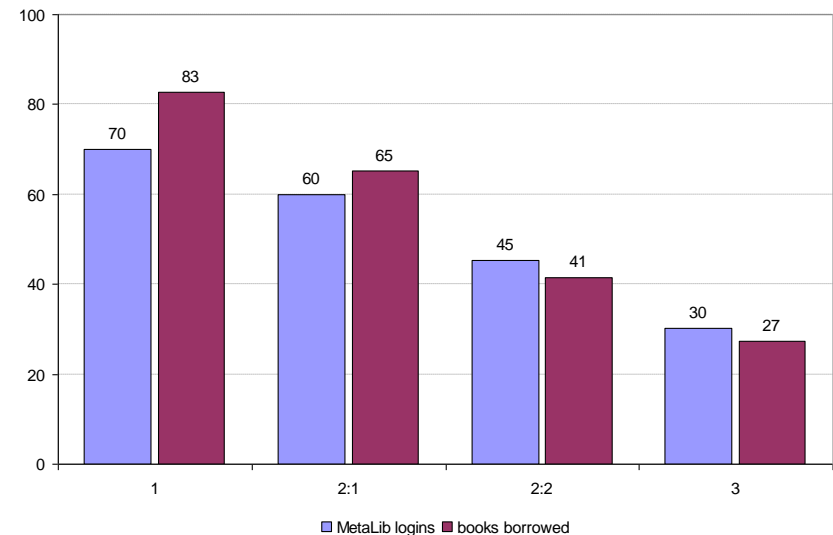


Further statistical tests (2)

- Running a the Mann-Whitney U test to see whether there is a significant difference between variables tested
- Initial findings imply that there is a relationship between usage and attainment
- And that these findings concur with previous tests using ANOVA and the Student T test

What we think we can prove

- That the relationship and variance means that you can believe what you see
- And you can believe it across a range of data, e.g. subjects
- So library usage does impact on students attainment



Remember the disclaimer!

