MAKING USAGE DATA MEANINGFUL

by

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Abstract

This paper reports the findings of a study of licensed database usage among libraries in the NC LIVE consortium. Researchers developed North Carolina-based library peer groups in order to build context for libraries' usage data reports and to identify benchmarks and trends across those libraries that are top performers within each group. Additionally, researchers examined the use of selected databases across multiple library types to determine whether certain library characteristics or activities are related to database use. Researchers found that a number of library characteristics and activities predict database use, but the results vary depending upon the type of library and the database studied.

Acknowledgements

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Introduction

NC LIVE, a North Carolina library consortium, provides a core collection of digital content and services to 201 public and academic libraries across the state. For years, NC LIVE has provided its member libraries with monthly usage data reports. Although these reports can help libraries compare their own usage over time, they provide no indication of what "high" or "good" usage looks like for any individual library. Additionally, the data give no indication of how a library might adjust their efforts to increase use and, thereby, decrease overall cost-per-use. NC LIVE staff noticed a lack of professional literature to support the creation of usage data targets, especially for licensed library databases within consortial settings. These usage data targets are important for supporting collection development decisions at the consortial and individual library level, resource allocation decisions, and activities related to maximizing libraries' use of these databases and return on investment.

In April 2013, with the support of the ER&L/EBSCO Information to Inspiration Fellowship, NC LIVE staff members began a research study that was designed to address this lack of understanding about database usage and the factors that could impact use. They designed the study to achieve four objectives that would contribute not only to NC LIVE member libraries' understanding, but to the professional literature as well:

1) Identify peer groups of North Carolina libraries
2) Identify data points to measure usage of each studied database
3) Develop a framework for creating usage benchmarks in each peer group
4) Analyze and report qualities of high usage libraries

Methodology

To achieve these objectives, researchers limited the scope of this study to five library databases that are currently provided by NC LIVE to all of its members: Academic Search Complete (EBSCO), MasterFILE Complete (EBSCO), Wall Street Journal (ProQuest), LearningExpress Library (LearningExpress), and SimplyMap (Geographic Research, Inc.). They also assembled a Usage Data Advisory Group (UDAG) consisting of library staff members from North Carolina public and academic libraries, as well representatives from the State Library of North Carolina and database vendors. The UDAG was responsible for providing input to and feedback on the planning and assessment of NC LIVE activities related to database usage data in North Carolina libraries, and they served as a sounding board throughout this study. Through their collaborative efforts, they developed library peer groups and definitions of use, which provided the foundation for this study.

Peer Groups

At their first meeting in June 2013, the UDAG developed North Carolina library peer groups. Working in small groups divided by library types (community college libraries, four-year college and university libraries, and public libraries), the UDAG used institutional and demographic data from aggregated data

sets[1] and their prior knowledge of the organizations to form 20 peer groups.[2] Table 1 shows how these peer groups are broken out by library type. The finalized peer groups are included in Appendix 1.

Table 1: Peer Groups by Library Type		
Library Type	**Number of Peer Groups**	**Number of Libraries**
Community college libraries	7	58
Four-year college and university libraries	6	52
Public libraries	7	75
TOTALS	**20**	**185**

Definitions of Use

Members of the UDAG also worked with researchers to develop definitions of use for each of the five databases included in this study. Because most database vendors provide a number of metrics to measure different aspects of use, researchers thought that it was important to consult with both vendors and librarians to understand which data points best represent use that could be compared across libraries. Ultimately, one data point was chosen for each database, and all data points were converted into a ratio to control for population size. Table 2 displays the definitions of use for each database included in this study.

Table 2: Definitions of Use		
Database	**Definition of Use for Community College Libraries and Four-Year College and University Libraries**	**Definition of Use for Public Libraries**
Academic Search Complete	Full-Text Views Per Full Time Enrollment	Full-Text Views Per 5,000 of the Legal Service Population
MasterFILE Complete	Full-Text Views Per Full Time Enrollment	Full-Text Views Per 5,000 of the Legal Service Population
Wall Street Journal	Full-Text Views Per Full Time Enrollment	Full-Text Views Per 5,000 of the Legal Service Population
LearningExpress Library	Number of eCourses, eBooks and Practice Tests Added Per Full Time Enrollment	Number of eCourses, eBooks and Practice Tests Added Per 5,000 of the Legal Service Population
SimplyMap	Number of Sessions Initiated Per Full Time Enrollment	Number of Sessions Initiated Per 5,000 of the Legal Service Population

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[1] Institutional and demographic data were collected from the Academic Libraries Survey (2010) from the National Center for Education Statistics and the Public Library Survey (2011-2012) from the State Library of North Carolina.
[2] Several libraries were excluded from this study, in some cases because their specialized nature made comparisons to other libraries difficult, and in other cases because their organizational structure significantly changed during the data collection period, complicating data collection and analysis. The libraries that were intentionally removed from this study were the North Carolina School of Science and Math, the nine North Carolina Area Health Education Center (AHEC) libraries, the State Library of North Carolina, and five public libraries: Gaston County Public Library, Lincoln County Public Library, Orange County Public Library, Person County Public Library, and Caswell County Public Library.

Benchmarks

Researchers gathered usage data from July 2012 through June 2013.[3] For each of the peer groups, a series of five charts (one for each database studied) was created to display database use. The high, low, mean and median values were calculated as benchmarks to help libraries within peer groups make meaningful comparisons, and were later shared with members of the UDAG and NC LIVE advisory committees for feedback.

Statistical Analysis of Usage

To begin studying the relationship between library characteristics and database use, researchers gathered data within five categories: 1) Access & Authentication[4], 2) Awareness, Outreach & Support[5], 3) Library Collections & Content[6], 4) Library Characteristics[7], and 5) Community Characteristics[8]. Much of the data for this study was available from publicly available, aggregated data sources, but researchers also distributed a survey among their member libraries to understand more about specific library activities, especially as they relate to NC LIVE-provided databases.[9] Data for approximately 50 variables was gathered for this study, and a full list of variables is available in Appendix 3 for each of the three library types.[10] Three types of analyses were completed to understand the relationships between library variables and database use: cross-tabs, difference of means tests, and multiple regression analyses. Each of these analyses was performed using statistical analysis software (SPSS).

Cross-tabs

A cross-tabs analysis helped researchers understand more about the commonalities among top libraries across peer groups. Each peer group was divided into thirds in terms of their Academic Search Complete use,[11] and libraries were categorized as top, middle or bottom. Then all top, middle and

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[3] The usage data for this study was gathered from standard vendor reports, not COUNTER reports. This choice was made because NC LIVE does not use the COUNTER reports for their monthly reports. Researchers were confident in the use of standard reports because they have been monitored by NC LIVE staff for consistency.

[4] Access & Authentication includes variables related to the means and methods by which patrons (end-users) reach or arrive at a database. This may include technological and policy-based decisions, interfaces, and access points.

[5] Awareness, Outreach & Support includes variables related to library efforts regarding NC LIVE, such as library staff development, patron training and instruction, and marketing.

[6] Library Content & Collections includes variables related to library materials, databases and other information made available to patrons in both print and electronic form.

[7] Library Characteristics includes variables related to descriptive information regarding library operations, staffing and services provided.

[8] Community Characteristics includes variables related to demographics and descriptive information about a library's patron- or customer-base.

[9] Survey response rate and full text of the surveys is included in Appendix 2.

[10] Many variables were recoded for analysis purposes into dummy variables, increasing the number of variables significantly. There were 90 variables for public libraries, 85 variables for community college libraries, and 84 variables for four-year college and university libraries. A full list of variables and data definitions can be found in Appendix 3.

[11] Researchers decided to perform the cross-tabs analysis only for Academic Search Complete use because it is the most broadly used database across all member libraries and therefore will provide the most applicable results. Researchers were concerned that other databases could show high or low use based on library characteristics and

bottom libraries were compared to look for trends among the top-ranked libraries. This analysis was completed separately for each of the three library types (community college libraries, four-year college and university libraries, and public libraries) and provides descriptive information about the characteristics of and methods used by top libraries in their peer groups.

Difference of Means

Difference of means tests demonstrate whether or not there is a difference in terms of database use among libraries that share a certain characteristic (such as having a chat reference box) and libraries that do not share this characteristic.[12] A separate series of tests was performed for each of the three library types to examine use for all five databases included in this study.

Multiple Regression

A multiple regression analysis is a more rigorous statistical test that allows researchers to observe how each variable is related to database use, while accounting for the impact of other variables. This analysis estimates the relative strength of the relationships between each library variable and the dependent variable (use). Because the community college libraries and four-year college and university libraries share an academic focus, as well as many data points, researchers combined these into one group for this analysis. This choice was made to strengthen the reliability of the results by increasing the number of observations. The public libraries were analyzed separately.

For each of these two groups of libraries, researchers ran a series of tests to examine Academic Search Complete use.[13] Not all variables collected for this study could be used in one regression model, so researchers first used a stepwise regression analysis to assist in the selection of variables that were likely to be related to use. After identifying potential variables for further study in the stepwise regression, researchers ran a linear multiple regression analysis, looking for a model that included actionable variables, contained at least one variable from all variable categories, and produced a high adjusted r^2 value.[14]

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activities that were not included in this study, whereas the broad applicability of the Academic Search Complete content across all library types makes it an ideal candidate for this type of analysis. Additionally, in a 2013 analysis of shared needs, the NC LIVE Permanent Digital Resources Task Force identified "full-text journal articles" as a "high priority information need shared across all four communities of interest," which includes all libraries in this study (North Carolina Community College System, North Carolina public libraries, University of North Carolina System and the North Carolina Independent Colleges and Universities.)

[12] For interval variables, where the data gathered were numerical instead of simple "yes/no" responses, the median value was used as a cut-point for the difference of means tests to compare above-median libraries with below-median libraries. Outliers were excluded from the difference of means tests in cases where the dependent variable was more than two standard deviations away from the mean, and where the researchers' knowledge of the institutions and their usage patterns suggested that the data were not representative of expected values.

[13] See footnote 11 regarding Academic Search Complete.

[14] This analysis is intended to be used for decision-making purposes based on a snapshot of these library populations. Researchers assume that the data are somewhat stable and expect that they are representative of data that would be used for future studies. However, the methods used in this analysis trained the models on these data, and therefore, the models may not be generalizable to future instances.

Usage Data Summit

Following the initial data analysis, researchers drafted a report of their findings and shared those results with the NC LIVE Usage Data Advisory Group and members of other NC LIVE advisory committees at the February 2014 NC LIVE Usage Data Summit. This Summit was designed to produce feedback on the future of the consortium's products and services related to usage data. A report on the Summit can be found in Appendix 4.

Results and Discussion

Benchmarks and Peer Group Analysis

Charts 1-5 are examples of peer group benchmarking charts. Each chart displays use for the same peer group of four-year college and university libraries for each of the five databases studied. The charts display use that occurred between July 1, 2012 and June 30, 2013, and the high, low, mean and median values are noted to provide benchmarks and context.

**Chart 1: Academic Search Complete
Peer Group CU-E
Four-year colleges and universities**

High: 19.19
Low: 2.89
Mean: 10.12
Median: 9.48

**Chart 2: MasterFILE Complete
Peer Group CU-E
Four-year colleges and universities**

High: 3.67
Low: 0.36
Mean: 1.49
Median: 1.07
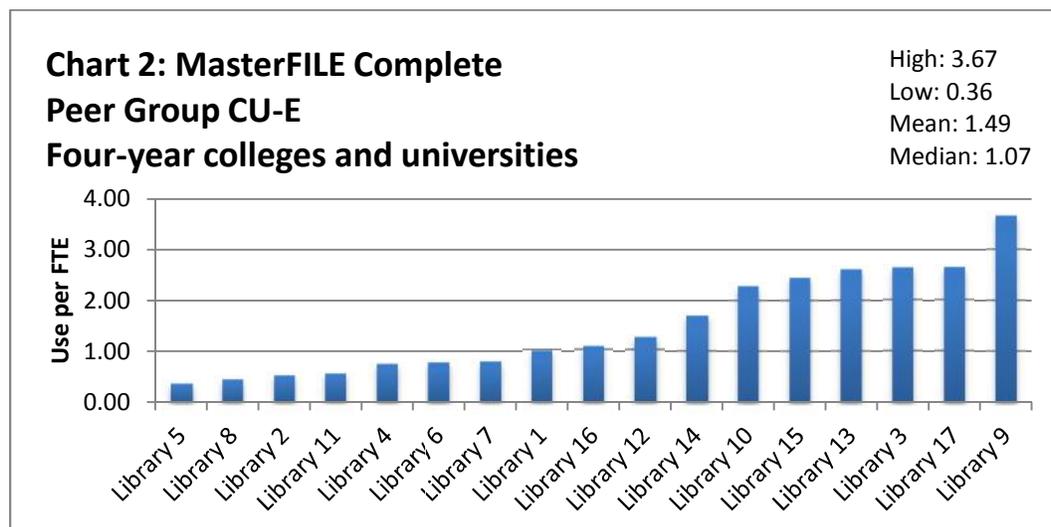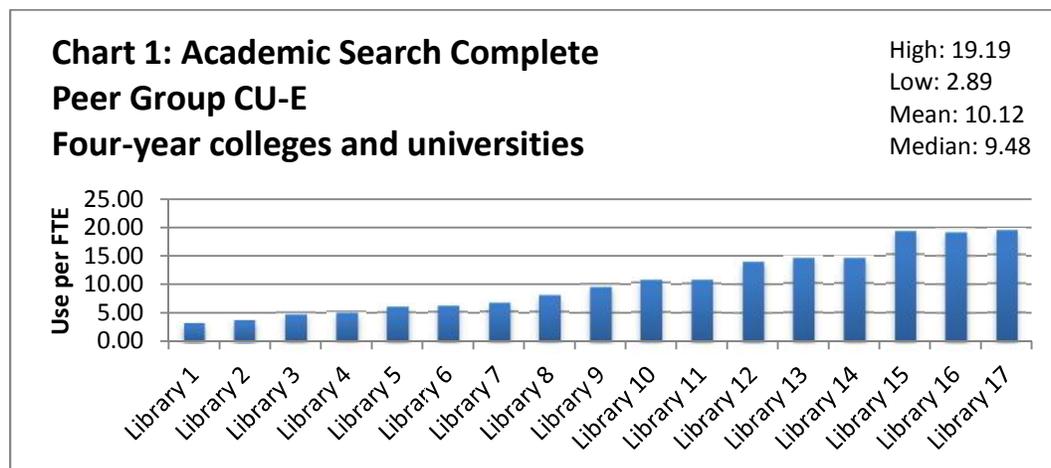
Chart 3: Wall Street Journal
Peer Group CU-E
Four-year colleges and universities

High: 1.696
Low: 0
Mean: 0.22
Median: 0.093

Use per FTE

2.00000
1.50000
1.00000
0.50000
0.00000

Library 10, Library 7, Library 1, Library 4, Library 17, Library 8, Library 6, Library 12, Library 11, Library 13, Library 15, Library 3, Library 9, Library 5, Library 14, Library 2, Library 16
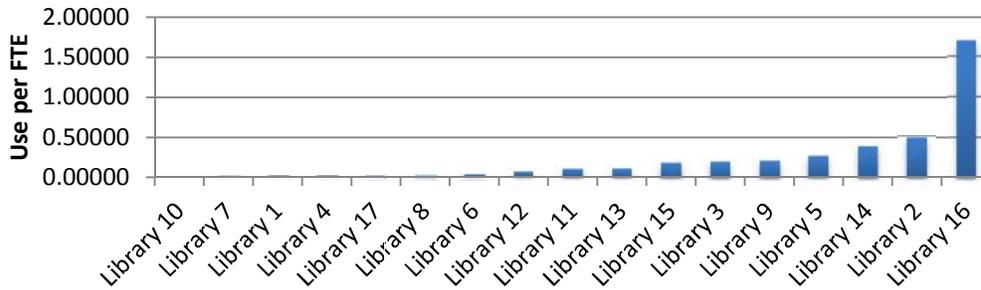
Chart 4: LearningExpress Library
Peer Group CU-E
Four-year colleges and universities

