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Library Resource Usage and Student Success at Eastern Kentucky University

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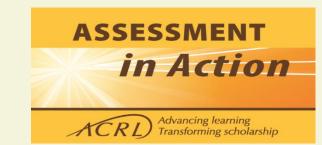*Eastern Kentucky University*, kwan.yi@eku.edu

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Library Resource Usage and Student Success at Eastern Kentucky University

EKU LIBRARIES

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ASSESSMENT in Action ACRL advancing learning transforming scholarship

This project is part of the program "Assessment in Action: Academic Libraries and Student Success" which is undertaken by the Association of College and Research Libraries (ACRL) in partnership with the Association for Institutional Research and the Association of Public and Land-grant Universities. The program, a cornerstone of ACRL's Value of Academic Libraries initiative, is made possible by the Institute of Museum and Library Services.

Question

Does the usage of online resources correlate with student success measures such as GPA and Retention?

Background/Literature Review

Library impact studies at many universities have found that increased library usage correlates with student success, and that students who do not use the library at all have significantly lower outcomes :

- University of Wollongong : *First year students who used the library had a .23 higher GPA than those who did not.*

- University of Minnesota (Soria, et al) : *First year students who use the library had an average GPA of 3.18 compared with the average GPA of students who did not use the library, which was 2.98 (a difference of .20)*

- Murray State University : *Students who use the library in some way are nearly twice as likely to be retained as students who do not use any library services.*

- University of Huddersfield : *A positive correlation between eResource usage and student success that was somewhat variable across disciplines.*

- York University : *6% of variation in 1st year GPA can be explained by library usage*

Methods

- During Fall 2014, proxy login session data was gathered, combined with student success data for 15,473 graduate and undergraduate students, and anonymized.

- Due to data gathering constraints, we could only capture the number of times a student logged in to the proxy server – this did not capture the number or type of resources accessed (eg., multiple resources could have been accessed during one session, or NO resources could have been accessed).

- Our analysis draws on four variables: our effect, or dependent variable, Grade Point Average (GPA) is measured on a standard four point scale ranging from .10 , the minimum GPA, to 4.0, the maximum, with a mean GPA of 2.97 and a standard deviation from the mean of .67.

- Our predictor variables, Total Number of Library Sessions, defined as total number of library checkouts and log ins to the library system, range from zero to 221, with a mean five interactions with the library and a standard deviation of 8.43

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.077	0.036		29.853	0
ACT comprehensive	0.068	0.002	0.38	43.981	0
Valid undergraduate level	0.116	0.005	0.2	23.076	0
Library use vs non use	0.193	0.013	0.133	15.397	0