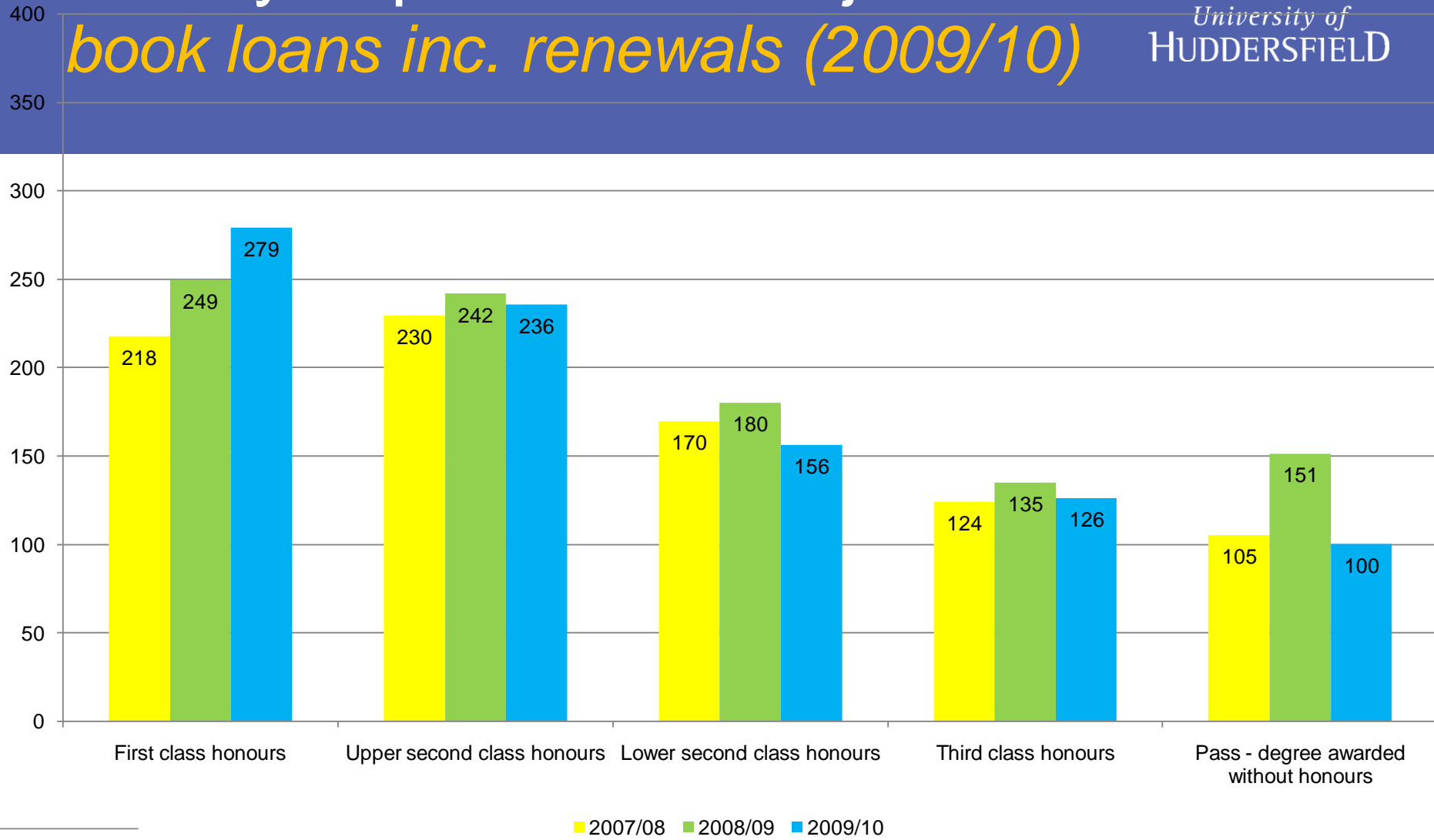
Not a cause and effect relationship

Library Impact Data Project



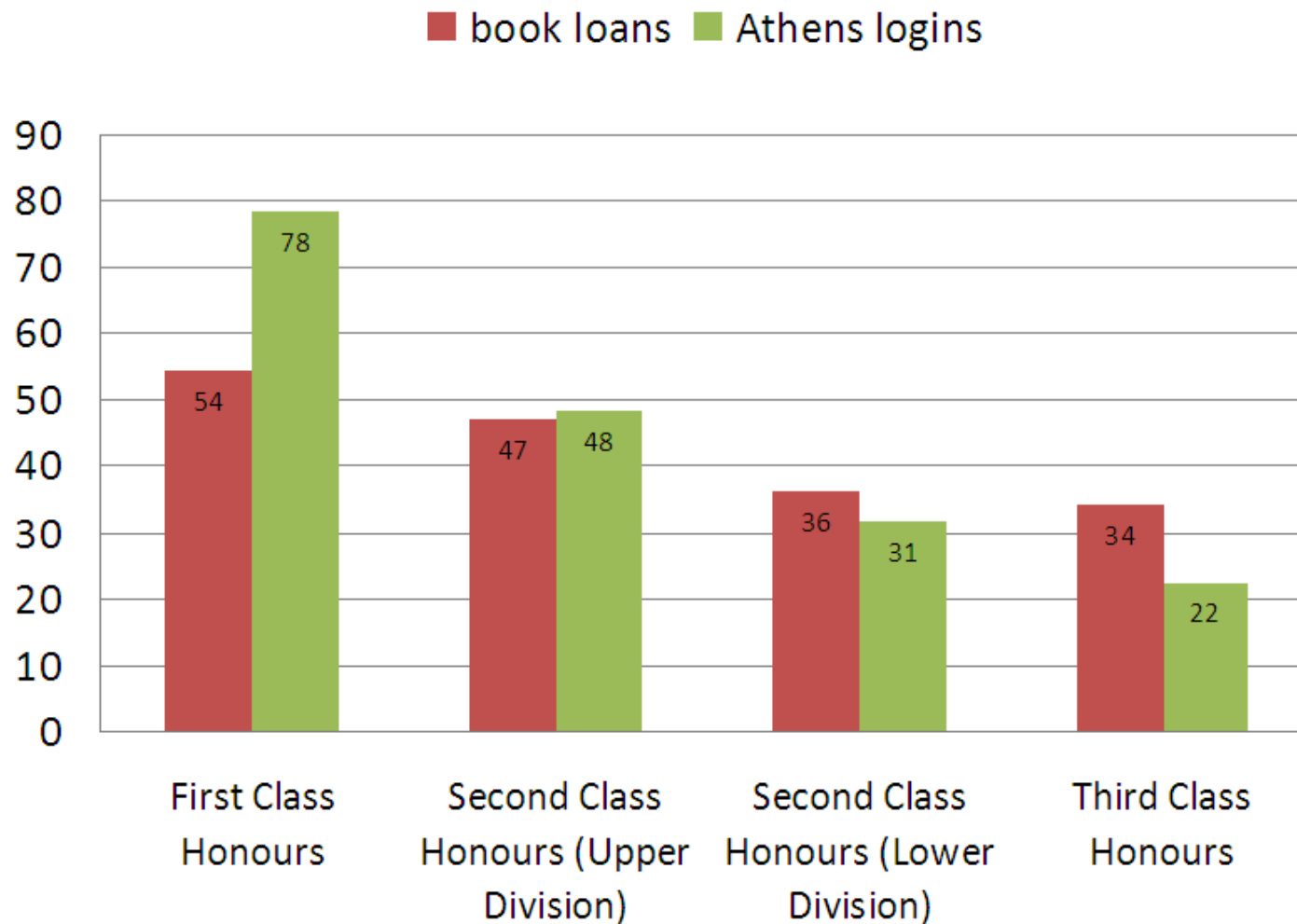
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book loans inc. renewals (2009/10)



Library Impact Data Project

book loans & Athens (2009/10)