High: 0.16514
Low: 0
Mean: 0.04
Median: 0.01913

Use per FTE

0.20000
0.15000
0.10000
0.05000
0.00000

Library 15, Library 14, Library 17, Library 2, Library 5, Library 9, Library 13, Library 10, Library 3, Library 12, Library 1, Library 7, Library 16, Library 4, Library 6, Library 11, Library 8
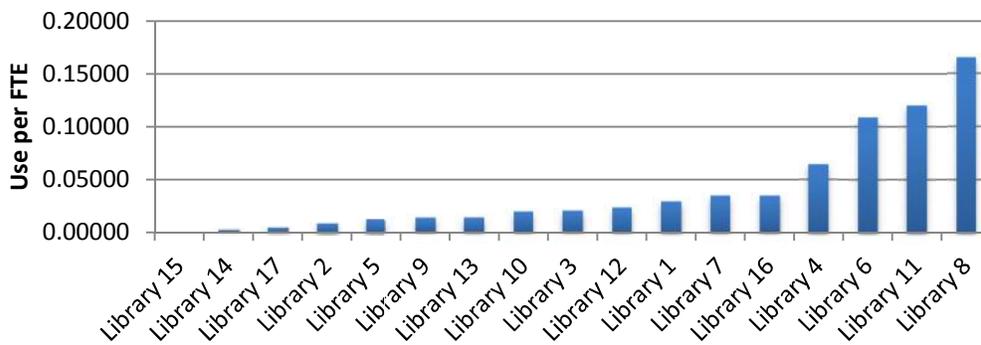
Chart 5: SimplyMap
Peer Group CU-E
Four-year colleges and universities

High: 0.0625
Low: 0
Mean: 0.014
Median: 0.0047

Use per FTE

0.08000
0.06000
0.04000
0.02000
0.00000

Library 14, Library 6, Library 1, Library 13, Library 7, Library 2, Library 11, Library 9, Library 8, Library 17, Library 10, Library 12, Library 15, Library 16, Library 5, Library 4, Library 3
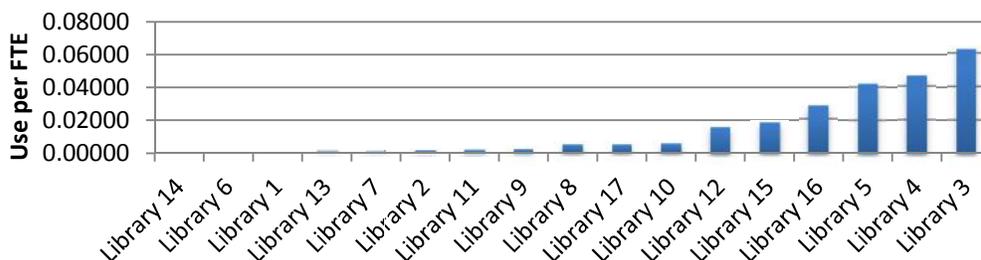
Although the high, mean, median, and low benchmarks provide important information for target-setting, researchers also wanted to understand more about the distribution of use within peer groups. Researchers expected high-use libraries to be similar across all five databases studied. However, as shown in the examples above, researchers found that libraries' use of each database varied greatly

relative to the other libraries in their peer groups. After reviewing all 20 peer groups, there was no one library that achieved the highest or lowest use across all five databases. However, libraries' rankings within peer groups were most similar between Academic Search Complete and MasterFILE Complete, perhaps because these databases offer similar content on the same EBSCOhost platform.

Researchers also looked for patterns within library types. The lowest use was divided by the highest use to create ratios for use variation in each database and peer group combination. Among community college libraries, the lowest use within a peer group was less than 10% of the highest use in 24 of 35 cases (69%). Among four-year college and university libraries, the lowest use within a peer group was less than 10% of the highest use in 16 of 30 cases (53%). Among public libraries, the lowest use within a peer group was less than 10% of the highest use in 26 of 35 cases (74%). Researchers conclude from these results that database use tends to vary widely, even among peer institutions. Also, wide variations of use within a peer group are more common among public libraries and community college libraries than among four-year college and university libraries.

High, low, median and mean use benchmarks may improve a library's ability to set goals for use, prompt the library to ask questions about their activities and the activities of their peers, compare trends, and develop profiles of high- or low-use libraries for each type of database. These benchmarks may also help NC LIVE to strategically allocate resources (such as outreach and promotional efforts) toward low-use libraries for specific marketing efforts. However, libraries' wide variation in peer group placement across databases suggests that researchers should be careful not to assume that all libraries need or want to use each database equally. Database use within peer groups should be considered on a database-by-database basis, and should not be generalized across different types of databases. Although NC LIVE may identify targets for overall use, library targets should be set at the local library level, since each library has different priorities and needs for database content.

Cross-tabs

The results from the cross-tabs analysis of top, middle and bottom libraries revealed a number of interesting trends.[15] Researchers selected a few highlights of actionable, high-use related items to include in this report, with the full list of findings available in Appendix 5.

<u>Community college libraries</u>

- 77% of top community college libraries use direct links to NC LIVE-provided resources, compared with 50% of middle and 53% of bottom libraries.
- 56% of top community college libraries have librarians that attend faculty meetings, compared with 45% of middle and 39% of bottom libraries.

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[15] A statistical analysis using chi square values was not performed. The cross-tabs were only used to provide descriptive information about the distribution of top, middle and bottom libraries across peer groups.

<u>Four-year college and university libraries</u>

- 94% of top four-year public and private libraries authenticate with a local proxy, compared with 77% of middle and 56% of bottom libraries.
- 53% of both top and middle four-year public and private libraries have a high number of librarians per 1,000 of full time enrollment, compared with 35% of bottom libraries.

<u>Public libraries</u>

- 80% of top public libraries recently provided staff training for NC LIVE-provided resources, compared with 57% of middle and 55% of bottom libraries.
- 65% of top public libraries had a high number of public internet computers per 5,000 of the legal service population, compared with 46% of middle and 35% of bottom libraries.

Difference of Means

The difference of means test results point to specific relationships between each variable and database use. A positive relationship between a variable and database use means that libraries possessing that characteristic are likely to demonstrate higher use than libraries that do not possess that characteristic. An inverse relationship between a variable and database use means that libraries possessing that characteristic are likely to demonstrate lower use than libraries that do not possess that characteristic. If there is no relationship between the variable and database use, it means that there is not a significant difference in use between libraries that possess a certain characteristic and libraries that do not. In some cases, there was not enough variation among libraries to perform the difference of means tests.[16] The full results from the difference of means tests are included in Appendix 6.

<u>Community college libraries</u>

Among community college libraries, 16 variables were related to higher or lower use for at least one of the databases included in this study. A cluster of high-use related variables were found in the Library Characteristics category and included many activities related to librarian-faculty interactions, such as having embedded librarians in academic courses, librarian-initiated engagement with academic departments, library orientation programs for faculty members, marketing aimed at faculty members, and librarians that attend faculty meetings. From these results, researchers conclude that community college libraries that engage in these types of librarian-faculty interactions tend to have higher database use.

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[16] The statistical significance of these relationships was calculated at the 95% confidence level to help researchers make comparisons among the libraries and understand patterns in the data. Even though this study examined populations of library types (as opposed to samples within these library types), the data behave as a sample since this study represents a snapshot in time for these libraries. The results indicate what we would expect to see if this study were replicated in the future for these same libraries.

<u>Four-year college and university libraries</u>

Among four-year college and university libraries, 20 of the variables were related to higher or lower use for at least one of the databases included in this study. The vast majority of relationships (both positive and inverse) were observed for the SimplyMap database. It appears that four-year college and university libraries demonstrating more technical expertise, such as authenticating with a local proxy, using a discovery service, or having a mobile library website or app, are more likely to see high use for the SimplyMap resource.

Additionally, several inverse relationships across multiple databases were notable within the Access & Authentication category, including the library's website having links to the NC LIVE website, authenticating with a password, using an NC LIVE search box on the library website, and the library website displaying descriptive text about NC LIVE. That is not to say that these library characteristics or activities are causing low database use. These characteristics all point to a less customized library website, which could mean that these libraries are lacking staff time or technical expertise to help their users get directly to database content, perhaps resulting in overall lower use.

<u>Public libraries</u>

Among public libraries, 25 of the variables were related to higher or lower use for at least one of the databases included in this study. Clusters of high-use related variables were found within all variable categories. Four variables had positive relationships across all five databases: total operating expenditures per legal service population, percent of legal service population with a bachelor's degree, population density, and the number of statistics downloads from the NC LIVE website. The first three of these variables seem very logical. In general, public libraries that spend more money per capita, have higher levels of education and more people per square mile tend to see higher database use across all databases included in this study.

The relationship between database use and the number of statistics downloads from the NC LIVE website is more surprising. These results show that public libraries with higher frequencies of downloading statistics from the NC LIVE website tend to have higher database use. Researchers are not certain what this relationship indicates, but it could mean that libraries are downloading their usage reports and then intentionally promoting resources to patrons. Alternatively, the relationship could be more subtle. Perhaps libraries that download statistics from the NC LIVE website are simply more familiar with the databases that are available, and so, are more likely to use them and suggest them to patrons. More research will be needed to explore this relationship further.

Multiple Regression

The results of the multiple regression analyses helped researchers develop models that demonstrate the relationships between independent variables and Academic Search Complete use in academic and public libraries. The results of each model are outlined below.

Academic Libraries

The academic libraries (community college and four-year college and university libraries) regression model included 12 variables for 94 libraries.[17]

- Authenticate with a Local Proxy
- Discovery Service
- Chat Reference Box
- Mobile Library Website or App
- Electronic Materials Expenditures per Full Time Enrollment
- NC LIVE Committee Representation
- Staff Training for NC LIVE-Provided Resources
- Total Library Expenditures per Full Time Enrollment
- Number of Librarians per 1,000 of Full Time Enrollment
- Librarian-Initiated Engagement with Academic Departments
- North Carolina Independent Colleges and Universities (NCICU) Institution[18]
- UNC Institution

The results from this model indicate that four of these variables are important predictors for academic libraries' Academic Search Complete use:

- Authenticate with a Local Proxy
- Total Library Expenditures per Full Time Enrollment
- North Carolina Independent Colleges and Universities (NCICU) Institution
- UNC Institution

Libraries in this study that authenticate with a local proxy can say with a high-degree of certainty that their implementation this authentication system has a significant, positive relationship to their use of Academic Search Complete. Though more research is needed to definitively say why the use of a proxy authentication system predicts higher database use, researchers believe it is likely due to the use of credentials that are both unique and familiar to individual users, as opposed to other methods of authentication, which require a user to first contact the library or a faculty member for a password.

This model also shows that higher total library expenditures per full time enrollment are related to lower Academic Search Complete use. Although at first this relationship seemed counterintuitive, libraries with higher expenditures may have larger local digital collections, including additional competing databases, which might cause them to rely less heavily on databases provided by NC LIVE. Additionally, libraries with higher total library expenditures per

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[17] Output from the community college and four-year college and university libraries regression results is available in Appendix 7. Because of incomplete survey data, 94 of the 110 academic libraries were examined.
[18] The private colleges and universities in this study are all members of the North Carolina Independent Colleges and Universities.

full time enrollment tend to support higher-level graduate degree programs. Libraries supporting higher-level degree programs may focus less on promoting and using general full-text databases.

Library type also plays a role in predicting the amount of use of Academic Search Complete. Of particular importance was membership in the NCICU, which shows a strong, positive relationship to Academic Search Complete use. Although more research is needed to say why this is the case, researchers believe one potential explanation for this relationship may be that the NCICU includes many smaller institutions with smaller library budgets. Those libraries may rely more heavily on using NC LIVE-provided databases because they have fewer other databases within their online collections. Additionally, the NCICU libraries are the only NC LIVE member libraries that directly receive a bill for NC LIVE-provided databases. It is possible that these institutions are more highly aware of integrating and promoting NC LIVE-provided databases because they view these as part of their regular subscription collections. The idea that receiving a bill for databases may be connected to increased usage could indicate that NC LIVE should more clearly communicate the monetary value of their services to all libraries.

<u>Public libraries</u>

The public libraries regression model included eight variables.[19]

- Direct Links to NC LIVE-Provided Resources
- Authenticate with EasyOn (Library Card Number)
- Chat Reference Box
- Number of Statistics Downloads from the NC LIVE Website
- Patron Instruction for NC LIVE-Provided Resources
- Percent of Legal Service Population that are Registered Library Users
- Number of Public Internet Computers Per 5,000 of the Legal Service Population
- Percent of the Legal Service Population with a Bachelor's Degree

The results from this model indicate that four of these variables are important predictors for public libraries' Academic Search Complete use:

- Direct Links to NC LIVE-Provided Resources
- Number of Statistics Downloads from the NC LIVE Website
- Number of Public Internet Computers Per 5,000 of the Legal Service Population
- Percent of the Legal Service Population with a Bachelor's Degree

NC LIVE provides a website that acts as a portal into all NC LIVE-provided databases. Although this website (http://nclive.org) is available for any North Carolina library patron to use, libraries

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[19] Output from the public libraries regression results is available in Appendix 7. Because of incomplete survey data, 56 of the 75 public libraries were examined.

sometimes bypass the NC LIVE portal in favor of routing their patrons to databases directly from their own websites. According to the results of this model, public libraries that link directly into NC LIVE-provided databases from their own websites tend to have higher use of Academic Search Complete. This result points to a potential actionable, low-cost solution to improving database use.

This analysis also shows that the number of statistics downloads from the NC LIVE website predicts Academic Search Complete use. This is a finding that is prompting researchers to question how libraries are using the statistics on the NC LIVE website, and whether the impact is intentional on the part of library staff, (e.g., "Our use is low, and we should try to increase use") or unintentional (e.g., "Academic Search Complete is heavily used at our library, so we should recommend it to patrons"). There might also be additional explanations for this relationship between statistics downloads and database use, but more research will be needed to better understand this relationship.

Finally, this model indicates that a library's user population matters with regard to use. Although libraries cannot directly impact the percent of their legal service population that holds a bachelor's degree, libraries may be able to use this information to more appropriately set goals and targets for use, given the population that they are serving. Additionally, libraries with a higher percentage of registered library users tend to demonstrate higher Academic Search Complete use. This finding could provide support for additional promotional efforts by library staff. Since the vast majority of public libraries use EasyOn (a library card number-based authentication system) to access NC LIVE resources, getting more library cards into the hands of their patron-base might increase database use.

Limitations

There were a number of limitations facing this study, the most important of which was data availability. In some cases, only one complete year of usage data was available because of NC LIVE's licensing cycle. This study was also limited in the number of databases studied. The five databases included in this study represent less than 10% of the databases that NC LIVE provides. Furthermore, the cross-tabs and regression analyses were only applied to the usage data for Academic Search Complete. This was a conservative choice, intended to provide narrow, but reliable, results. In future studies, researchers intend to find ways to include a broader perspective of database use among member libraries.

It is also important to note that the scope of this study was limited to statistical analyses that could not explain why the observed relationships exist among these data. Although researchers can offer potential explanations for the results of this study, more research is required to provide a more thorough understanding.

Conclusion

Libraries are often challenged to find ways to prove the value of their services, and usage data provides libraries with evidence for how their investments are being utilized. Increasing use of licensed databases is just one way that libraries can demonstrate the efficiency of their efforts. This study improves libraries' understanding of their database use in the context of peer libraries and specific variables, which can help them identify areas for improvement. This study also gives libraries a starting point for discussions with vendors on how they may work together for mutually beneficial solutions regarding database use.

Library consortia are in a unique position to study usage data with a wider lens and provide guidance to their member libraries. Despite this advantage, few studies have been published that provide this kind of analysis. By participating in and sharing results from these types of studies, library consortia can support libraries in their efforts to maximize their return on investment. Researchers hope that this study will serve as a starting point in encouraging libraries and consortia to identify usage targets and methods by which they may increase database use.