a. Dependent Variable: Grade Point Average. Adjusted R square=.219. p >.05
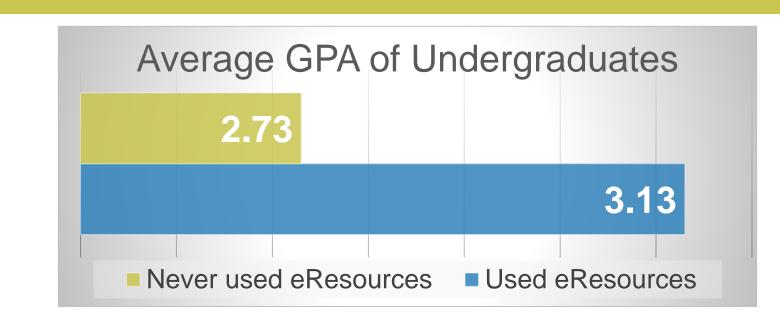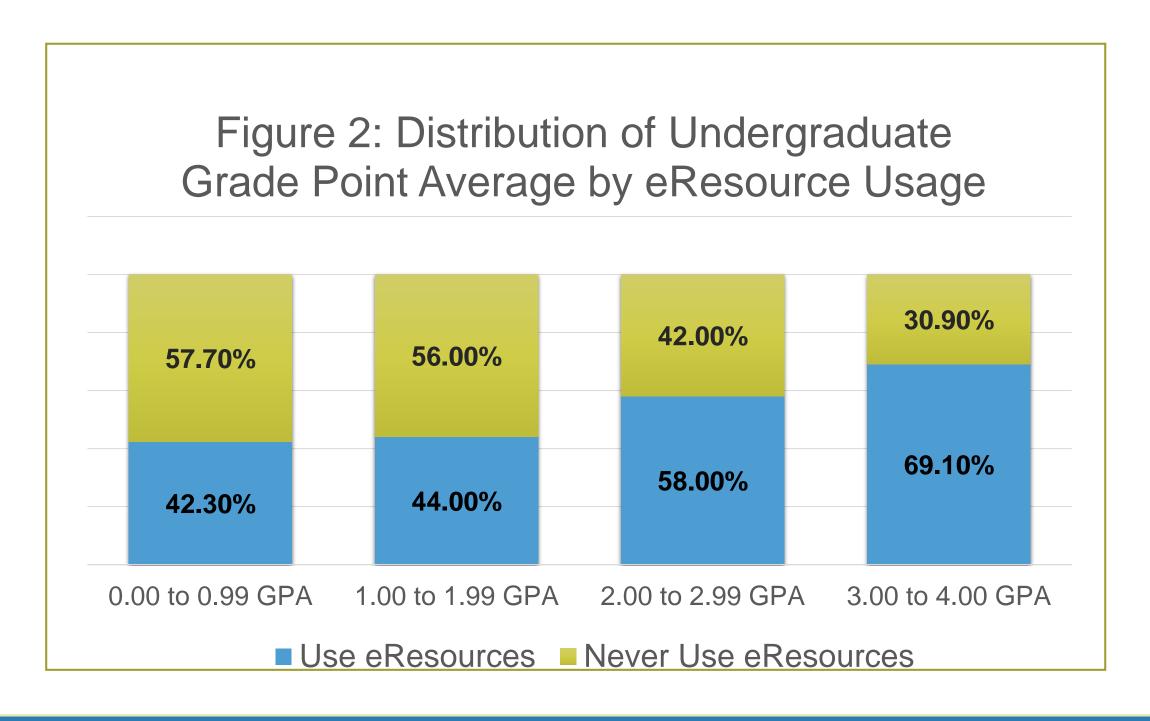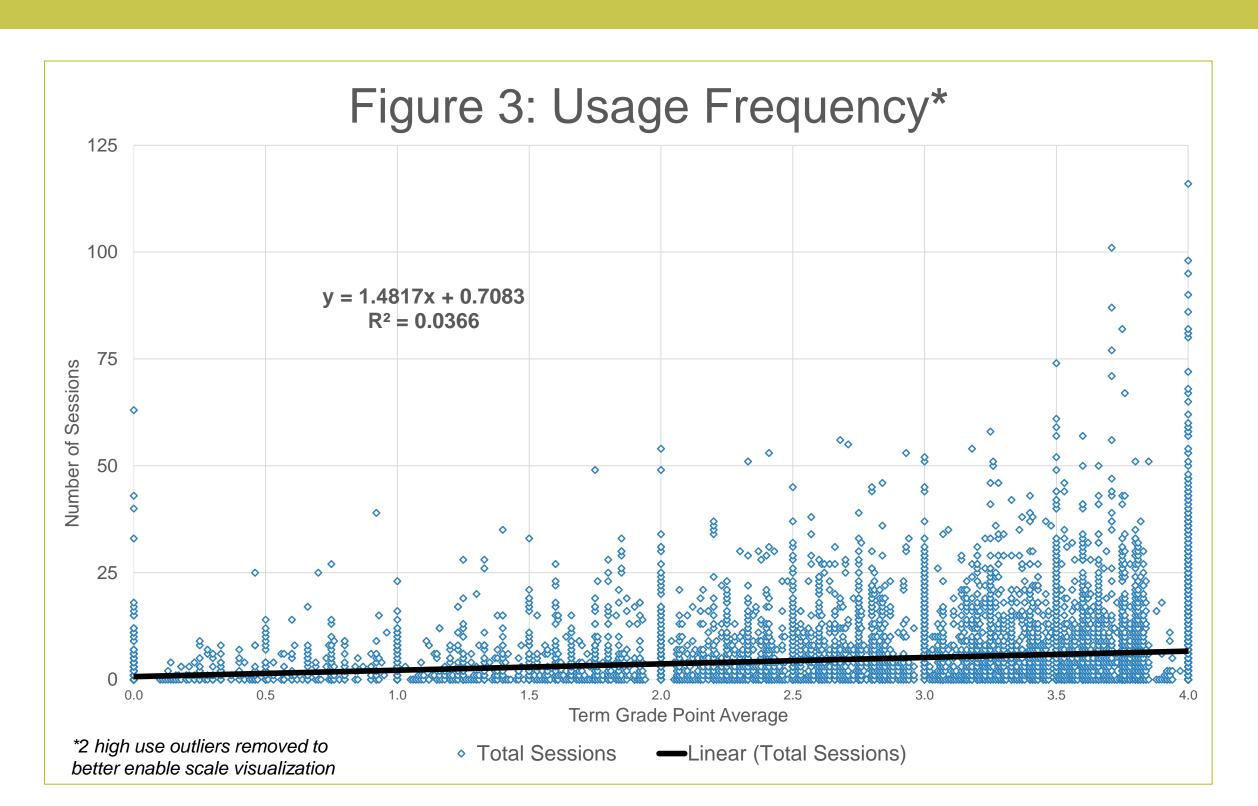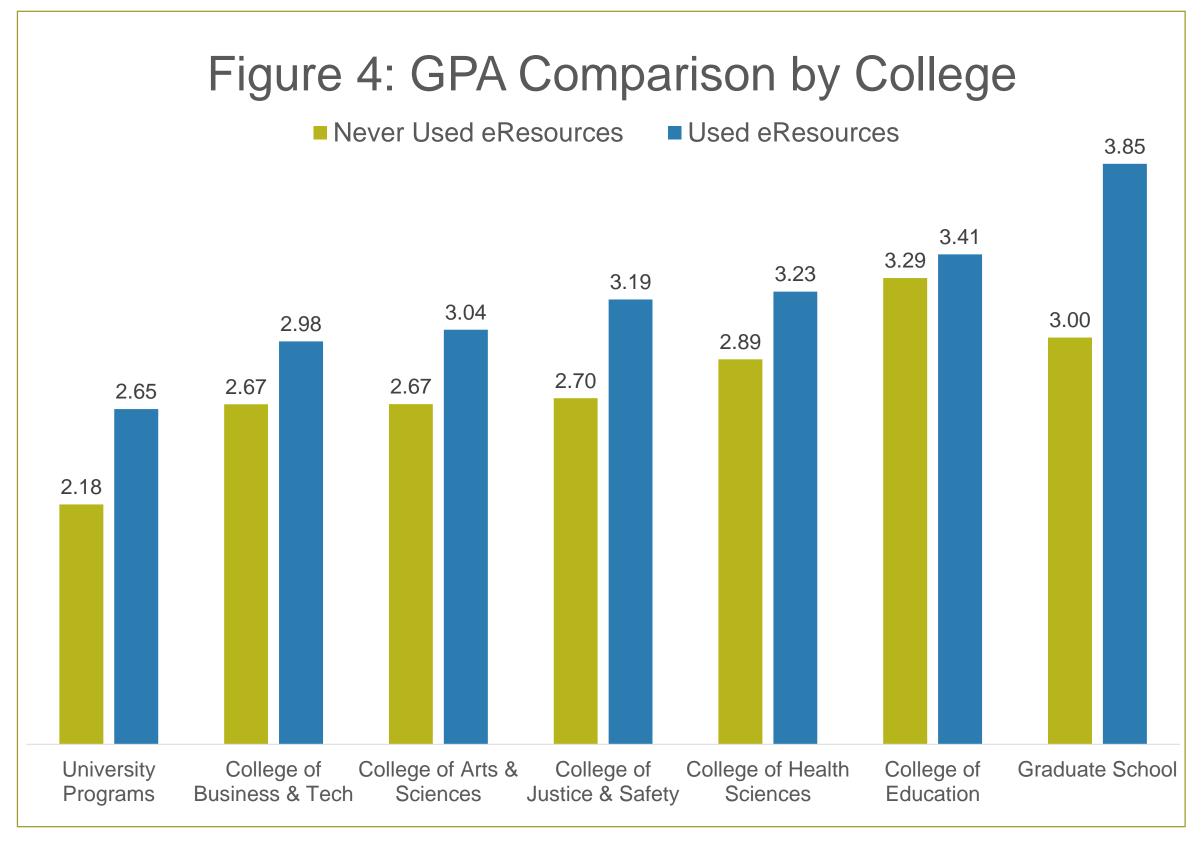
Observations & Results