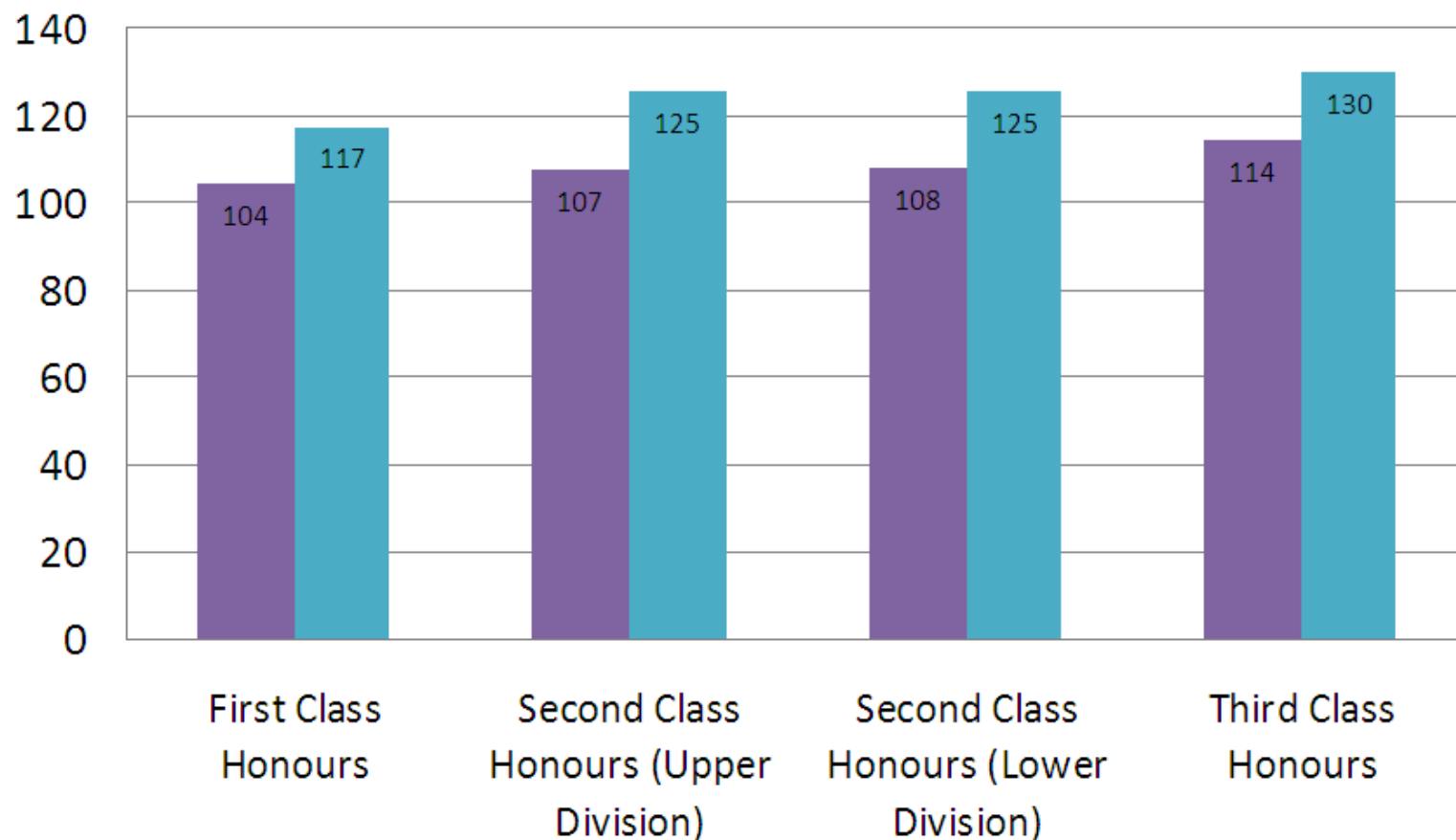
Library Impact Data Project

library PC logins & visits (2009/10)



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■ library PC logins ■ library visits