List of Appendices

Appendix 1
Peer Groups

Four-Year College and University Library Peer Groups (UNC & NCICU Institutions) Institution Name:	Peer Group Description:	Peer Group Name:
Bennett College for Women, NC	<1,000 FTE	CU-A
Brevard College, NC		
Chowan University, NC		
Lees-McRae College, NC		
Livingstone College, NC		
Peace College, NC		
Salem College, NC		
St Andrews Presbyterian College, NC		
Warren Wilson College, NC		
Barton College, NC	1,000-3,000 FTE	CU-B
Belmont Abbey College, NC		
Catawba College, NC		
Greensboro College, NC		
Johnson C Smith University, NC		
Lenoir-Rhyne University, NC		
Mars Hill College, NC		
Methodist University, NC		
Montreat College, NC		
Mount Olive College, NC		
North Carolina Wesleyan College, NC		
Saint Augustines College, NC		
Shaw University, NC		
Wingate University, NC		
Duke University, NC	ARL Institutions	CU-C
North Carolina State University at Raleigh, NC		
University of North Carolina at Chapel Hill, NC		
Appalachian State University, NC	Large Doctoral/Masters	CU-D
East Carolina University, NC		
University of North Carolina at Charlotte, NC		
University of North Carolina at Greensboro, NC		
University of North Carolina-Wilmington, NC		
Wake Forest University, NC		
Campbell University Inc, NC	Masters or Large Liberal Arts	CU-E
Davidson College, NC		
Elizabeth City State University, NC		

Elon University, NC		
Fayetteville State University, NC		
Gardner-Webb University, NC		
Guilford College, NC		
High Point University, NC		
Meredith College, NC		
North Carolina A & T State University, NC		
North Carolina Central University, NC		
Pfeiffer University, NC		
Queens University of Charlotte, NC		
University of North Carolina at Asheville, NC		
University of North Carolina at Pembroke, NC		
Western Carolina University, NC		
Winston-Salem State University, NC		
Cabarrus College of Health Sciences, NC	Specialized	CU-F
Louisburg College, NC		
University of North Carolina School of the Arts, NC		

Public Library Peer Groups Library Name:	Peer Group Description:	Peer Group Name:
Charlotte Mecklenburg Library	Legal Service Population > 200,000 OR Total Operating Expenditures > $4 mil.	PL-A
Wake County Public Libraries		
Greensboro Public Library		
Forsyth County Public Library		
Cumberland County Public Library & Info Ctr		
Durham County Library		
Buncombe County Public Libraries		
New Hanover County Public Library		
Union County Public Library		
High Point Public Library		
Chapel Hill Public Library	Legal Service Population at least 100,000 AND Total Operating Expenditures > $2 mil.	PL-B
Onslow County Public Library		
Cabarrus County/Charles A. Cannon Library		
Sheppard Memorial Library/Pitt County		
Davidson County Public Library		
Alamance County Public Libraries		
Randolph County Public Library		
Rowan Public Library		
Iredell County Public Library		
Catawba County Public Library		
Henderson County Public Library		
Public Library of Johnston County & Smithfield	Legal Service Population at least 60,000 AND Total Operating Expenditures > $500k	PL-C
Robeson County Public Library		
Wayne County Public Library		
Harnett County Public Library		
Brunswick County Libraries		
Rockingham County Public Library		
Nash County / Braswell Memorial Library		
Burke County Public Library		
Cleveland County Memorial Library		
Caldwell County Public Library		
Wilson County Public Library		
Rutherford County Library		
Chatham County Public Libraries		
Franklin County Library		
Stanly County Public Library		
Granville County Library		
Hickory Public Library		
Mooresville Public Library		
Southern Pines Public Library		

Haywood County Public Library Duplin County Public Library Lee County Library Columbus County Public Library Edgecombe County Memorial Library Pender County Public Library Avery-Mitchell-Yancey Regional Library Nantahala Regional Library Pettigrew Regional Library Vance County / Perry Memorial Library McDowell County Public Library Davie County Public Library	Legal Service Population at least 40,000 AND Total Operating Expenditures > $500k	PL-D
Halifax County Library Alexander County Public Library Scotland County Memorial Library Bladen County Public Library Transylvania County Library Madison County Public Library Warren County Memorial Library Polk County Public Library	Legal Service Population at least 20,000 AND Total Operating Expenditures > $300k	PL-E
Roanoke Rapids Public Library Kings Mountain/Mauney Memorial Library Washington / George H. & Laura E. Brown Library Nashville / Harold D. Cooley Library Farmville Public Library	Legal Service Population less than 20,000	PL-F
Sandhill Regional Library System Craven-Pamlico-Carteret Regional Library Northwestern Regional Library Appalachian Regional Library East Albemarle Regional Library Neuse Regional Library Fontana Regional Library Albemarle Regional Library Beaufort-Hyde-Martin Regional Library Sampson-Clinton Public Library	Regional libraries based on population density	PL-G

Community College Peer Groups Institution Names:	Peer Group Description:	Peer Group Name:
Pamlico Community College, NC	Rural Micro <1,000	CC-A
Martin Community College, NC		
Roanoke-Chowan Community College, NC		
Tri-County Community College, NC	Rural 1,000 < 1,700	CC-B
James Sprunt Community College, NC		
Montgomery Community College, NC		
Sampson Community College, NC		
Brunswick Community College, NC		
Bladen Community College, NC		
McDowell Technical Community College, NC		
Mayland Community College, NC		
Halifax Community College, NC		
Richmond Community College, NC		
Carteret Community College, NC		
Beaufort County Community College, NC		
College of the Albemarle, NC	Rural 1,700 < 2,000	CC-C
South Piedmont Community College, NC		
Blue Ridge Community College, NC		
Piedmont Community College, NC		
Edgecombe Community College, NC		
Rockingham Community College, NC		
Southeastern Community College, NC		
Southwestern Community College, NC	2,000 < 3,000	CC-D
Haywood Community College, NC		
Nash Community College, NC		
Randolph Community College, NC		
Robeson Community College, NC		
Lenoir Community College, NC		
Wilson Community College, NC		
Cleveland Community College, NC		
Wilkes Community College, NC		
Isothermal Community College, NC		
Stanly Community College, NC		
Mitchell Community College, NC		
Western Piedmont Community College, NC		
Surry Community College, NC		
Wayne Community College, NC		
Craven Community College, NC	3,000 < 4,100	CC-E

Davidson County Community College, NC		
Sandhills Community College, NC		
Central Carolina Community College, NC		
Vance-Granville Community College, NC		
Caldwell Community College and Technical Institute, NC		
Johnston Community College, NC		
Durham Technical Community College, NC		
Coastal Carolina Community College, NC		
Rowan-Cabarrus Community College, NC	Rural Urban Mix 4,100 < 6,500	CC-F
Gaston College, NC		
Alamance Community College, NC		
Catawba Valley Community College, NC		
Forsyth Technical Community College, NC		
Asheville-Buncombe Technical Community College, NC		
Pitt Community College, NC		
Cape Fear Community College, NC	Rural Urban Mix > 6,500	CC-G
Fayetteville Technical Community College, NC		
Guilford Technical Community College, NC		
Wake Technical Community College, NC		
Central Piedmont Community College, NC		

Peer Grouping Discussion:

Researchers gathered available institutional and demographic data from aggregated data sets, including the *Academic Library Survey* via the National Center for Education Statistics, the *Statistical Report of North Carolina Public Libraries* from the State Library of North Carolina, and the *Public Libraries in the United States Survey* from the Institute of Museum and Library Services. A number of data points from each of these data sets were provided to the UDAG, broken out by individual library.

The UDAG broke into smaller subgroups based on their library type (public libraries, community college libraries, or four-year college or university libraries).

The UDAG subgroups were given several guidelines for creating peer groupings:
1. Peer groups should consist of approximately 5-20 libraries (the advisory groups could make exceptions as they deemed necessary).
2. Data points provided to the advisory group were supplied based on common methods of selecting peer libraries identified in the literature. If additional data

were needed to make a decision, the group could request the data and use other sources.

3. UDAG members should utilize their prior knowledge of North Carolina libraries, in addition to the data provided in order to make decisions about how to develop peer groups.

After taking time to study the data points provided and discuss their understandings of peer groups among North Carolina libraries, the advisory group members sorted the libraries into peer groups. The following sections will describe the processes used and highlight important points of discussion.

<u>UNC and NCICU Institutions Four-Year Institutions</u>
In this instance, the public and private academic institutions were given the option of completing the peer grouping activity separately, or, if preferred, the representatives could place both public and private institutions together in peer groups. Based on their similar institutional missions and characteristics, the representatives of the University of North Carolina system institutions and the NC Independent Colleges and Universities decided to combine the two types of libraries into one large subgroup.

First, the representatives from UNC and NCICU institutions created a peer group by joining the libraries belonging to the Association of Research Libraries (Duke University, North Carolina State University and UNC – Chapel Hill).

Second, the group categorized libraries using a combination of student population size (full-time enrollment) and Carnegie Classification code. In schools with larger FTE, more emphasis was placed on the types of degrees granted when determining peer-groupings.

Lastly, any specialized institutions that focused on one particular area of education (e.g. UNC School of the Arts) were placed together. In all, a total of 52 public and private academic institutions were split into six peer groups, ranging from a minimum of three to a maximum of seventeen libraries in each. The resulting peer-groups were divided into:
1. ARL Institutions
2. Large Doctoral/Masters Granting Institutions
3. Masters or Large Liberal Arts Granting Institutions
4. Institutions with 1,000-3,000 FTE
5. Institutions with less than 1,000 FTE
6. Specialized Institutions

Community Colleges

Advisory group representatives from the North Carolina Community Colleges also relied heavily on FTE (full-time enrollment) counts, and service-area designations that are a part of the 2005 Basic Carnegie Classification descriptions. A total 58 community colleges were grouped into seven peer groups.

To create the peer groups, the community college representatives first sorted by total FTE, putting like-sized institutions together into large groups, then sorted those large FTE-based groups again, primarily by location type (urban, rural, suburban, or a mix). The resulting peer groups consisted of the following:
1. Rural-Urban Mix (6,500-15,000 FTE)
2. Rural-Urban Mix (4,100-6,499 FTE)
3. Rural-Urban Mix (3,000-4,099 FTE)
4. Rural (2,000-3,000 FTE)
5. Rural (1,700-1,999 FTE)
6. Rural (1,000-1,699 FTE)
7. Rural (<1,000 FTE)

Public Libraries

During the June 2013 meeting, several data points were identified as important in peer grouping North Carolina public libraries, including library type (regional, county, or municipal), legal service population, and expenditure data, such as total operating expenditures and expenditures per capita. UDAG representatives from the public libraries also relied on their professional knowledge of library operations to sort many of the libraries.

The public library representatives first used library type as a starting point for dividing the public libraries into peer groups. The county libraries were then divided into four peer groups, based primarily on legal service population, and occasionally using total operating expenditures to help inform peer group placement. All regional libraries were placed in one peer group, and all but the largest of the municipal libraries were placed in another. The largest municipal library, High Point Public Library, seemed to fit better with the larger county libraries, based on its total operating expenditures and legal service population.

After reviewing the peer groups created using their original criteria, the public library representatives were unhappy with the way the groups had been formed. The UDAG subgroup continued to work to identify public library peer groups using phone meetings throughout the following months. After much discussion, the group selected three criteria for peer grouping:
1. Legal Service Population

2. Total Library Expenditures
3. Population Density (data point used as a proxy for measuring a library's "ruralness")

The first two criteria listed above were deemed most important for developing the peer group and were used together in the following manner:

- Legal Service Population > 200,000 or Total Operating Expenditures > $4,000,000
- Legal Service Population at least 100,000 and Total Operating Expenditures > $2,000,000
- Legal Service Population at least 60,000 and Total Operating Expenditures > $500,000
- Legal Service Population at least 40,000 and Total Operating Expenditures > $500,000
- Legal Service Population at least 20,000 and Total Operating Expenditures > $300,000
- Legal Service Population less than 20,000

After creating peer groups using the first two criteria listed above, public library representatives then used the population density metric to identify any outliers to those groups. Those outliers were moved into other peer groups as deemed appropriate. Lastly, a number of regional libraries were placed together in a seventh peer group.

- Regional libraries moved based on population density

Appendix 2

Library Surveys

NC LIVE distributed an online survey to library staff members in each Community of Interest. Each survey was delivered via email to the library director and the NC LIVE Liaison(s)[1] assigned to each library. Library directors and NC LIVE liaisons were asked to submit only one response per library.

Below is the response rate for each Community of Interest:
NC Community College System: 97% (56/58 community colleges surveyed responded)
NC Independent Colleges and Universities: 97% (35/36 institutions surveyed responded)
NC Public Libraries: 90% (73/81 libraries surveyed responded)
UNC System: 100% (16/16 institutions surveyed responded)

The following pages include the questions distributed in each survey.

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[1] NC LIVE Liaisons are library staff (someone other than the library director) at each NC LIVE member library who are tasked with serving as a link between their library and the consortium. Their responsibilities include ensuring communications flow between NC LIVE and the appropriate staff at their library, updating NC LIVE regarding any changes, promoting relevant NC LIVE news and events, and sharing library staff feedback with NC LIVE.

NC LIVE Usage Data Research Survey - Community Colleges

About this Survey: NC LIVE staff are currently conducting a study designed to help North Carolina libraries make use of electronic resource usage data. As a part of this study, NC LIVE aims to better understand how various library activities and characteristics relate to a library's usage of electronic resources.

Instructions: Please respond to the following survey questions no later than **Friday, September 20th**. Only **one** response is required from each library. This survey should take no more than 10-15 minutes to complete.

*1. Please select your institution from the list below:

[▼]

*2. Please complete the following information. NC LIVE staff will only use this information to contact you if we need to follow-up on specific questions or responses.

Name: [   ]

Title: [   ]

Email Address: [   ]

Phone Number: [   ]

NC LIVE Usage Data Research Survey - Community Colleges

Access & Authentication to Library Resources

NC LIVE staff are studying the means and methods by which patrons reach or arrive at electronic resources, including technology and policy-based decisions, interfaces and access points.

✱3. Complete the following statement:

Our library staff usually instruct patrons who are located remotely (off-campus, outside of the library) to access NC LIVE-provided electronic resources (e.g., Academic Search Complete/EBSCOhost interfaces, Wall Street Journal, LearningExpress Library, SimplyMap, etc.) by...

- ○ Using the NC LIVE password
- ○ Using a library card number to login through the [NC LIVE login page](#) (also known as EasyOn)
- ○ Using a library card or user ID to login through a locally maintained proxy service (e.g., EZproxy or ILS-based proxy)
- ○ Using a library card or user ID to login through a VPN (Virtual Private Network)
- ○ Not sure
- ○ Other (please specify)

[   ]

✱4. Please indicate which of the following services or tools are currently provided to patrons through YOUR library's website. Select ALL that apply.

- ☐ A to Z Journal Title List (e.g., Journal Finder, EBSCO A-to-Z, 360 Core)
- ☐ Discovery Service (e.g., Ebsco Discovery Service, Summon, Primo)
- ☐ Federated Search Service (e.g., EBSCOhost Integrated Search, 360 Search)
- ☐ Link Resolver (e.g., SFX, 360 Link, LinkSource)
- ☐ NC Knows or other library chat reference service
- ☐ NC LIVE-provided search box
- ☐ Other electronic resource vendor-provided search box
- ☐ Mobile Library Website or Mobile Library App
- ☐ Not sure
- ☐ None of the above

Comments/Other:

[   ]

*5. Complete the following statement about your library's website content.

My library's website content (the text, images and basic layout for pages included on your library's website) is maintained primarily...

○ Internally (by library staff who have the ability to directly edit the website's content)

○ Externally (by someone outside of the library who edits the content for you)

○ Both internally and externally

○ Other (please explain)

6. If your library's website content (the text or images on your library's webpages) is maintained by someone outside of the library, please list the name of the department, company, etc. that maintains your library's website content.

*7. Please rate the following statement by indicating your level of agreement.

"In general, my library's website content (e.g., text, images) is easily updated or changed when needed."

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
○	○	○	○	○

Comments

NC LIVE Usage Data Research Survey - Community Colleges

Awareness, Outreach, and Support

✱8. For the purposes of this survey, library staff development opportunities are programs or activities designed to improve employee skills, enhance job-related performance, or provide knowledge for career advancement. Examples may include in-house staff development days, conference attendance, training, workshops, or webinars.

What percent of your library's total operating expenditure was spent on costs associated with library staff development opportunities during the most recent past fiscal year?

○ Less than 1%

○ 1 - 2%

○ 2 - 3%

○ 3 - 4%

○ More than 4%

○ Not sure

Comments/Questions

[text area]

✱9. Please indicate which of the following staff development opportunities your library has provided to <u>library staff</u> within the last six (6) months. Please select ALL that apply.

☐ Mandatory staff development activities (e.g., conferences, training, webinars, or classes)

☐ Optional staff development activities (e.g., conferences, training, webinars, or classes)

☐ Training on NC LIVE-provided electronic resources (e.g., Academic Search Complete/EBSCOhost interfaces, LearningExpress Library, Wall Street Journal, SimplyMap)

☐ Training on other (non-NC LIVE) electronic resources

☐ None

☐ Not sure

☐ Other (please specify)

[text box]

NC LIVE Usage Data Research Survey - Community Colleges

*10. Please indicate which of the following types of interactions your library has had with <u>faculty or adjuncts</u> during the past 12 months. Please select ALL that apply.