Average GPA of Undergraduates

- 2.73 Never used eResources
- 3.13 Used eResources

Figure 1:   Categorical GPA * Non eResource Use vs eResource Use

GPA		no use	at least one use	Total
0.00 to 0.99	frequency	101	74	175
	% within categorical GPA	57.70%	42.30%	100.00%
1.00 to 1.99	frequency	408	320	728
	% within categorical GPA	56.00%	44.00%	100.00%
2.00 to 2.99	frequency	2141	2954	5095
	% within categorical GPA	42.00%	58.00%	100.00%
3.00 to 4.00	frequency	2209	4936	7145
	% within categorical GPA	30.90%	69.10%	100.00%
	Total	**4859**	**8284**	**13143**
		37.00%	**63.00%**	**100.00%**

*Undergraduatges only

P <. 000   Contingency Coefficient=.153

Figure 2: Distribution of Undergraduate Grade Point Average by eResource Usage

	0.00 to 0.99 GPA	1.00 to 1.99 GPA	2.00 to 2.99 GPA	3.00 to 4.00 GPA
Never Use eResources	57.70%	56.00%	42.00%	30.90%
Use eResources	42.30%	44.00%	58.00%	69.10%

Figure 3: Usage Frequency*

y = 1.4817x + 0.7083
R² = 0.0366

2 high use outliers removed to better enable scale visualization

Total Sessions — Linear (Total Sessions)

Figure 4: GPA Comparison by College

Never Used eResources / Used eResources

College	Never Used	Used
University Programs	2.18	2.65
College of Business & Tech	2.67	2.98
College of Arts & Sciences	2.67	3.04
College of Justice & Safety	2.70	3.19
College of Health Sciences	2.89	3.23
College of Education	3.29	3.41
Graduate School	3.00	3.85

Conclusions

- We observed that, on average, undergraduate students who used library resources had GPAs **.40 points higher** than those who did not; while graduate students using eResources had GPAs **.85 points higher** than graduate students who did not use eResources.

- Figures 1 and 2 summarize the correlation between Grade Point Average and eResource use vs. non eResource use. There are more than 15 percent more non-library users vs. library users in this failing low-end GPA category. For those students in the high-end GPA category, almost 70 percent of students with 3 to 4 point GPAs use the library vs 30 percent who do not.

- Figure 3 illustrates the correlation coefficient of usage frequency (=.1879) while Figure 4 highlights differences among students in each college.

- The data show that Library online databases, eBooks, and eJournals are important tools for student success.

Next Steps

- Areas to explore further…

  - **Retention** - Because the scope of the study was limited to one semester, the connection with retention could not be adequately addressed

  - **Other measures of "library use"** – the only existing systems that allowed us to gather library use connected with identifiable student information was our EZ proxy server. In the future, a more holistic look at the effect of the full range of library services and resources would be interesting to analyze

  - **Qualitative analysis** - It is worth mentioning that this data does not necessarily capture assigned readings that have been distributed by instructors; eg. posted on blackboard/printed and handed out. This data is perhaps a representation of research conducted by the students themselves, which could be significant from a pedagogical standpoint. These eResource uses may represent student attempts to satisfy self-determined (at least in the context of academia) information needs rather than just fulfilling the need to read assigned articles. This is an area of future study – following up with individual student volunteers and gathering qualitative data would result in a more complete picture.