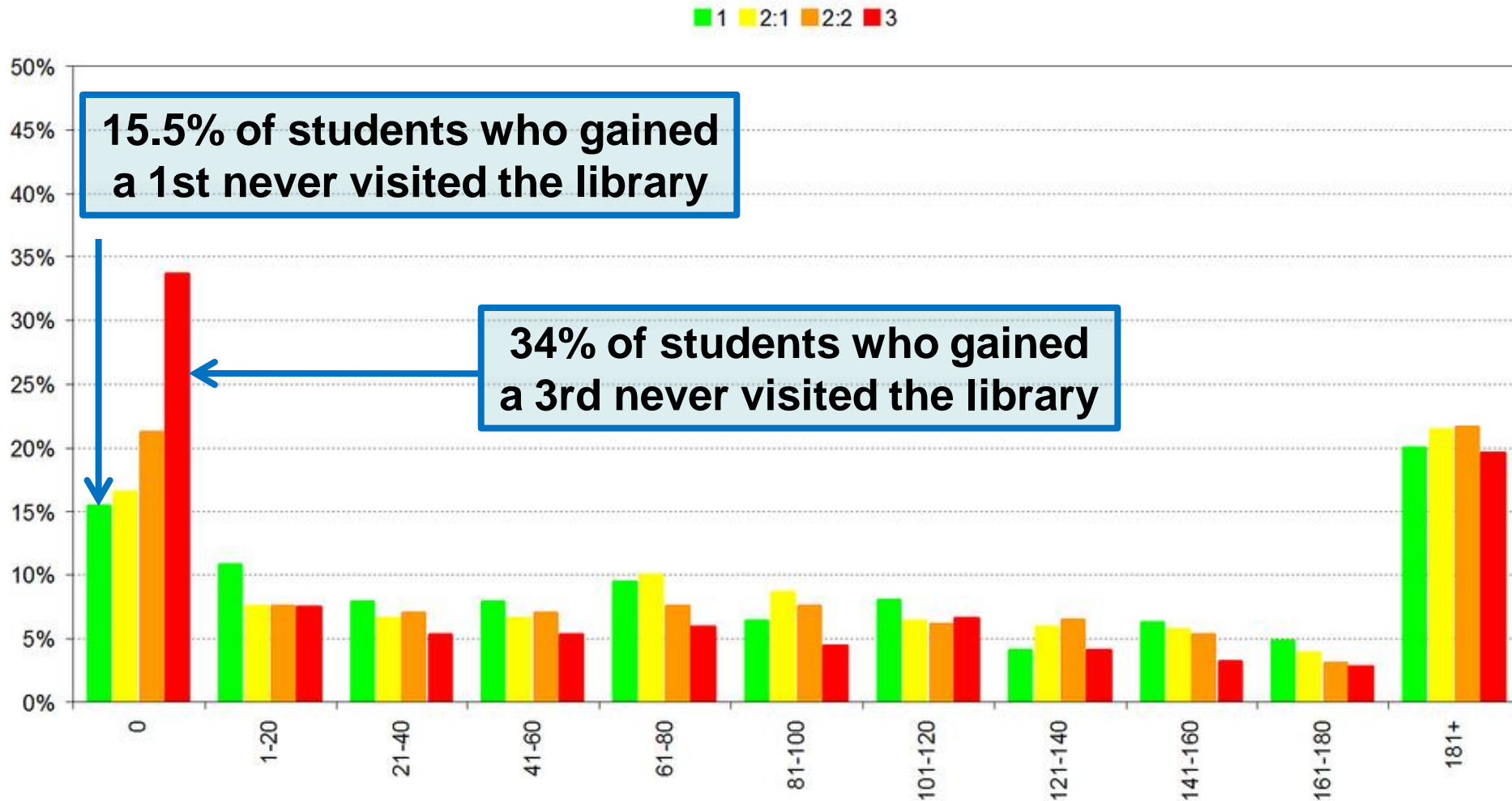


Linking back to non/low usage

- At this early stage, for books and e-resource usage, there appears to be a statistical significance across all partner libraries
- If we know that there is a link between usage and attainment
 - We can link this back to non/low usage