☐ Assignment of library staff liaisons to academic departments

☐ Embedded librarians in academic courses

☐ Faculty-initiated questions and consultations

☐ Impromptu library visits from faculty or adjuncts

☐ Library staff-initiated engagement with academic departments

☐ Library orientation programs and events for faculty

☐ Library staff attendance at faculty department meetings

☐ Library instruction/information literacy classes by faculty request

☐ Use of marketing materials (newsletters, brochures, etc.) describing services to faculty/adjuncts

☐ None of the Above

☐ Other (please explain)

NC LIVE Usage Data Research Survey - NCICU

About this Survey: NC LIVE staff are currently conducting a study designed to help North Carolina libraries make use of electronic resource usage data. As a part of this study, NC LIVE aims to better understand how various library activities and characteristics relate to a library's usage of electronic resources.

Instructions: Please respond to the following survey questions no later than **Friday, September 20th**. Only **one** response is required from each library. This survey should take no more than 10-15 minutes to complete.

*1. Please select your institution from the list below:

*2. Please complete the following information. NC LIVE staff will only use this information to contact you if we need to follow-up on specific questions or responses.

Name:

Title:

Email Address:

Phone Number:

NC LIVE Usage Data Research Survey - NCICU

Access & Authentication to Library Resources

NC LIVE staff are studying the means and methods by which patrons reach or arrive at electronic resources, including technology and policy-based decisions, interfaces and access points.

*3. Complete the following statement:

Our library staff usually instruct patrons who are located remotely (off-campus, outside of the library) to access NC LIVE-provided electronic resources (e.g., Academic Search Complete/EBSCOhost interfaces, Wall Street Journal, LearningExpress Library, SimplyMap, etc.) by...

○ Using the NC LIVE password

○ Using a library card number to login through the NC LIVE login page (also known as EasyOn)

○ Using a library card or user ID to login through a locally maintained proxy service (e.g., EZproxy or ILS-based proxy)

○ Using a library card or user ID to login through a VPN (Virtual Private Network)

○ Not sure

○ Other (please specify)

[   ]

*4. Please indicate which of the following services or tools are currently provided to patrons through YOUR library's website. Select ALL that apply.

☐ A to Z Journal Title List (e.g., Journal Finder, EBSCO A-to-Z, 360 Core)

☐ Discovery Service (e.g., Ebsco Discovery Service, Summon, Primo)

☐ Federated Search Service (e.g., EBSCOhost Integrated Search, 360 Search)

☐ Link Resolver (e.g., SFX, 360 Link, LinkSource)

☐ NC Knows or other library chat reference service

☐ NC LIVE-provided search box

☐ Other electronic resource vendor-provided search box

☐ Mobile Library Website or Mobile Library App

☐ Not sure

☐ None of the above

Comments/Other:

[   ]

✱5. Complete the following statement about your library's website content.

My library's website content (the text, images and basic layout for pages included on your library's website) is maintained primarily...

- ○ Internally (by library staff who have the ability to directly edit the website's content)
- ○ Externally (by someone outside of the library who edits the content for you)
- ○ Both internally and externally
- ○ Other (please explain)

6. If your library's website content (the text or images on your library's webpages) is maintained by someone outside of the library, please list the name of the department, company, etc. that maintains your library's website content.

✱7. Please rate the following statement by indicating your level of agreement.

"In general, my library's website content (e.g., text, images) is easily updated or changed when needed."

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
○	○	○	○	○

Comments

✱8. Please describe the Internet access provided to library patrons through your library. Please select ALL that apply.

- ☐ Dial-up internet access
- ☐ Digital Subscriber Line (DSL) or Cable Modem
- ☐ Fiber-Optic Cable (High-speed fiber connection, e.g. NCREN - MCNC)
- ☐ Wireless internet access
- ☐ Not sure
- ☐ Other (please specify)

Awareness, Outreach, and Support

*9. For the purposes of this survey, library staff development opportunities are programs or activities designed to improve employee skills, enhance job-related performance, or provide knowledge for career advancement. Examples may include in-house staff development days, conference attendance, training, workshops, or webinars.

What percent of your library's total operating expenditure was spent on costs associated with library staff development opportunities during the most recent past fiscal year?

- ○ Less than 1%
- ○ 1 - 2%
- ○ 2 - 3%
- ○ 3 - 4%
- ○ More than 4%
- ○ Not sure

Comments/Questions

*10. Please indicate which of the following staff development opportunities your library has provided to <u>library staff</u> within the last six (6) months. Please select ALL that apply.

- ☐ Mandatory staff development activities (e.g., conferences, training, webinars, or classes)
- ☐ Optional staff development activities (e.g., conferences, training, webinars, or classes)
- ☐ Training on NC LIVE-provided electronic resources (e.g., Academic Search Complete/EBSCOhost interfaces, LearningExpress Library, Wall Street Journal, SimplyMap)
- ☐ Training on other (non-NC LIVE) electronic resources
- ☐ None
- ☐ Not sure
- ☐ Other (please specify)

*11. Please indicate which of the following types of interactions your library has had with <u>faculty or adjuncts</u> during the past 12 months. Please select ALL that apply.

☐ Assignment of library staff liaisons to academic departments

☐ Embedded librarians in academic courses

☐ Faculty-initiated questions and consultations

☐ Impromptu library visits from faculty or adjuncts

☐ Library staff-initiated engagement with academic departments

☐ Library orientation programs and events for faculty

☐ Library staff attendance at faculty department meetings

☐ Library instruction/information literacy classes by faculty request

☐ Use of marketing materials (newsletters, brochures, etc.) describing services to faculty/adjuncts

☐ None of the Above

☐ Other (please explain)

About this Survey: NC LIVE staff are currently conducting a study designed to help North Carolina libraries make use of electronic resource usage data. As a part of this study, NC LIVE aims to better understand how various library activities and characteristics relate to a library's usage of electronic resources.

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*1. Please select your institution from the list below:

[dropdown ▼]

*2. Please complete the following information. NC LIVE staff will only use this information to contact you if we need to follow-up on specific questions or responses.

Name:

Title:

Email Address:

Phone Number:

NC LIVE Usage Data Research Survey - UNC

Access & Authentication to Library Resources

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*3. Complete the following statement:

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- ○ Using a library card number to login through the NC LIVE login page (also known as EasyOn)
- ○ Using a library card or user ID to login through a locally maintained proxy service (e.g., EZproxy or ILS-based proxy)
- ○ Using a library card or user ID to login through a VPN (Virtual Private Network)
- ○ Not sure
- ○ Other (please specify)

[ ]

*4. Please indicate which of the following services or tools are currently provided to patrons through YOUR library's website. Select ALL that apply.

- ☐ A to Z Journal Title List (e.g., Journal Finder, EBSCO A-to-Z, 360 Core)
- ☐ Discovery Service (e.g., Ebsco Discovery Service, Summon, Primo)
- ☐ Federated Search Service (e.g., EBSCOhost Integrated Search, 360 Search)
- ☐ Link Resolver (e.g., SFX, 360 Link, LinkSource)
- ☐ NC Knows or other library chat reference service
- ☐ NC LIVE-provided search box
- ☐ Other electronic resource vendor-provided search box
- ☐ Mobile Library Website or Mobile Library App
- ☐ Not sure
- ☐ None of the above

Comments/Other:

[ ]

*5. Complete the following statement about your library's website content.

My library's website content (the text, images and basic layout for pages included on your library's website) is maintained primarily...

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○ Other (please explain)

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*7. Please rate the following statement by indicating your level of agreement.

"In general, my library's website content (e.g., text, images) is easily updated or changed when needed."

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
○	○	○	○	○

Comments

NC LIVE Usage Data Research Survey - UNC

Awareness, Outreach, and Support

*8. For the purposes of this survey, library staff development opportunities are programs or activities designed to improve employee skills, enhance job-related performance, or provide knowledge for career advancement. Examples may include in-house staff development days, conference attendance, training, workshops, or webinars.

What percent of your library's total operating expenditure was spent on costs associated with library staff development opportunities during the most recent past fiscal year?

- ○ Less than 1%
- ○ 1 - 2%
- ○ 2 - 3%
- ○ 3 - 4%
- ○ More than 4%
- ○ Not sure

Comments/Questions

*9. Please indicate which of the following staff development opportunities your library has provided to <u>library staff</u> within the last six (6) months. Please select ALL that apply.

- ☐ Mandatory staff development activities (e.g., conferences, training, webinars, or classes)
- ☐ Optional staff development activities (e.g., conferences, training, webinars, or classes)
- ☐ Training on NC LIVE-provided electronic resources (e.g., Academic Search Complete/EBSCOhost interfaces, LearningExpress Library, Wall Street Journal, SimplyMap)
- ☐ Training on other (non-NC LIVE) electronic resources
- ☐ None
- ☐ Not sure
- ☐ Other (please specify)

*10. Please indicate which of the following types of interactions your library has had with <u>faculty or adjuncts</u> during the past 12 months. Please select ALL that apply.

☐ Assignment of library staff liaisons to academic departments

☐ Embedded librarians in academic courses

☐ Faculty-initiated questions and consultations

☐ Impromptu library visits from faculty or adjuncts

☐ Library staff-initiated engagement with academic departments

☐ Library orientation programs and events for faculty

☐ Library staff attendance at faculty department meetings

☐ Library instruction/information literacy classes by faculty request

☐ Use of marketing materials (newsletters, brochures, etc.) describing services to faculty/adjuncts

☐ None of the Above

☐ Other (please explain)

NC LIVE Usage Data Research Survey - Public Libraries

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*1. Please select your library from the list below.

[▼]

*2. Please complete the following information. NC LIVE staff will only use this information to contact you if we need to follow-up on specific questions or responses.

Name:

Title:

Email Address:

Phone Number:

NC LIVE Usage Data Research Survey - Public Libraries

Access & Authentication to Library Resources

NC LIVE staff are studying the means and methods by which patrons reach or arrive at electronic resources, including technology and policy-based decisions, interfaces and access points.

*3. Complete the following statement:

Our library staff usually instruct patrons who are located remotely (outside of the library) to access NC LIVE-provided electronic resources (e.g., MasterFILE Complete/EBSCOhost interfaces, Wall Street Journal, LearningExpress Library, SimplyMap, etc.) by...

- ○ Using the NC LIVE password

- ○ Using a library card number to login through the NC LIVE login page (also known as EasyOn)

- ○ Using a library card or user ID to login through a locally maintained proxy service (e.g., EZproxy or ILS-based proxy)

- ○ Using a library card or user ID to login through a VPN (Virtual Private Network)

- ○ Not sure

- ○ Other (please specify)

  [   ]

*4. Please indicate which of the following tools or services are currently provided to patrons through YOUR library's website. Select ALL that apply.

- ☐ A to Z Journal Title List (e.g., Journal Finder, EBSCO A-to-Z, 360 Core)

- ☐ Discovery Service (e.g., Ebsco Discovery Service, Summon, Primo)

- ☐ Federated Search Service (e.g., EBSCOhost Integrated Search, 360 Search)

- ☐ Link Resolver (e.g., SFX, 360 Link, LinkSource)

- ☐ NC Knows or other library chat reference service

- ☐ NC LIVE-provided search box

- ☐ Other electronic resource vendor-provided search box

- ☐ Mobile Library Website or Mobile Library App

- ☐ Not sure

- ☐ None of the above

Comments/Other:

[   ]

✱5. Complete the following statement about your library's website content.

My library's website content (the text, images and basic layout for pages included on your library's website) is maintained primarily...

○ Internally (by library staff who have the ability to directly edit the website's content)

○ Externally (by someone outside of the library who edits the content for you)

○ Both internally and externally

○ Other (please explain)

6. If your library's website content is maintained by someone outside of the library, please list the name of the department, company, etc. that maintains your library's website content.

✱7. Please rate the following statement by indicating your level of agreement.

"In general, my library's website content (e.g., text, images) is easily updated or changed when needed."

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
○	○	○	○	○

Comments

✱8. Please describe the Internet access provided to library patrons through your library. Please select ALL that apply.

☐ Dial-up internet access

☐ Digital Subscriber Line (DSL) or Cable Modem

☐ Fiber-Optic Cable (High-speed fiber connection, e.g. NCREN - MCNC)

☐ Wireless (Public or Guest-access wi-fi)

☐ Not sure

☐ Other (please specify)

Awareness, Outreach, and Support

*9. For the purposes of this survey, library staff development opportunities are programs or activities designed to improve employee skills, enhance job-related performance, or provide knowledge for career advancement. Examples may include in-house staff development days, conference attendance, training, workshops, or webinars.

What percent of your library's total operating expenditure was spent on costs associated with library staff development opportunities during the most recent past fiscal year?

○ Less than 1%

○ 1 - 2%

○ 2 - 3%

○ 3 - 4%

○ More than 4%

○ Not sure

Comments/Questions

[ ]

*10. Please indicate which of the following staff development opportunities your library has provided to <u>library staff</u> within the last six (6) months. Please select ALL that apply.

☐ Mandatory staff development activities (e.g., conferences, training, webinars or classes)

☐ Optional staff development activities (e.g., conferences, training, webinars or classes)

☐ Training on NC LIVE-provided electronic resources (e.g., MasterFILE Complete/EBSCOhost interfaces, LearningExpress Library, Wall Street Journal, SimplyMap)

☐ Training on other (non-NC LIVE) electronic resources

☐ None

☐ Not sure

☐ Other (please specify)

[ ]

*11. Please indicate which of the following types of programs your library has offered to _patrons_ over the past 12 months. Select ALL that apply.

☐ Computer-skills classes/programs

☐ Training on NC LIVE-provided electronic resources

☐ Other database or electronic resource-specific training for patrons

☐ Not sure

☐ None of the above

Comments/Other

Appendix 3
Community College Libraries Variable Definitions and Sources

Variable Name	Variable Code	Data Type	Variable Category	Source	Date	Data definition from data source
Institutional ID	Inst_ID	Nominal	Library Characteristics	NC LIVE	09/2013	Unique ID assigned by NC LIVE
Library Name	Library_Name	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	09/2013	Name of Main Library or Institution
Peer Group	Peer_Group	Nominal	Library Characteristics	UDAG	09/2013	Assigned by UDAG in coordination with NC LIVE staff members
Peer Group Status	Peer_Group_Status	Ordinal	Library Characteristics	NC LIVE	01/2014	Top, middle or bottom third of peer group, based on Academic Search Complete use
Direct Links to NC LIVE-Provided Resources	Direct_Link_Use	Nominal	Access & Authentication	NC LIVE	04/2013	The use of NC LIVE's direct links (NCLSM links) on the library's website
Links to the NC LIVE Website	Links_to_NCLIVE_Site	Nominal	Access & Authentication	NC LIVE	04/2013	The use of a direct link to the nclive.org website
Authenticate with a Password	Authentication_Password	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library staff usually instruct patrons who are located remotely to access NC LIVE-provided databases by using the NC LIVE password
Authenticate with a Local Proxy	Authentication_Local_Proxy	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library staff usually instruct patrons who are located remotely to access NC LIVE-provided databases by using a library card or user ID to login through a locally maintained proxy service (e.g., EZproxy or ILS-based-proxy)
Authenticate with EasyOn	Authentication_EasyOn	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library staff usually instruct patrons who are located remotely to access NC LIVE-provided databases by using a library card number to login through the NC LIVE login page (also known as EasyOn)
Authenticate with VPN	Authentication_VPN	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library staff usually instruct patrons who are located remotely to access NC LIVE-provided databases by using a library card or user ID to login through a VPN (Virtual Private Network)
A to Z List	AtoZ_List	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provides an A-Z list of resources through their website
Discovery Service	Discovery_Service	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provides a discovery service through their website
Federated Search Service	Federated_Search_Service	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provides a federated search service through their website
Link Resolver	Link_Resolver	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library uses a link resolver
Chat Reference Box	Chat_Reference_Box	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provides a chat reference box on through their website
NC LIVE Search Box	NCLIVE_Search_Box	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provides an NC LIVE search box on their website
Vendor Search Box	Vendor_Search_Box	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provides a vendor's search box on their website
Mobile Library Website or App	Mobile_Library_Website_or_App	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provies a mobile website or app
High Number of Statistics Downloads from the NC LIVE Website	Stats_Downloads_High	Nominal	Content & Collections	NC LIVE	07/2012-06/2013	Number of statistics downloads from nclive.org website from July 2012-June 2013 above the median value
Number of Statistics Downloads from the NC LIVE Website	Stats_Downloads	Interval	Content & Collections	NC LIVE	07/2012-06/2013	Number of statistics downloads from nclive.org website from July 2012-June 2013
High Electronic Materials Expenditures Per Full Time Enrollment	Electronic_Materials_Expenditures_per_FTE_High	Nominal	Content & Collections	Calculated from NCES ALS	FY 2010	Electronic_Materials_Expenditures_per_FTE above the median value
Electronic Materials Expenditures Per Full Time Enrollment	Electronic_Materials_Expenditures_per_FTE	Interval	Content & Collections	Calculated from Electronic_Materials_Expenditures and Total_FTE_12_Month_Enrollment	FY 2010	Calculated from Electronic_Materials_Expenditures and Total_FTE_12_Month_Enrollment
Electronic Materials Expenditures	Electronic_Materials_Expenditures	Interval	Content & Collections	NCES ALS	FY 2010	Expenditures for purchase of software and machine-readable materials considered part of the collections, such as periodical backfiles, literature collections, one-time costs for JSTOR membership, etc., that are not current serials (i.e. are non-subscription, one-time, or monographic in nature). Does not include current serial subscriptions, but does include serial backfiles.

