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Stone, Graham, Collins, Ellen and Pattern, David

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Digging deeper into library data:

Understanding how library usage and other factors affect student outcomes

Graham Stone
Ellen Collins
Dave Pattern

Introduction

The initial Library Impact Data Project found that there is a statistically significant relationship between usage of e-resources and items borrowed, and final degree result.

Phase II of the JISC funded project uses data from the University of Huddersfield to probe that relationship in a bit more depth. We want to understand who is using the library, and how, and what relationships might exist between library usage and other outcomes, such as leaving the university without a degree. This will help us target our services more effectively, particularly towards those students who need additional support.
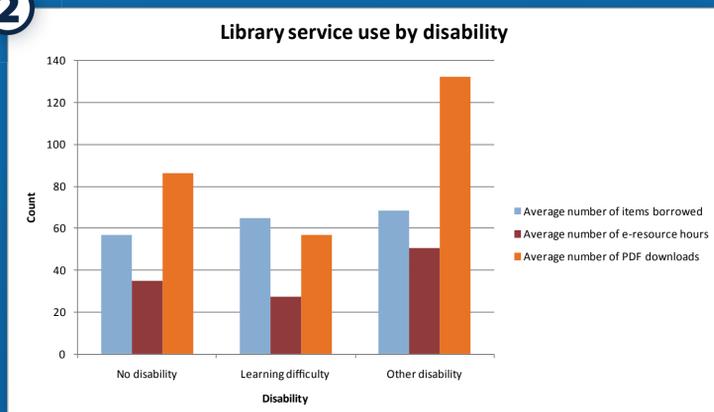
Data

This poster focuses on the three types of usage data which were shown to have a relationship with degree outcome: PDF downloads, items borrowed from the library and usage of e-resources – the latter is measured as the number of times a student was logged into the University's e-resources via EZProxy, within each of the 24 hours of the day over a period of one year. As virtually all off- and on-campus access to e-resources is handled by EZProxy, this is felt to be an accurate measure of true usage. We are also using demographic information, such as ethnicity, disability and country of domicile, e.g. overseas students 'home' country to understand usage patterns. Finally, we are looking at information about students who dropped out of their course early.

Preliminary findings

The following graphs highlight some of our preliminary findings so far. It is important to stress, as usual, that these findings show correlations between usage and outcomes, but not causation! The relationships between demographic factors, library usage, and outcomes are very complex, involving interactions between different variables – some of which cannot even be measured. Nonetheless, the findings here show some interesting correlations which can be useful in helping to target library interventions.
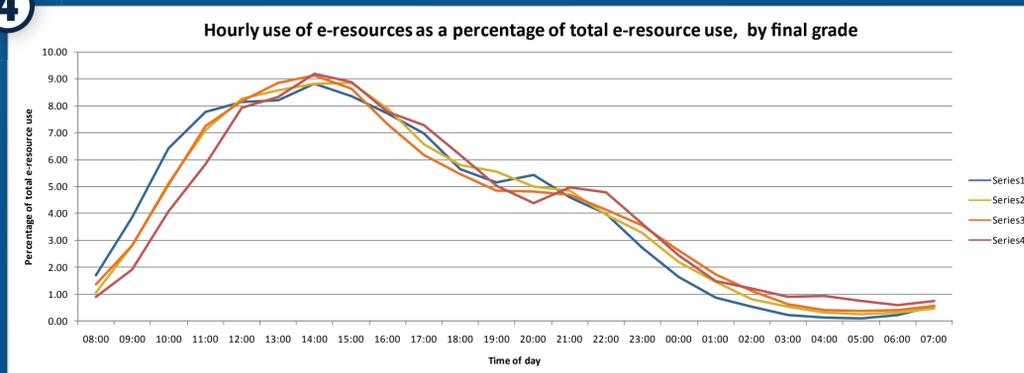
Graphs 1, 2 and 3 show library service usage among various demographic groups. The graphs have been coloured so that usage, which has been tested as significantly different is highlighted in a darker colour than the rest of the graph.

①

Library service usage by ethnicity

We used 'white' as the control group for this set of statistical tests. Statistically speaking, Black/Black British students download more PDFs than white students. Black and Other students are logged into e-resources for more hours than white students, but Chinese students are logged in for fewer hours.