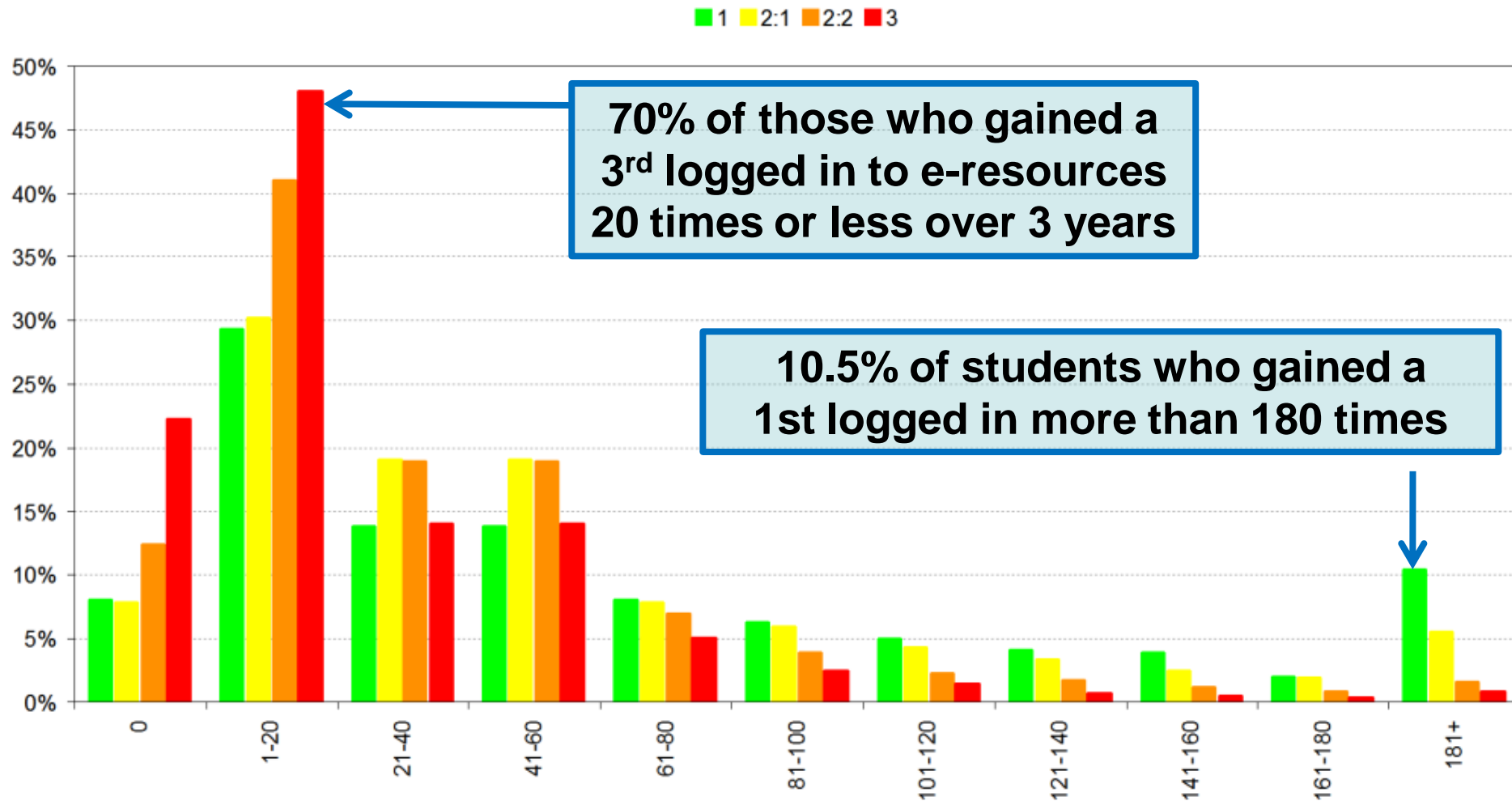
Measuring Library Impact

2008/9 – library visits



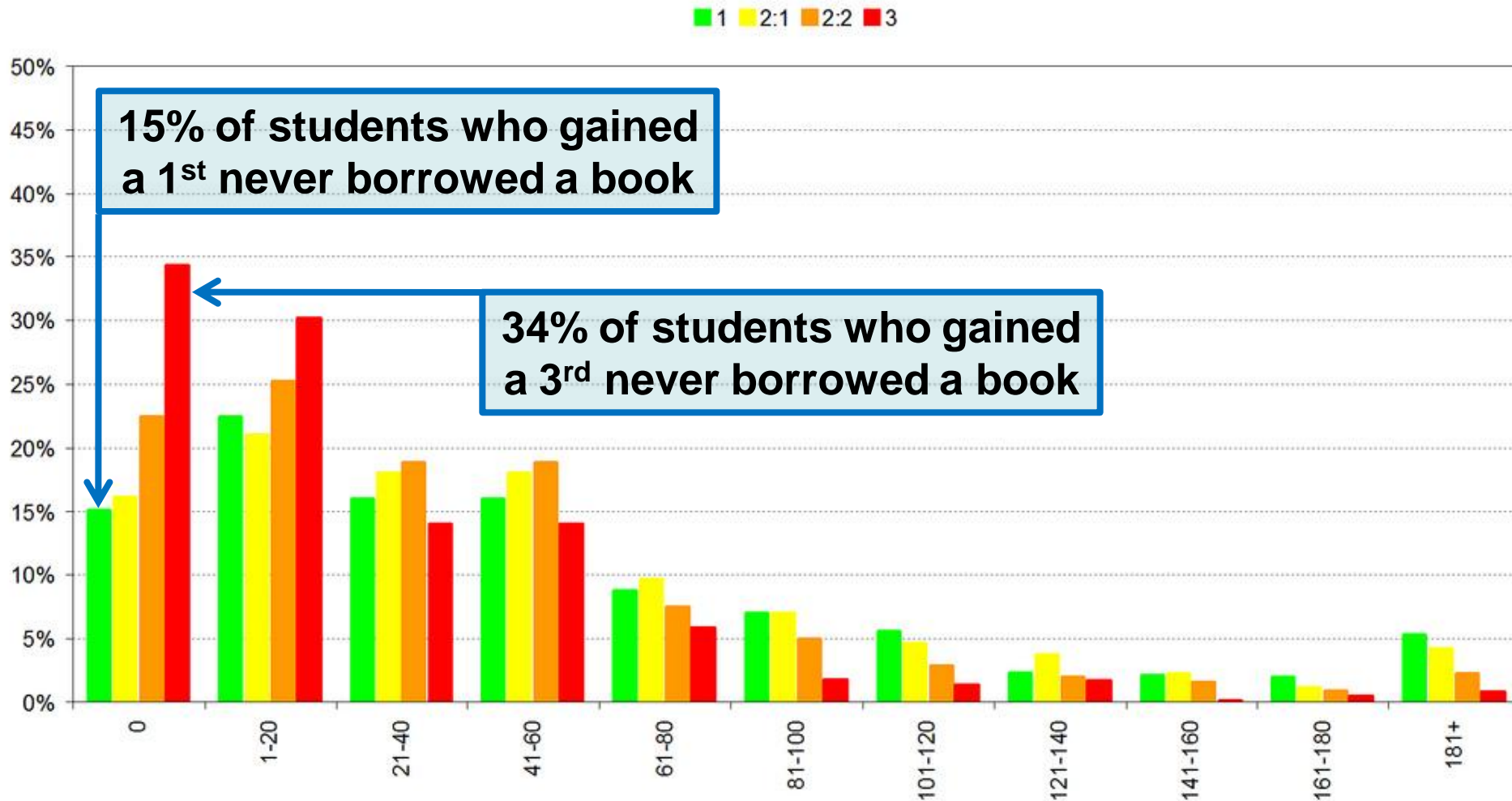
Measuring Library Impact

2008/9 – MetaLib usage



Measuring Library Impact

2008/9 – book loans



Profiling non/low users

- **Flesh out themes from the focus groups**
 - to advise on areas to work on
- **Check the amount and type of contact subject teams have had with the specific courses**
 - to compare library teaching hours to attainment
- **Baseline questionnaire or exercise for new students**
 - To establish the level of information literacy skills for new students
- **Target our users by concentrating staff resources at the right point**

Better use leads to better attainment



Inspiring tomorrow's professionals

Next steps for the project

- Finish statistical testing
- Pull out any themes from the focus groups
- Release the data on an Open Data Commons Licence
- Release a toolkit to help others benchmark their data

- Do cuts to the information budget mean that attainment will fall?
- Can we add more value by better use of resources?
 - By analysing the data in conjunction with UCAS tariff points

Acknowledgements

- Dave Pattern and Bryony Ramsden
- Phil Adams, Leo Appleton, Iain Baird, Polly Dawes, Regina Ferguson, Pia Krogh, Marie Letzgus, Dominic Marsh, Habby Matharoo, Kate Newell, Sarah Robbins, Paul Stainthorp

Thank you

- <http://library.hud.ac.uk/blogs/projects/lidp/>
- <http://eprints.hud.ac.uk/10208/>

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