These expenditures are also included in Expenditures: Books, Serial Backfiles, Other Materials. |
Electronic Materials Expenditures as a Percent of Total Library Expenditures	Elec_Mat_Expenditures_Percent_of_Total_Library_Expenditures	Interval	Content & Collections	Calculated from NCES ALS	FY 2010	Calculated from Electronic_Materials_Expenditures and Total_Library_Expenditures
High Electronic Serials Expenditures Per Full Time Enrollment	Expenditures_Electronic_Serials_per_FTE_High	Nominal	Content & Collections	Calculated from NCES ALS	FY 2010	Expenditures_Electronic_Serials_per_FTE above the median value
Electronic Serials Expenditures Per Full Time Enrollment	Expenditures_Electronic_Serials_per_FTE	Interval	Content & Collections	Calculated from NCES ALS	FY 2010	Calculated from Expenditures_Electronic_Serials and Total_FTE_12_Month_Enrollment
Electronic Serials Expenditures	Expenditures_Electronic_Serials	Interval	Content & Collections	NCES ALS	FY 2010	Subscription expenditures for serial publications (or those which are expected to be ongoing commitments) whose primary format is electronic. Examples include paid subscriptions for electronic journals and indexes/abstracts available via the Internet, CD-ROM serials, and annual access fees for resources purchased on a `one-time` basis, such as literature collections, JSTOR membership, etc. Does not include serial backfiles.

These expenditures are also included in Expenditures: Current Serial Subscriptions.

Expenditures are funds expended by the library during the fiscal year (regardless of when received) from its regular budget and from all other sources; e.g., research grants, special projects, gifts and endowments, and fees for services. If items in this section are not paid from the library budget but can be easily identified in other parts of the institution`s budget, they are included here. Expenditures are reported for the 12-month period which corresponds to the library`s fiscal year. All expenditures are reported in whole dollars in the most appropriate category to provide an unduplicated count of expenditures. Excludes expenditures for new buildings and building renovation. |
| High Number of Electronic Reference Aggregated Sources Per 1,000 of Full Time Enrollment | Electronic_Reference_Aggregated_Sources_per_1000_FTE_High | Nominal | Content & Collections | Calculated from NCES ALS | FY 2010 | Electronic_Reference_Aggregated_Sources_per_1000_FTE above the median value |
| Number of Electronic Reference Aggregated Sources Per 1,000 of Full Time Enrollment | Electronic_Reference_Aggregated_Sources_per_1000_FTE | Interval | Content & Collections | Calculated from NCES ALS | FY 2010 | Calculated from Electronic_Reference_Aggregated_Sources and Total_FTE_12_Month_Enrollment |

Variable Name	Variable Code	Data Type	Variable Category	Source	Date	Data definition from data source
Number of Electronic Reference Aggregated Sources	Electronic_Reference_Aggregated_Sources	Interval	Content & Collections	NCES ALS	FY 2010	The total number of citation indexes and abstracts; full-text article databases; full-text reference sources (e.g., encyclopedias, almanacs, biographical and statistical sources and other quick fact-finding sources); dissertation and conference proceedings databases. Licensed electronic resources also include those databases that institutions mount locally
High Number of Promotional Items Requests	Promotional_Items_Requests_High	Nominal	Awareness, Outreach & Promotions	NC LIVE	07/2012-06/2013	Promotional_Items_Requests above the median value
Number of Promotional Items Requests	Promotional_Items_Requests	Interval	Awareness, Outreach & Promotions	NC LIVE	07/2012-06/2013	The number of times a library contacted NC LIVE to request promotional items, such as rack cards or posters
High Number of Help Desk Tickets	Help_Desk_Tickets_High	Nominal	Awareness, Outreach & Promotions	NC LIVE	07/2012-06/2013	Help_Desk_Tickets above the median value
Number of Help Desk Tickets	Help_Desk_Tickets	Interval	Awareness, Outreach & Promotions	NC LIVE	07/2012-06/2013	The number of NC LIVE Help Desk tickets initiated by a library
Descriptive Text about NC LIVE	Descriptive_NCLIVE_Text	Nominal	Awareness, Outreach & Promotions	NC LIVE	04/2013	The library's website includes some information about the NC LIVE website, collection, organization, etc.
Visited by NC LIVE Staff	Visited_by_NCLIVE_Staff	Nominal	Awareness, Outreach & Promotions	NC LIVE	07/2012-06/2013	The library was visited by NC LIVE staff for outreach
NC LIVE Committee Representation	NCLIVE_Committee_Representative	Nominal	Awareness, Outreach & Promotions	NC LIVE	08/2013	The library has a staff member that serves on one of the NC LIVE committees
Staff Training for NC LIVE-Provided Resources	NCLIVE_Training	Nominal	Awareness, Outreach & Promotions	Library Reported in NC LIVE Survey	08/2013	Library provided staff development opportunities within the last six months that included training on NC LIVE-provided electronic resources
Staff Training for Other Electronic Resources	Other_Electronic_Resource_Training	Nominal	Awareness, Outreach & Promotions	Library Reported in NC LIVE Survey	08/2013	Library provided staff development opportunities within the last six months that included training on non-NC LIVE-provided electronic resources
High Gate Count Per 1,000 of Full Time Enrollment	Gate_Count_per_1000_FTE_High	Nominal	Library Characteristics	Calculated from NCES ALS	FY 2010	Gate_Count_per_1000_FTE above the median value
Gate Count Per 1,000 of Full Time Enrollment	Gate_Count_per_1000_FTE	Interval	Library Characteristics	Calculated from NCES ALS	FY 2010	Calculated from Gate_Count and Total_FTE_12_Month_Enrollment
Gate Count	Gate_Count	Interval	Library Characteristics	NCES ALS	FY 2010	The number of persons who physically enter library facilities in a typical week. It is understood that a single person may be counted more than once. A typical week is one in the fall that is neither unusually busy nor unusually slow. Vacation periods for key staff are avoided, as are days when unusual events are taking place on the campus or in the library. A week is chosen in which the library is open its regular hours, and includes any seven consecutive calendar days. If waiting for a typical week would have delayed the submission of data, the library was requested to use the data from the preceding fisal year. If data are available for the entire year, these data may be divided by the number of weeks that the library is open.
High Number of Librarians Per 1,000 of Full Time Enrollment	Librarians_per_1000_FTE_High	Nominal	Library Characteristics	Calculated from NCES ALS	FY 2010	Number of Librarians_Per_1000_FTE above the median value
Number of Librarians Per 1,000 of Full Time Enrollment	Librarians_per_1000_FTE	Interval	Library Characteristics	Calculated from NCES ALS	FY 2010	Calculated from Librarians and Total_FTE_12_Month_Enrollment
Number of Librarians	Librarians	Interval	Library Characteristics	NCES ALS	FY 2010	The total FTE of staff whose duties require professional education (the master's degree or its equivalent) in the theoretical and scientific aspects of librarianship. Full-time equivalent (FTE) employees - The number of filled or temporarily vacant FTE positions in the category at the beginning of the fiscal year that are paid from funds under library control. FTEs of part-time employees and student assistants are computed by taking the total number of hours worked per week by part-time employees in the category and dividing by the number of hours considered by the reporting library to be a full-time work week (e.g., 60 hours per week of part-time work divided by 40 hours per full-time week equals 1.50 FTE). Data are reported to two decimal places. Does not include contributed services staff, such as members of religious orders, whose services are valued by bookkeeping entries rather than by full cash transactions. Also does not include volunteers.
High Total Library Expenditures Per Full Time Enrollment	Total_Library_Expenditures_per_FTE_High	Nominal	Library Characteristics	Calculated from NCES ALS	FY 2010	Total_Library_Expenditures_per_FTE above the median value
Total Library Expenditures Per Full Time Enrollment	Total_Library_Expenditures_per_FTE	Interval	Library Characteristics	Calculated from NCES ALS	FY 2010	Calculated form Total_Library_Expenditures and Total_FTE_12_Month_Enrollment
Total Library Expenditures	Total_Library_Expenditures	Interval	Library Characteristics	NCES ALS	FY 2010	The total of all funds expended from the library budget in the fiscal year regardless of when the funds may have been received from Federal, State, or other sources. All expenditures are reported in whole dollars. Includes: salaries and wages; books, serial backfiles, and other materials; current serial subscriptions; document delivery/interlibrary loan; preservation; other expenditures for information resources; computer hardware and software; bibliographic utilities, networks, and consortia; and all other operating expenditures. Excludes salaries and wages for contributed services and maintenance and custodial staff, and expenditures for capital outlays.
High Number of Information Services to Individuals Per Full Time Enrollment	Total_Information_Services_to_Individuals_per_FTE_High	Nominal	Library Characteristics	Calculated from NCES ALS	FY 2010	Total_Information_Services_to_Individuals_per_FTE above the median value
Number of Information Services to Individuals Per Full Time Enrollment	Total_Information_Services_to_Individuals_per_FTE	Interval	Library Characteristics	Calculated from NCES ALS	FY 2010	Calculated from Total_Information_Services_to_Individuals and Total_FTE_12_Month_Enrollment
Number of Information Services to Individuals	Total_Information_Services_to_Individuals	Interval	Library Characteristics	NCES ALS	FY 2010	Total information services to individuals
High Number of Circulation Transactions Including Reserves Per Full Time Enrollment	Circulation_Transactions_Including_Reserves_per_FTE_Student_High	Nominal	Library Characteristics	Calculated from NCES ALS	FY 2010	Libraries with the number of Circulation_Transactions_Including_Reserves_per_FTE_Student above the median value

Variable Name	Variable Code	Data Type	Variable Category	Source	Date	Data definition from data source
Number of Circulation Transactions Including Reserves Per Full Time Enrollment	Circulation_Transactions_Including_Reserves_per_FTE_Student	Interval	Library Characteristics	NCES ALS	FY 2010	The number of items lent from the general collection plus reserve transactions of all types (including both initial transactions and renewals), divided by the total FTE enrollment. Total FTE enrollment is the total FTE 12-month enrollment of both undergraduates and post-baccalaureate students, including graduate students. The total FTE enrollment is calculated by taking the number of students enrolled full time and adding one-third the number of students enrolled part time.
High Computer Hardware and Software Expenditures Per Full Time Enrollment	Expenditures_Computer_Hardware_and_Software_per_FTE_High	Nominal	Library Characteristics	Calculated from NCES ALS	FY 2010	Expenditures_Computer_Hardware_and_Software above the median value
Computer Hardware and Software Expenditures Per Full Time Enrollment	Expenditures_Computer_Hardware_and_Software_per_FTE	Interval	Library Characteristics	Calculated from NCES ALS	FY 2010	Calculated from Expenditures_Computer_Hardware_and_Software and Total_FTE_12_Month_Enrollment
Computer Hardware and Software Expenditures	Expenditures_Computer_Hardware_and_Software	Interval	Library Characteristics	NCES ALS	FY 2010	Expenditures from the library budget for computer hardware and software used to support library operations, whether purchased or leased, mainframe or microcomputer. Includes expenditures for maintenance. Includes the expenditure for equipment used to run information service products when that expenditure can be separated from the price of the product. Excludes expenditures that are included under Expenditures: Electronic Serials. Expenditures are funds expended by the library during the fiscal year (regardless of when received) from its regular budget and from all other sources; e.g., research grants, special projects, gifts and endowments, and fees for services. If items in this section are not paid from the library budget but can be easily identified in other parts of the institution´s budget, they are included here. Expenditures are reported for the 12-month period which corresponds to the library's fiscal year. All expenditures are reported in whole dollars in the most appropriate category to provide an unduplicated count of expenditures. Excludes expenditures for new buildings and building renovation.
Website Maintained Externally	Website_Maintenance_External	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Library's website content (the text, images and basic layout for pages included on library's website) is maintained primarily externally (by someone outside of the library)
Website Maintained Internally	Website_Maintenance_Internal	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Library's website content (the text, images and basic layout for pages included on library's website) is maintained primarily internally (by library staff who have the ability to directly edit the website's content)
Website Maintained Both Externally and Internally	Website_Maintenance_Both_External_and_Internal	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Library's website content (the text, images and basic layout for pages included on library's website) is maintained both internally and externally
Website Updates Easy	Website_Updates_Easy_Agree_or_Strongly_Agree	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Agreed or strongly agreed with the statement, "My library's website content (e.g., text, images) is easily updated or changed when needed."
Staff Development Less than 1% of Library Budget	Staff_Development_Less_Than_1_Percent_of_Library_Budget	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Percent of library's total operating expenditures spend on costs associated with library staff development opportunities during the most recent past fiscal year. For the purposes of this survey, library staff development opportunities are programs or activities designed to improve employee skills, enhance jobrelated performance, or provide knowledge for career advancement. Examples may include inhouse staff development days, conference attendance, training, workshops, or webinars.
Mandatory Staff Development	Staff_Development_Mandatory	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Library provided staff development opportunities within the last six months that included mandatory staff development activities (e.g., conferences, training, webinars, or classes)
Optional Staff Development	Staff_Development_Optional	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Library provided staff development opportunities within the last six months that included optional staff development activities (e.g., conferences, training, webinars, or classes)
Library Liaisons to Academic Departments	Library_Liaisons	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Interactions with faculty or adjuncts in the past 12 months included assignment of library staff liaisons to academic departments
Embedded Librarians in Academic Courses	Embedded_Librarians	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Interactions with faculty or adjuncts in the past 12 months included embedded librarians in academic courses
Faculty-Initiated Questions and Consultations	Faculty_Initiated_Questions_and_Consultations	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Interactions with faculty or adjuncts in the past 12 months included faculty-initiated questions and consultations
Impromptu Faculty Visits to Library	Impromptu_Faculty_Visits_to_Library	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Interactions with faculty or adjuncts in the past 12 months included impromptu library visits from faculty or adjuncts
Librarian-Initiated Engagement With Academic Departments	Library_Initiated_Faculty_Engagement	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Interactions with faculty or adjuncts in the past 12 months included library staff-initiated engagement with academic departments
Library Orientation Programs for Faculty Members	Library_Orientation_for_Faculty	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Interactions with faculty or adjuncts in the past 12 months included library orientation programs and events for faculty
Librarians Attend Faculty Meetings	Librarians_Attend_Faculty_Meetings	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Interactions with faculty or adjuncts in the past 12 months included library staff attendance at faculty department meetings
Information Literacy Classes Upon Faculty Request	Information_Literacy_Classes_Upon_Request	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Interactions with faculty or adjuncts in the past 12 months included library instruction/information literacy classes by faculty request
Marketing Aimed at Faculty	Library_Marketing_to_Faculty	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Interactions with faculty or adjuncts in the past 12 months included use of marketing materials (newsletters, brochures, etc.) describing services to faculty/adjuncts