②

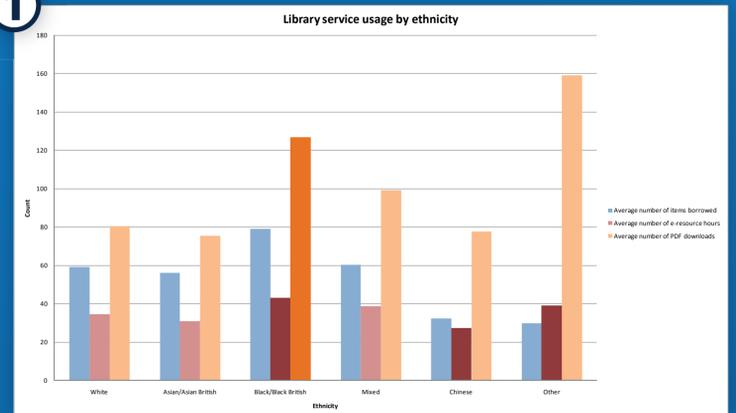
Library service use by disability

In this case, all the groups were significantly different from each other in terms of hours spent accessing e-resources and PDF downloads. Students with a learning difficulty were less likely to use these resources than either of the other groups, and students with another disability, including mobility and other physical disabilities, were much more likely to use them than other groups. We think that this might be because students in the 'other disability' group find it harder to come onto the campus, and therefore use e-resources more than those with no disability.

③

Library service use by country of domicile

We used 'UK' as the control group for this set of statistical tests. Statistically speaking, Europeans (both 'old' and 'new' Europe) are more likely than UK students to use e-resources; they are logged into e-resources for more hours and downloaded more PDFs. However, old Europeans, Chinese students and those from the rest of the world borrow fewer items than those from the UK.

④

Hourly use of e-resources as a percentage of total e-resource use, by final grade
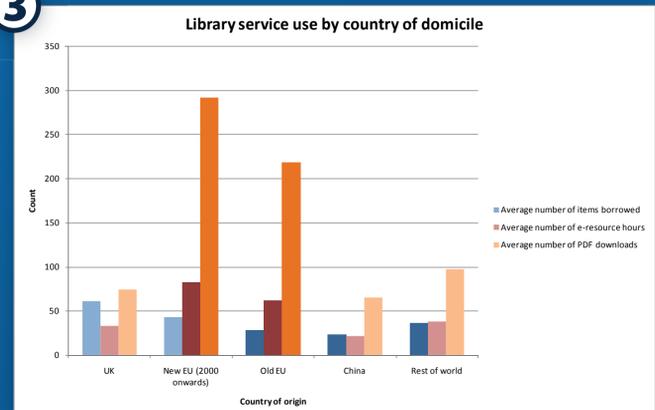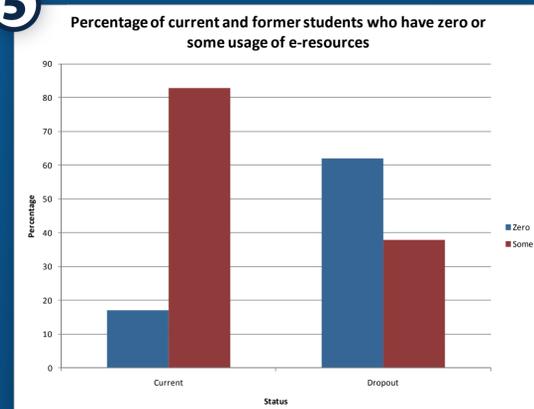
Some previous studies have suggested a link between the time of day that e-resources are used and student outcomes, with poorer outcomes linked to higher overnight usage. We wanted to test this further, so we looked at e-resource usage by time of day. This graph, which shows usage per hour as a percentage of overall usage by grade, shows that in fact the usage patterns are very similar. This is confirmed by the statistical tests we used, which were unable to discern any significant difference in overnight usage for students with high and low final grades.

⑤

Percentage of current and former students who have zero or some usage of e-resources

This graph shows the relationship between any usage of e-resources and student retention. To make sure the data were not skewed by early dropouts, who would have less time to use Huddersfield's e-resources, we have only looked at those students who left in the final term. Only 17% of students who finished their year had zero e-resource usage in 2010/11, while 62% of those who dropped out had not used e-resources at all. The statistical tests indicate that the odds of dropping out were 7.89 times higher if there was zero e-resource usage, compared to some usage.

Conclusions and next steps

At this stage we can conclude that there is a statistically significant relationship between library usage variables and demographic characteristics, and between student retention and library usage. These relationships are not necessarily causal, but they could be used to target interventions for students who are less likely to use library resources.

We plan to look at the location of e-resource use: whether students are using computers on or off campus to access e-resource. We also plan to look at other library usage variables against the retention information to see whether other types of low usage are related to dropping out.

Finally, we are going to use focus groups to help us to explain our quantitative findings in more detail, and to effectively target interventions that will help under-using groups to engage more effectively with the library and its services.

For further information on the project, including the latest developments, articles, data and a toolkit please visit our blog:

http://library.hud.ac.uk/blogs/projects/lidp/

Poster: **http://eprints.hud.ac.uk/12973/**

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