Community College Libraries Variable Definitions and Sources

Variable Name	Variable Code	Data Type	Variable Category	Source	Date	Data definition from data source
Number of Students Enrolled in Online Courses	Students_Enrolled_Online	Interval	Community Characteristics	NCCC System Office, data requested by researchers	2011-2012	Credit students enrolled in at least one online course divided by unduplicated credit enrollment
Percent of Courses Offered Via Internet	Percent_Courses_Offered_Via_Internet	Interval	Community Characteristics	NCCC System Office, data requested by researchers	2012	Number of courses offered via internet divided by number of courses offered
High Total 12 Month Full Time Enrollment	Total_FTE_12_Month_Enrollment_High	Nominal	Community Characteristics	Calculated from NCES ALS	FY 2010	Total FTE 12-month enrollment above the median value
Total 12 Month Full Time Enrollment	Total_FTE_12_Month_Enrollment	Interval	Community Characteristics	NCES ALS	FY 2010	The total FTE 12-month enrollment of both undergraduates and post-baccalaureate students. The total FTE enrollment is calculated by taking the number of students enrolled full time and adding one-third the number of students enrolled part time.
Carnegie Classification	Carnegie_Classification	Nominal	Community Characteristics	NCES ALS	FY 2010	The 2005 Carnegie Classification includes all colleges and universities in the United States that are degree-granting and accredited by an agency recognized by the U.S. Secretary of Education. The 2005 basic edition classifies institutions based on their degree-granting activities from 2003 and 2004 Institutions might be classified differently using a different timeframe.
Information Literacy in Student Learning Outcomes	Information_Literacy_in_Student_Learning_Outcomes	Nominal	Community Characteristics	NCES ALS	FY 2010	Incorporated information literacy in the institutions student learning outcomes
High Graduation Rate	Grad_Rate_2006_Cohort_High	Nominal	Community Characteristics	NCCC System Office, data requested by researchers	2012	6 year success rate of 2006 cohort above the median value
Graduation Rate	Grad_Rate_2006_Cohort	Interval	Community Characteristics	NCCC System Office, data requested by researchers	2012	6 year success rate of 2006 cohort
Academic Search Complete Use	ASC_Use	Interval	Dependent	EBSCO	07/2012-06/2013	Full Text Views Per Full Time Enrollment
MasterFILE Complete Use	MFC_Use	Interval	Dependent	EBSCO	07/2012-06/2013	Full Text Views Per Full Time Enrollment
Wall Street Journal Use	WSJ_Use	Interval	Dependent	ProQuest	07/2012-06/2013	Full Text Views Per Full Time Enrollment
LearningExpress Library Use	LEL_Use	Interval	Dependent	LearningExpress	07/2012-06/2013	Number of eCourses, eBooks and Practice Tests Added Per Full Time Enrollment
SimplyMap Use	SM_Use	Interval	Dependent	Geographic Research	07/2012-06/2013	Number of Sessions Initiated Per Full Time Enrollment

Four-Year College and University Libraries Variable Definitions and Sources

Variable Name	Variable Code	Data Type	Variable Category	Source	Date	Definition
Institutional ID	Inst_ID	Nominal	Library Characteristics	NC LIVE	09/2013	Unique ID assigned by NC LIVE
Library Name	Library_Name	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	09/2013	Name of Main Library or Institution
Peer Group	Peer_Group	Nominal	Library Characteristics	UDAG	09/2013	Assigned by UDAG in coordination with NC LIVE staff members
Peer Group Status	Peer_Group_Status	Ordinal	Library Characteristics	NC LIVE	01/2014	Top, middle or bottom third of peer group, based on Academic Search Complete use
Direct Links to NC LIVE-Provided Resources	Direct_Link_Use	Nominal	Access & Authentication	NC LIVE	04/2013	The use of NC LIVE's direct links (NCLSM links) on the library's website
Links to the NC LIVE Website	Links_to_NCLIVE_Site	Nominal	Access & Authentication	NC LIVE	04/2013	The use of a direct link to the nclive.org website
Authenticate with a Password	Authentication_Password	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library staff usually instruct patrons who are located remotely to access NC LIVE-provided databases by using the NC LIVE password
Authenticate with a Local Proxy	Authentication_Local_Proxy	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library staff usually instruct patrons who are located remotely to access NC LIVE-provided databases by using a library card or user ID to login through a locally maintained proxy service (e.g., EZproxy or ILS-based-proxy)
Authenticate with VPN	Authentication_VPN	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library staff usually instruct patrons who are located remotely to access NC LIVE-provided databases by using a library card or user ID to login through a VPN (Virtual Private Network)
A to Z List	AtoZ_List	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provides an A-Z list of resources through their website
Discovery Service	Discovery_Service	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provides a discovery service through their website
Federated Search Service	Federated_Search_Service	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provides a federated search service through their website
Link Resolver	Link_Resolver	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library uses a link resolver
Chat Reference Box	Chat_Reference_Box	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provides a chat reference box on through their website
NC LIVE Search Box	NCLIVE_Search_Box	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provides an NC LIVE search box on their website
Vendor Search Box	Vendor_Search_Box	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provides a vendor's search box on their website
Mobile Library Website or App	Mobile_Library_Website_or_App	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provies a mobile website or app
High Number of Statistics Downloads	Stats_Downloads_High	Nominal	Content & Collections	NC LIVE	07/2012-06/2013	Number of statistics downloads from nclive.org website from July 2012-June 2013 above the median value
Number of Statistics Downloads from the NC LIVE Website	Stats_Downloads	Interval	Content & Collections	NC LIVE	07/2012-06/2013	Number of statistics downloads from nclive.org website from July 2012-June 2013
High Electronic Materials Expenditures Per Full Time Enrollment	Electronic_Materials_Expenditures_per_FTE_High	Nominal	Content & Collections	Calculated from NCES ALS	FY 2010	Electronic_Materials_Expenditures_per_FTE above the median value
Electronic Materials Expenditures Per Full Time Enrollment	Electronic_Materials_Expenditures_per_FTE	Interval	Content & Collections	Calculated from NCES ALS	FY 2010	Calculated from Electronic_Materials_Expenditures and Total_FTE_12_Month_Enrollment
Electronic Materials Expenditures	Electronic_Materials_Expenditures	Interval	Content & Collections	NCES ALS	FY 2010	Expenditures for purchase of software and machine-readable materials considered part of the collections, such as periodical backfiles, literature collections, one-time costs for JSTOR membership, etc., that are not current serials (i.e. are non-subscription, one-time, or monographic in nature). Does not include current serial subscriptions, but does include serial backfiles. These expenditures are also included in Expenditures: Books, Serial Backfiles, Other Materials.
Electronic Materials Expenditures as a Percent of Total Library Expenditures	Elec_Mat_Expenditures_Percent_of_Total_Library_Expenditures	Interval	Content & Collections	Calculated from NCES ALS	FY 2010	Calculated from Electronic_Materials_Expenditures and Total_Library_Expenditures
High Electronic Serials Expenditures Per Full Time Enrollment	Expenditures_Electronic_Serials_per_FTE_High	Nominal	Content & Collections	Calculated from NCES ALS	FY 2010	Expenditures_Electronic_Serials_per_FTE above the median value
Electronic Serials Expenditures Per Full Time Enrollment	Expenditures_Electronic_Serials_per_FTE	Interval	Content & Collections	Calculated from NCES ALS	FY 2010	Calculated from Expenditures_Electronic_Serials and Total_FTE_12_Month_Enrollment
Electronic Serials Expenditures	Expenditures_Electronic_Serials	Interval	Content & Collections	NCES ALS	FY 2010	Subscription expenditures for serial publications (or those which are expected to be ongoing commitments) whose primary format is electronic. Examples include paid subscriptions for electronic journals and indexes/abstracts available via the Internet, CD-ROM serials, and annual access fees for resources purchased on a `one-time` basis, such as literature collections, JSTOR membership, etc. Does not include serial backfiles. These expenditures are also included in Expenditures: Current Serial Subscriptions. Expenditures are funds expended by the library during the fiscal year (regardless of when received) from its regular budget and from all other sources; e.g., research grants, special projects, gifts and endowments, and fees for services. If items in this section are not paid from the library budget but can be easily identified in other parts of the institution`s budget, they are included here. Expenditures are reported for the 12-month period which corresponds to the library`s fiscal year. All expenditures are reported in whole dollars in the most appropriate category to provide an unduplicated count of expenditures. Excludes expenditures for new buildings and building renovation.

Four-Year College and University Libraries Variable Definitions and Sources

Variable Name	Variable Code	Data Type	Variable Category	Source	Date	Definition
High Number of Electronic Reference Aggregated Sources Per 1,000 of Full Time Enrollment	Electronic_Reference_Aggregated_Sources_per_1000_FTE_High	Nominal	Content & Collections	Calculated from NCES ALS	FY 2010	Electronic_Reference_Aggregated_Sources_per_1000_FTE above the median value
Number of Electronic Reference Aggregated Sources Per 1,000 of Full Time Enrollment	Electronic_Reference_Aggregated_Sources_per_1000_FTE	Interval	Content & Collections	Calculated from NCES ALS	FY 2010	Calculated from Electronic_Reference_Aggregated_Sources and Total_FTE_12_Month_Enrollment
Number of Electronic Reference Aggregated Sources	Electronic_Reference_Aggregated_Sources	Interval	Content & Collections	NCES ALS	FY 2010	The total number of citation indexes and abstracts; full-text article databases; full-text reference sources (e.g., encyclopedias, almanacs, biographical and statistical sources and other quick fact-finding sources); dissertation and conference proceedings databases. Licensed electronic resources also include those databases that institutions mount locally
High Number of Promotional Items Requests	Promotional_Items_Requests_High	Nominal	Awareness, Outreach & Promotions	NC LIVE	07/2012-06/2013	Promotional_Items_Requests above the median value
Number of Promotional Items Requests	Promotional_Items_Requests	Interval	Awareness, Outreach & Promotions	NC LIVE	07/2012-06/2013	The number of times a library contacted NC LIVE to request promotional items, such as rack cards or posters
High Number of Help Desk Tickets	Help_Desk_Tickets_High	Nominal	Awareness, Outreach & Promotions	NC LIVE	07/2012-06/2013	Help_Desk_Tickets above the median value
Number of Help Desk Tickets	Help_Desk_Tickets	Interval	Awareness, Outreach & Promotions	NC LIVE	07/2012-06/2013	The number of NC LIVE Help Desk tickets initiated by a library
Descriptive Text about NC LIVE	Descriptive_NCLIVE_Text	Nominal	Awareness, Outreach & Promotions	NC LIVE	04/2013	The library's website includes some information about the NC LIVE website, collection, organization, etc.
Visited by NC LIVE Staff	Visited_by_NCLIVE_Staff	Nominal	Awareness, Outreach & Promotions	NC LIVE	07/2012-06/2013	The library was visited by NC LIVE staff for outreach
NC LIVE Committee Representation	NCLIVE_Committee_Representative	Nominal	Awareness, Outreach & Promotions	NC LIVE	08/2013	The library has a staff member that serves on one of the NC LIVE committees
Staff Training for NC LIVE-Provided Resources	NCLIVE_Training	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Library provided staff development opportunities within the last six months that included training on NC LIVE-provided electronic resources
Staff Training for Other Electronic Resources	Other_Electronic_Resource_Training	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Library provided staff development opportunities within the last six months that included training on non-NC LIVE-provided electronic resources
High Gate Count Per 1,000 of Full Time Enrollment	Gate_Count_per_1000_FTE_High	Nominal	Library Characteristics	Calculated from NCES ALS	FY 2010	Gate_Count_per_1000_FTE above the median value
Gate Count Per 1,000 of Full Time Enrollment	Gate_Count_per_1000_FTE	Interval	Library Characteristics	Calculated from NCES ALS	FY 2010	Calculated from Gate_Count and Total_FTE_12_Month_Enrollment
Gate Count	Gate_Count	Interval	Library Characteristics	NCES ALS	FY 2010	The number of persons who physically enter library facilities in a typical week. It is understood that a single person may be counted more than once. A typical week is one in the fall that is neither unusually busy nor unusually slow. Vacation periods for key staff are avoided, as are days when unusual events are taking place on the campus or in the library. A week is chosen in which the library is open its regular hours, and includes any seven consecutive calendar days. If waiting for a typical week would have delayed the submission of data, the library was requested to use the data from the preceding fisal year. If data are available for the entire year, these data may be divided by the number of weeks that the library is open.
High Number of Librarians Per 1,000 of Full Time Enrollment	Librarians_per_1000_FTE_High	Nominal	Library Characteristics	Calculated from NCES ALS	FY 2010	Number of Librarians_Per_1000_FTE above the median value
Number of Librarians Per 1,000 of Full Time Enrollment	Librarians_per_1000_FTE	Interval	Library Characteristics	Calculated from NCES ALS	FY 2010	Calculated from Librarians and Total_FTE_12_Month_Enrollment
Number of Librarians	Librarians	Interval	Library Characteristics	NCES ALS	FY 2010	The total FTE of staff whose duties require professional education (the master`s degree or its equivalent) in the theoretical and scientific aspects of librarianship. Full-time equivalent (FTE) employees - The number of filled or temporarily vacant FTE positions in the category at the beginning of the fiscal year that are paid from funds under library control. FTEs of part-time employees and student assistants are computed by taking the total number of hours worked per week by part-time employees in the category and dividing by the number of hours considered by the reporting library to be a full-time work week (e.g., 60 hours per week of part-time work divided by 40 hours per full-time week equals 1.50 FTE). Data are reported to two decimal places. Does not include contributed services staff, such as members of religious orders, whose services are valued by bookkeeping entries rather than by full cash transactions. Also does not include volunteers.
High Total Library Expenditures Per Full Time Enrollment	Total_Library_Expenditures_per_FTE_High	Nominal	Library Characteristics	Calculated from NCES ALS	FY 2010	Total_Library_Expenditures_per_FTE above the median value
Total Library Expenditures Per Full Time Enrollment	Total_Library_Expenditures_per_FTE	Interval	Library Characteristics	Calculated from NCES ALS	FY 2010	Calculated form Total_Library_Expenditures and Total_FTE_12_Month_Enrollment

Four-Year College and University Libraries Variable Definitions and Sources

Variable Name	Variable Code	Data Type	Variable Category	Source	Date	Definition
Total Library Expenditures	Total_Library_Expenditures	Interval	Library Characteristics	NCES ALS	FY 2010	The total of all funds expended from the library budget in the fiscal year regardless of when the funds may have been received from Federal, State, or other sources. All expenditures are reported in whole dollars. Includes: salaries and wages; books, serial backfiles, and other materials; current serial subscriptions; document delivery/interlibrary loan; preservation; other expenditures for information resources; computer hardware and software; bibliographic utilities, networks, and consortia; and all other operating expenditures. Excludes salaries and wages for contributed services and maintenance and custodial staff, and expenditures for capital outlays.
High Number of Information Services to Individuals Per Full Time Enrollment	Total_Information_Services_to_Individuals_per_FTE_High	Nominal	Library Characteristics	Calculated from NCES ALS	FY 2010	Total_Information_Services_to_Individuals_per_FTE above the median value
Number of Information Services to Individuals Per Full Time Enrollment	Total_Information_Services_to_Individuals_per_FTE	Interval	Library Characteristics	Calculated from NCES ALS	FY 2010	Calculated from Total_Information_Services_to_Individuals and Total_FTE_12_Month_Enrollment
Number of Information Services to Individuals	Total_Information_Services_to_Individuals	Interval	Library Characteristics	NCES ALS	FY 2010	Total information services to individuals
High Number of Circulation Transactions Including Reserves Per Full Time Enrollment	Circulation_Transactions_Including_Reserves_per_FTE_Student_High	Nominal	Library Characteristics	NCES ALS	FY 2010	Libraries with the number of Circulation_Transactions_Including_Reserves_per_FTE_Student above the median value
Number of Circulation Transactions Including Reserves Per Full Time Enrollment	Circulation_Transactions_Including_Reserves_per_FTE_Student	Interval	Library Characteristics	NCES ALS	FY 2010	The number of items lent from the general collection plus reserve transactions of all types (including both initial transactions and renewals), divided by the total FTE enrollment.

Total FTE enrollment is the total FTE 12-month enrollment of both undergraduates and post-baccalaureate students, including graduate students. The total FTE enrollment is calculated by taking the number of students enrolled full time and adding one-third the number of students enrolled part time. |
| High Computer Hardware and Software Expenditures Per Full Time Enrollment | Expenditures_Computer_Hardware_and_Software_per_FTE_High | Nominal | Library Characteristics | Calculated from NCES ALS | FY 2010 | Expenditures_Computer_Hardware_and_Software above the median value |
| Computer Hardware and Software Expenditures Per Full Time Enrollment | Expenditures_Computer_Hardware_and_Software_per_FTE | Interval | Library Characteristics | Calculated from NCES ALS | FY 2010 | Calculated from Expenditures_Computer_Hardware_and_Software and Total_FTE_12_Month_Enrollment |
| Computer Hardware and Software Expenditures | Expenditures_Computer_Hardware_and_Software | Interval | Library Characteristics | NCES ALS | FY 2010 | Expenditures from the library budget for computer hardware and software used to support library operations, whether purchased or leased, mainframe or microcomputer. Includes expenditures for maintenance. Includes the expenditure for equipment used to run information service products when that expenditure can be separated from the price of the product. Excludes expenditures that are included under Expenditures: Electronic Serials.

Expenditures are funds expended by the library during the fiscal year (regardless of when received) from its regular budget and from all other sources; e.g., research grants, special projects, gifts and endowments, and fees for services. If items in this section are not paid from the library budget but can be easily identified in other parts of the institution`s budget, they are included here. Expenditures are reported for the 12-month period which corresponds to the library`s fiscal year. All expenditures are reported in whole dollars in the most appropriate category to provide an unduplicated count of expenditures. Excludes expenditures for new buildings and building renovation. |
Website Maintained Externally	Website_Maintenance_External	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Library's website content (the text, images and basic layout for pages included on library's website) is maintained primarily externally (by someone outside of the library)
Website Maintained Internally	Website_Maintenance_Internal	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Library's website content (the text, images and basic layout for pages included on library's website) is maintained primarily internally (by library staff who have the ability to directly edit the website's content)
Website Maintained Both Externally and Internally	Website_Maintenance_Both_External_and_Internal	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Library's website content (the text, images and basic layout for pages included on library's website) is maintained both internally and externally
Website Updates Easy	Website_Updates_Easy_Agree_or_Strongly_Agree	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Agreed or strongly agreed with the statement, "My library's website content (e.g., text, images) is easily updated or changed when needed."

Four-Year College and University Libraries Variable Definitions and Sources

Variable Name	Variable Code	Data Type	Variable Category	Source	Date	Definition
Staff Development Less than 1% of Library Budget	Staff_Development_Less_Than_1_Percent_of_Library_Budget	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Percent of library's total operating expenditures spend on costs associated with library staff development opportunities during the most recent past fiscal year. For the purposes of this survey, library staff development opportunities are programs or activities designed to improve employee skills, enhance jobrelated performance, or provide knowledge for career advancement. Examples may include inhouse staff development days, conference attendance, training, workshops, or webinars.
Mandatory Staff Development	Staff_Development_Mandatory	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Library provided staff development opportunities within the last six months that included mandatory staff development activities (e.g., conferences, training, webinars, or classes)
Optional Staff Development	Staff_Development_Optional	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Library provided staff development opportunities within the last six months that included optional staff development activities (e.g., conferences, training, webinars, or classes)
Library Liaisons to Academic Departments	Library_Liaisons	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Interactions with faculty or adjuncts in the past 12 months included assignment of library staff liaisons to academic departments
Embedded Librarians in Academic Courses	Embedded_Librarians	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Interactions with faculty or adjuncts in the past 12 months included embedded librarians in academic courses
Faculty-Initiated Questions and Consultations	Faculty_Initiated_Questions_and_Consultations	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Interactions with faculty or adjuncts in the past 12 months included faculty-initiated questions and consultations
Improptu Faculty Visits to Library	Impromptu_Faculty_Visits_to_Library	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Interactions with faculty or adjuncts in the past 12 months included impromptu library visits from faculty or adjuncts
Librarian-Initiated Engagement With Academic Departments	Library_Initiated_Faculty_Engagement	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Interactions with faculty or adjuncts in the past 12 months included library staff-initiated engagement with academic departments
Library Orientation Programs for Faculty Members	Library_Orientation_for_Faculty	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Interactions with faculty or adjuncts in the past 12 months included library orientation programs and events for faculty
Librarians Attend Faculty Meetings	Librarians_Attend_Faculty_Meetings	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Interactions with faculty or adjuncts in the past 12 months included library staff attendance at faculty department meetings
Information Literacy Classes Upon Faculty Request	Information_Literacy_Classes_Upon_Request	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Interactions with faculty or adjuncts in the past 12 months included library instruction/information literacy classes by faculty request
Marketing Aimed at Faculty	Library_Marketing_to_Faculty	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Interactions with faculty or adjuncts in the past 12 months included use of marketing materials (newsletters, brochures, etc.) describing services to faculty/adjuncts
High Total 12 Month Full Time Enrollment	Total_FTE_12_Month_Enrollment_High	Nominal	Community Characteristics	Calculated from NCES ALS	FY 2010	Total FTE 12-month enrollment above the median value
Total 12 Month Full Time Enrollment	Total_FTE_12_Month_Enrollment	Interval	Community Characteristics	NCES ALS	FY 2010	The total FTE 12-month enrollment of both undergraduates and post-baccalaureate students. The total FTE enrollment is calculated by taking the number of students enrolled full time and adding one-third the number of students enrolled part time.
NCICU Institution	NCICU	Nominal	Community Characteristics	NC LIVE	09/2013	NC LIVE Community of Interest (University of North Carolina System (UNC) or North Carolina Independent Colleges and Universities (NCICU)
UNC Institution	UNC	Nominal	Community Characteristics	NC LIVE	09/2013	NC LIVE Community of Interest (University of North Carolina System (UNC) or North Carolina Independent Colleges and Universities (NCICU)
Carnegie Classification	Carnegie_Classification	Nominal	Community Characteristics	NCES ALS	FY 2010	The 2005 Carnegie Classification includes all colleges and universities in the United States that are degree-granting and accredited by an agency recognized by the U.S. Secretary of Education. The 2005 basic edition classifies institutions based on their degree-granting activities from 2003 and 2004 Institutions might be classified differently using a different timeframe.
Information Literacy in Student Learning Outcomes	Information_Literacy_in_Student_Learning_Outcomes	Nominal	Community Variables	NCES ALS	FY 2010	Incorporated information literacy in the institutions student learning outcomes
High Graduation Rate	Grad_Rate_High	Nominal	Community Characteristics	Calculated from Statistical Abstract of Higher Education in North Carolina	2013	Grad_Rate above the median value
Graduation Rate	Grad_Rate	Interval	Community Characteristics	Statistical Abstract of Higher Education in North Carolina	2013	The percent of first-time, full-time, degree-seeking students in the cohort being tracked, minus any exclusions, who graduated within 100 percent of normal/expected time (2010, 4y bach cohort)
Academic Search Complete Use	ASC_Use	Interval	Dependent	EBSCO	07/2012-06/2013	Full Text Views Per Full Time Enrollment
MasterFILE Complete Use	MFC_Use	Interval	Dependent	EBSCO	07/2012-06/2013	Full Text Views Per Full Time Enrollment
Wall Street Journal Use	WSJ_Use	Interval	Dependent	ProQuest	07/2012-06/2013	Full Text Views Per Full Time Enrollment
LearningExpress Library Use	LEL_Use	Interval	Dependent	LearningExpress	07/2012-06/2013	Number of eCourses, eBooks and Practice Tests Added Per Full Time Enrollment
SimplyMap Use	SM_Use	Interval	Dependent	Geographic Research	07/2012-06/2013	Number of Sessions Initiated Per Full Time Enrollment

Public Libraries Variable Definitions and Sources

Variable Name	Variable Code	Data Type	Variable Category	Source	Date	Definition
Institutional ID	Inst_ID	Nominal	Library Characteristics	NC LIVE	09/2013	Unique ID assigned by NC LIVE
Library Name	Library_Name	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	09/2013	Name of Main Library or Institution
Peer Group	Peer_Group	Nominal	Library Characteristics	UDAG	09/2013	Assigned by UDAG in coordination with NC LIVE staff members
Peer Group Status	Peer_Group_Status	Ordinal	Library Characteristics	NC LIVE	01/2014	Top, middle or bottom third of peer group, based on Academic Search Complete use
Direct Links to NC LIVE-Provided Resources	Direct_Link_Use	Nominal	Access & Authentication	NC LIVE	04/2013	The use of NC LIVE's direct links (NCLSM links) on the library's website
Links to the NC LIVE Website	Links_to_NCLIVE_Site	Nominal	Access & Authentication	NC LIVE	04/2013	The use of a direct link to the nclive.org website
Authenticate with a Password	Authentication_Password	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library staff usually instruct patrons who are located remotely to access NC LIVE-provided databases by using the NC LIVE password
Authenticate with a Local Proxy	Authentication_Local_Proxy	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library staff usually instruct patrons who are located remotely to access NC LIVE-provided databases by using a library card or user ID to login through a locally maintained proxy service (e.g., EZproxy or ILS-based-proxy)
Authenticate with EasyOn	Authentication_EasyOn	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library staff usually instruct patrons who are located remotely to access NC LIVE-provided databases by using a library card number to login through the NC LIVE login page (also known as EasyOn)
A to Z List	AtoZ_List	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provides an A-Z list of resources through their website
Discovery Service	Discovery_Service	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provides a discovery service through their website
Federated Search Service	Federated_Search_Service	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provides a federated search service through their website
Link Resolver	Link_Resolver	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library uses a link resolver
Chat Reference Box	Chat_Reference_Box	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provides a chat reference box on through their website
NC LIVE Search Box	NCLIVE_Search_Box	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provides an NC LIVE search box on their website
Vendor Search Box	Vendor_Search_Box	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provides a vendor's search box on their website
Mobile Library Website or App	Mobile_Library_Website_or_App	Nominal	Access & Authentication	Library Reported in NC LIVE Survey	08/2013	Library provies a mobile website or app
High Number of Statistics Downloads	Stats_Downloads_High	Nominal	Content & Collections	NC LIVE	07/2012-06/2013	Number of statistics downloads from nclive.org website from July 2012-June 2013 above the median value
Number of Statistics Downloads from the NC LIVE Website	Stats_Downloads	Interval	Content & Collections	NC LIVE	07/2012-06/2013	Number of statistics downloads from nclive.org website from July 2012-June 2013
High Collections Expenditures Per Legal Service Population	Collection_Expenditures_per_LSP_High	Nominal	Content & Collections	Calculated from Statistical Report of North Carolina Public Libraries	2011-2012	Collection_Expenditures_per_LSP above the median value
Collections Expenditures Per Legal Service Population	Collection_Expenditures_per_LSP	Interval	Content & Collections	Statistical Report of North Carolina Public Libraries	2011-2012	This includes all operating expenditures from the library budget for materials in print, microform, electronic and other formats considered part of the collection, whether purchased, leased, or licensed. Exclude charges or fees for interlibrary loans and expenditures for document delivery.
High Collections Expenditures as a Percent of Total Operating Expenditures	Collections_Percent_of_TOE_High	Nominal	Content & Collections	Calculated from Statistical Report of North Carolina Public Libraries	2011-2012	Collections_Percent_of_TOE above the median value
Collections Expenditures as a Percent of Total Operating Expenditures	Collections_Percent_of_TOE	Interval	Content & Collections	Statistical Report of North Carolina Public Libraries	2011-2012	Calculated from Collection_Costs and Total_Operating_Expenditures
High Number of Licensed Databases	Licensed_Databases_High	Nominal	Content & Collections	Calculated from Statistical Report of North Carolina Public Libraries	2011-2012	Licensed_Databases above the median value
Number of Licensed Databases	Licensed_Databases	Interval	Content & Collections	Statistical Report of North Carolina Public Libraries	2011-2012	Report the number of licensed databases (including locally mounted or remote, full-text or not) for which temporary or permanent access rights have been acquired through payment by the library (directly or through a cooperative agreement within the state or region), or acquired by formal agreement with the State Library. A database is a collection of electronically stored data or unit records (facts, bibliographic data, abstracts, texts) with a common user interface and software for the retrieval and manipulation of the data.
High Electronic Materials Expenditures as a Percent of Total Operating Expenditures	Elec_Mat_Exp_Percent_of_TOE_IMLS_High	Nominal	Content & Collections	Calculated from Public Library Survey, IMLS	2011	Elec_Mat_Exp_Percent_of_TOE_IMLS above the median value
Electronic Materials Expenditures as a Percent of Total Operating Expenditures	Elec_Mat_Exp_Percent_of_TOE_IMLS	Interval	Content & Collections	Calculated from Public Library Survey, IMLS	2011	Calculated from Total_Operating_Expenditures_IMLS and Electronic_Materials_Expenditures_IMLS
Total Operating Expenditures (IMLS Data)	Total_Operating_Expenditures_IMLS	Interval	Library Characteristics	Public Library Survey, IMLS	2011	This is the sum of Total Staff Expenditures, Total Collection Expenditures, and Other Operating Expenditures.
Electronic Materials Expenditures	Electronic_Materials_Expenditures_IMLS	Interval	Content & Collections	Public Library Survey, IMLS	2011	Report all operating expenditures for electronic (digital) materials. Types of electronic materials include e-books, audio and video downloadables, e-serials (including journals), government documents, databases (including locally mounted, full text or not), electronic files, reference tools, scores, maps, or pictures in electronic or digital format, including materials digitized by the library. Electronic materials can be distributed on magnetic tape, diskettes, computer software, CD-ROM, or other portable digital carrier, and can be accessed via a computer, via access to the Internet, or by using an e-book reader. Include expenditures for materials held locally and for remote materials for which permanent or temporary access rights have been acquired. Include expenditures for database licenses. [Note: Based on ISO 2789 definition.
High Number of Promotional Items Requests	Promotional_Items_Requests_High	Nominal	Awareness, Outreach & Promotions	NC LIVE	04/2013	Promotional_Items_Requests above the median value

Public Libraries Variable Definitions and Sources

Variable Name	Variable Code	Data Type	Variable Category	Source	Date	Definition
Number of Promotional Items Requests	Promotional_Items_Requests	Interval	Awareness, Outreach & Promotions	NC LIVE	04/2013	The number of times a library contacted NC LIVE to request promotional items, such as rack cards or posters
High Number of Help Desk Tickets	Help_Desk_Tickets_High	Nominal	Awareness, Outreach & Promotions	NC LIVE	04/2013	Help_Desk_Tickets above the median value
Number of Help Desk Tickets	Help_Desk_Tickets	Interval	Awareness, Outreach & Promotions	NC LIVE	04/2013	The number of NC LIVE Help Desk tickets initiated by a library
Descriptive Text about NC LIVE	Descriptive_NCLIVE_Text	Nominal	Awareness, Outreach & Promotions	NC LIVE	04/2013	The library's website includes some information about the NC LIVE website, collection, organization, etc.
Visited by NC LIVE Staff	Visited_by_NCLIVE_Staff	Nominal	Awareness, Outreach & Promotions	NC LIVE	07/2012-06/2013	The library was visited by NC LIVE staff for outreach
NC LIVE Committee Representation	NCLIVE_Committee_Representative	Nominal	Awareness, Outreach & Promotions	NC LIVE	08/2013	The library has a staff member that serves on one of the NC LIVE committees
Staff Training for NC LIVE-Provided Resources	NCLIVE_Training	Nominal	Awareness, Outreach & Promotions	Library Reported in NC LIVE Survey	08/2013	Library provided staff development opportunities within the last six months that included training on NC LIVE-provided electronic resources
Staff Training for Other Electronic Resources	Other_Electronic_Resource_Training	Nominal	Awareness, Outreach & Promotions	Library Reported in NC LIVE Survey	08/2013	Library provided staff development opportunities within the last six months that included training on non-NC LIVE-provided electronic resources
Patron Instruction for Computer Skills	Patron_Computer_Instruction	Nominal	Awareness, Outreach & Promotions	Library Reported in NC LIVE Survey	08/2013	Library offered computer skills classes/programs to patrons in the past 12 months
Patron Instruction for NC LIVE-Provided Resources	Patron_NCLIVE_Resource_Instruction	Nominal	Awareness, Outreach & Promotions	Library Reported in NC LIVE Survey	08/2013	Library offered training on NC LIVE-provided electronic resources
Patron Instruction for Other Electronic Resources	Patron_Other_Electronic_Resource_Instruction	Nominal	Awareness, Outreach & Promotions	Library Reported in NC LIVE Survey	08/2013	Library offered training on non-NC LIVE-provided electronic resources
High Total Operating Expenditures Per Legal Service Population	Total_Operating_Expenditures_per_LSP_High	Nominal	Library Characteristics	Calculated from Statistical Report of North Carolina Public Libraries	2011-2012	Total_Operating_Expenditures_per_LSP above the median value
Total Operating Expenditures Per Legal Service Population	Total_Operating_Expenditures_per_LSP	Interval	Library Characteristics	Calculated from Statistical Report of North Carolina Public Libraries	2011-2012	Calculated from Total_Operating_Expenditures and Legal_Service_Population
Total Operating Expenditures	Total_Operating_Expenditures	Interval	Library Characteristics	Statistical Report of North Carolina Public Libraries	2011-2012	Operating expenditures are the current and recurrent costs necessary to support the provision of library services. Significant costs, especially benefits and salaries, that are paid by other taxing agencies (government agencies with the authority to levy taxes) "on behalf of" the library may be included if the information is available to the reporting agency. Only such funds that are supported by expenditure documents (such as invoices, contracts, payroll records, etc.) at the point of disbursement should be included. Do not report the value of free items as expenditures. Do not report estimated costs as expenditures. Do not report capital expenditures under this category.
High Number of Virtual Visits Per 5,000 of the Legal Service Population	Virtual_Visits_per_5K_LSP_High	Nominal	Library Characteristics	Calculated from Statistical Report of North Carolina Public Libraries	2011-2012	Virtual_Visits_per_5K_LSP above the median value
Number of Virtual Visits Per 5,000 of the Legal Service Population	Virtual_Visits_per_5K_LSP	Interval	Library Characteristics	Statistical Report of North Carolina Public Libraries	2011-2012	Calculated from Virtual_Visits and Legal_Service_Population
Number of Virtual Visits	Virtual_Visits	Interval	Library Characteristics	Statistical Report of North Carolina Public Libraries	2011-2012	A user's request of the library web site from outside the library premises regardless of the number of pages or elements viewed. Excludes web site visits from within the library.
High number of Library Visits Per 5,000 of the Legal Service Population	Library_Visits_per_5K_LSP_High	Nominal	Library Characteristics	Calculated from Statistical Report of North Carolina Public Libraries	2011-2012	Library_Visits_per_5K_LSP above the median value
Number of Library Visits Per 5,000 of the Legal Service Population	Library_Visits_per_5k_LSP	Interval	Library Characteristics	Statistical Report of North Carolina Public Libraries	2011-2012	Calculated from Library_Visits and Legal_Service_Population
Number of Library Visits	Library_Visits	Interval	Library Characteristics	Statistical Report of North Carolina Public Libraries	2011-2012	Called "Number of persons entering library during the year"; Report the total number of persons entering the library for whatever purpose during the year. Include persons attending activities, meetings, and those persons requiring no staff services.
High Number of Reference Questions Per 5,000 of the Legal Service Population	Reference_Questions_per_5K_LSP_High	Nominal	Library Characteristics	Calculated from Statistical Report of North Carolina Public Libraries	2011-2012	Reference_Questions_per_5K_LSP above the median value
Number of Reference Questions Per 5,000 of the Legal Service Population	Reference_Questions_per_5K_LSP	Interval	Library Characteristics	Statistical Report of North Carolina Public Libraries	2011-2012	Calculated from Reference_Questions and Legal_Service_Population
Number of Reference Questions	Reference_Questions	Interval	Library Characteristics	Statistical Report of North Carolina Public Libraries	2011-2012	A reference transaction is an information contact which involves the knowledge, use, recommendations, interpretation, or instruction in the use of one or more information sources by a member of the library staff. It includes information and referral services. Information sources include printed and non-printed materials, machine-readable databases, catalogs and other holdings records, and, through communication or referral, other libraries and institutions and people inside and outside the library.
High Percent of Legal Service Population that are Registered Library Users	Percent_LSP_Registered_Users_High	Nominal	Library Characteristics	Calculated from Statistical Report of North Carolina Public Libraries	2011-2012	Percent_LSP_Registered_Users above the median value
Percent of Legal Service Population that are Registered Library Users	Percent_LSP_Registered_Users	Interval	Library Characteristics	Statistical Report of North Carolina Public Libraries	2011-2012	Calculated from Registered_Users and Legal_Service_Population
Number of Registered Users	Registered_Users	Interval	Library Characteristics	Statistical Report of North Carolina Public Libraries	2011-2012	A registered user is a library user who has applied for and received an identification number or card from the public library that has established conditions under which the user may borrow library materials or gain access to other library resources.

Public Libraries Variable Definitions and Sources

Variable Name	Variable Code	Data Type	Variable Category	Source	Date	Definition
High Number of Librarians Per 25,000 of the Legal Service Population	Librarians_per_25K_LSP_High	Nominal	Library Characteristics	Calculated from Statistical Report of North Carolina Public Libraries	2011-2012	FTE_ALA_MLS_per_25K above the median value
Number of Librarians Per 25,000 of the Legal Service Population	Librarians_per_25K_LSP	Interval	Library Characteristics	Statistical Report of North Carolina Public Libraries	2011-2012	FTE_ALA_MLS per 25,000 of Legal_Service_Population
Number of Librarians	Librarians	Interval	Library Characteristics	Statistical Report of North Carolina Public Libraries	2011-2012	Paid librarians with a master's degree from programs of library and information studies accredited by ALA. Graduates whose library schools received accreditation within five years after their graduation should be included in this count ("grandfathered in").
High Number of Computer Uses Per Legal Service Population	Number_of_Computer_Uses_per_LSP_High	Nominal	Library Characteristics	Calculated from Statistical Report of North Carolina Public Libraries	2011-2012	Number_of_Computer_Uses_per_Capita above the median value
Number of Computer Uses Per Legal Service Population	Number_of_Computer_Uses_per_LSP	Interval	Library Characteristics	Calculated from Statistical Report of North Carolina Public Libraries	2011-2012	Calculated from Number_of_Computer_Uses and Legal_Service_Population
High Number of Computer Uses Per Registered Users	Number_of_Computer_Uses_per_Reg_Users_High	Nominal	Library Characteristics	Calculated from Statistical Report of North Carolina Public Libraries	2011-2012	Number_of_Computer_Uses_per_Reg_Users above the median value
Number of Computer Uses Per Registered Users	Number_of_Computer_Uses_per_Registered_Users	Interval	Library Characteristics	Calculated from Statistical Report of North Carolina Public Libraries	2011-2012	Calculated from Number_of_Computer_Uses and Registered_Users
Number of Computer Uses	Number_of_Computer_Uses	Interval	Library Characteristics	Statistical Report of North Carolina Public Libraries	2011-2012	Report the total number of uses (sessions) of the library's Internet computers in the library during the last year. If the computer is used for multiple purposes (Internet access, word-processing, OPAC, etc.) and Internet uses (sessions) cannot be isolated, report all usage. A typical week or other reliable estimate may be used to determine the annual number. Sign-up forms or Web-log tracking software also may provide a reliable count of uses (sessions).
High Number of Public Internet Computers Per 5,000 of the Legal Service Population	Number_Public_Internet_Computers_per_5K_High	Nominal	Library Characteristics	Calculated from Statistical Report of North Carolina Public Libraries	2011-2012	Number_Public_Internet_Comps_per_5K above the median value
Number of Public Internet Computers Per 5,000 of the Legal Service Population	Number_Public_Internet_Computers_per_5K_LSP	Interval	Library Characteristics	Statistical Report of North Carolina Public Libraries	2011-2012	Report the number of the library's Internet computers (PCs and laptops), whether purchased, leased or donated, used by the general public in the library. Calculated for each 5,000 of Legal Service Population.
Website Maintained Externally	Website_Maintenance_External	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Library's website content (the text, images and basic layout for pages included on library's website) is maintained primarily externally (by someone outside of the library)
Website Maintained Internally	Website_Maintenance_Internal	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Library's website content (the text, images and basic layout for pages included on library's website) is maintained primarily internally (by library staff who have the ability to directly edit the website's content)
Website Maintained Both Externally and Internally	Website_Maintenance_Both_External_and_Internal	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Library's website content (the text, images and basic layout for pages included on library's website) is maintained both internally and externally
DSL or Cable Internet	DSL_or_Cable	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Internet provided to library patrons through library is via DSL or cable connection
Fiber Optic Internet	Fiber_Optic	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Internet provided to library patrons through library is via fiber optic connection
Website Updates Easy	Website_Updates_Easy_Agree_or_Strongly_Agree	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Agreed or strongly agreed with the statement, "My library's website content (e.g., text, images) is easily updated or changed when needed."
Staff Development Less than 1% of Library Budget	Staff_Development_Less_Than_1_Percent_of_Library_Budget	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Percent of library's total operating expenditures spend on costs associated with library staff development opportunities during the most recent past fiscal year. For the purposes of this survey, library staff development opportunities are programs or activities designed to improve employee skills, enhance jobrelated performance, or provide knowledge for career advancement. Examples may include inhouse staff development days, conference attendance, training, workshops, or webinars.
Mandatory Staff Development	Staff_Development_Mandatory	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Library provided staff development opportunities within the last six months that included mandatory staff development activities (e.g., conferences, training, webinars, or classes)
Optional Staff Development	Staff_Development_Optional	Nominal	Library Characteristics	Library Reported in NC LIVE Survey	08/2013	Library provided staff development opportunities within the last six months that included optional staff development activities (e.g., conferences, training, webinars, or classes)
Regional Library	Regional	Nominal	Library Characteristics	NC LIVE	08/2013	Library_Type is regional
County Library	County	Nominal	Library Characteristics	NC LIVE	08/2013	Library_Type is county
Municipal Library	Municipal	Nominal	Library Characteristics	NC LIVE	08/2013	Library_Type is municipal
Library Type	Library_Type	Nominal	Library Characteristics	NC LIVE	08/2013	Library is regional, county or municipal

Public Libraries Variable Definitions and Sources

Variable Name	Variable Code	Data Type	Variable Category	Source	Date	Definition
Legal Service Population	Legal_Service_Population	Interval	Library Characteristics	Statistical Report of North Carolina Public Libraries	2011-2012	The number of people in the geographic area for which a public library has been established to offer services and from which (or on behalf of which) the library derives income, plus any areas served under contract for which the library is the primary service provider.
High Legal Service Population	Legal_Service_Population_High	Nominal	Library Characteristics	Calculated from Statistical Report of North Carolina Public Libraries	2011-2012	Legal_Service_Population above the median value
High Percent of Legal Service Population with a Bachelor's Degree	Percent_Bachelors_Degree_High	Nominal	Community Characteristics	Calculated from American Community Survey	2007-2011	Percent_Bachelors_Degree above the median value
Percent of Legal Service Population with a Bachelor's Degree	Percent_Bachelors_Degree	Interval	Community Characteristics	American Community Survey	2007-2011	Municipality data available as 5 year estimates, 2007-2011; County data available as 3 year estimates, 2009-2011; Regional data calculated as (total pop for counties/total square miles for counties)
High Population Density	Population_Density_High	Nominal	Community Characteristics	US Census Bureau, Quick Facts	2010	Population_Density above the median value
Population Density	Population_Density	Interval	Community Characteristics	US Census Bureau, Quick Facts	2010	"Persons per square mile, 2010" is the data point for counties and municipalities; for regionals, "Population, 2010" was totaled for all involved counties, and "Land area in square miles, 2010" was totaled for all involved counties, then calculated.
Academic Search Complete Use	ASC_Use	Interval	Dependent	EBSCO	07/2012-06/2013	Full Text Views Per 5,000 of the Legal Service Population
MasterFILE Complete Use	MFC_Use	Interval	Dependent	EBSCO	07/2012-06/2013	Full Text Views Per 5,000 of the Legal Service Population
Wall Street Journal Use	WSJ_Use	Interval	Dependent	ProQuest	07/2012-06/2013	Full Text Views Per 5,000 of the Legal Service Population
LearningExpress Library Use	LEL_Use	Interval	Dependent	LearningExpress	07/2012-06/2013	Number of eCourses, eBooks and Practice Tests Added Per 5,000 of the Legal Service Population
SimplyMap Use	SM_Use	Interval	Dependent	Geographic Research	07/2012-06/2013	Number of Sessions Initiated Per 5,000 of the Legal Service Population

Appendix 4

NC LIVE Usage Data Summit Report

Overview:
After completing an analysis of NC LIVE's usage data, researchers called together members of the NC LIVE Usage Data Advisory Group and members of NC LIVE's other formal advisory committees to meet and discuss research findings and the topic of usage data more generally. Approximately 60 attendees, including library staff from public and academic libraries, vendors, and NC LIVE consortium staff met on February 17, 2014 at the UNC-Greensboro Elliott University Center.

Objectives:
The Summit was designed to generate discussion of "Making Usage Data Meaningful" research results among stakeholders, and to identify future steps that libraries, NC LIVE, and vendors may take in proactively collecting, analyzing, and reporting usage data in relevant and impactful ways. Researchers outlined four objectives for the meeting:
1. Review and discuss findings from the NC LIVE research study "Making Usage Data Meaningful."
2. Discuss why or how usage data is important or potentially useful to libraries and to NC LIVE as a consortium.
3. Provide feedback on NC LIVE's current and potential methods of reporting of usage data.
4. Assess and evaluate data most relevant for use in resource selection and collection development decisions.

Meeting Summary:
The Summit opened with a keynote address from NC State University Professor Michael Kowolenko. Kowolenko, a faculty member in the Poole College of Management, teaches students how to effectively use big data analytics to solve business problems and spoke to the Summit participants about focusing on asking good questions of data in order to make data-driven decisions. Following Kowolenko's talk, researchers Emily Guhde and Jill Morris presented an overview of the Making Usage Data Meaningful study and shared their findings.

The afternoon portion of the meeting was devoted to small, focus group-style discussions, in which participants were divided into three groups: participants interested in public libraries, four-year college and university libraries, and community college libraries. Each group discussed the same set of questions and shared their responses with the larger group. The first part of the discussion focused on how and why libraries currently use usage data provided by NC LIVE or some other vendor. The second part of the discussion centered around usage data in collection development decision-making processes.

Discussion Group Recap:

Using Usage Data
Volunteers from the Usage Data Advisory Group facilitated questions in each of the three groups mentioned above. As anticipated, when asked about the way libraries currently use usage data, each discussion group had a variety of responses, depending on the type and needs of their individual

libraries. These responses caused NC LIVE researchers to consider whether the one-size-fits-all approach to usage data reports currently provided by the consortium (available via http://nclive.org/usagereports) was really appropriate or valuable.

When being asked to discuss how monthly usage statistics reports were used in their own library settings, responses varied from reporting data "up-the-chain" in the form of annual surveys, accreditation and assessment activities, to monitoring the effects of specific programming and promotion efforts. Some participants mentioned the need to monitor only those databases for which they directly pay (libraries from publicly funded institutions do not receive a bill for NC LIVE services), while others wanted to closely monitor usage for all databases available to their library.

Though nearly all participants indicated that usage data for NC LIVE-provided databases was important to have, there was not widespread agreement about which data points were most important. Participants stated that the data points needed depended heavily on the task at-hand. Library staff from community college settings agreed that usage data, in whatever format it is collected and reported, should be consistent from month-to-month, and year-to-year, and well-communicated so that comparisons can be made over time.

Benchmarking
Summit participants were provided with benchmarking charts that utilized the North Carolina-based library peer groups designed by the Usage Data Advisory Group at the outset of this study. After reviewing those charts, researchers asked participants to consider the idea of setting targets for database use, and to discuss the value of pre-made peer groups and benchmarking charts, like the examples provided.

Although all participants seemed to value the kind of context that peer group benchmarking charts could provide, most seemed to agree that they would prefer to build their own peer groups in an "on-demand" fashion, to best fit the needs of the library at any given time. Discussion groups mentioned a number of cases where they may want to compare themselves to other libraries for a specific purpose, whether based on the programs of study offered (e.g., nursing programs or business programs), budget size or library type (e.g., municipal libraries versus county or regional public libraries), and that pre-made peer groups were not as valuable as flexible and built-on-the-fly peer groups could be.

Some libraries indicated they set usage targets for database use (often based on comparisons to their library's previous performance), however, the great majority said they did not. There were a number of libraries who said that from time-to-time, they studied cost-per-use in order to better understand their investments in electronic resources, but there was no regular approach to these types of analysis across libraries.

The Summit's benchmarking discussions highlighted the difficulties that libraries face in assessing their use of electronic resources, and the potential for improved data reporting services offered by the NC LIVE consortium and vendors. Flexible systems that allow libraries to easily make comparisons may provide libraries with the information they need to make better informed decisions about database

usage, but there was a lack of agreement about the extent to which this information would ultimately be used.

Data for Collection Development Decision-making
Volunteers who were members of the NC LIVE Resource Advisory Committee facilitated a series of discussion questions to Summit participants centered around usage data and collection development decisions, including topics such as the measures used in local collection development practices, the extent to which libraries rely on usage data when making collection decisions, and the ways in which NC LIVE should use usage data as a consortium in collection development practices.

Attendees discussed the use of data points, such as cost-per-use in making comparisons between products, but noted that these comparisons were only useful for current library offerings because they required both pricing and usage data. And although most agreed that cost-per-use data was valuable when it was available, there was not agreement about how to compare unlike products with cost-per-use data.

The group suggested that in NC LIVE's resource selection decision-making processes, usage data could be used to study the amount of usage happening for specific types of content in each NC LIVE Community of Interest, and for which currently licensed resources the Communities of Interest truly share content needs. They also suggested that usage data gives the Resource Advisory Committee information about the extent to which subscription changes may impact NC LIVE's user community (i.e., the higher usage a product receives, the greater the impact would be if the product or database was no longer made available).

Each group indicated that the Resource Advisory Committee needs much more data to make informed selection decisions than is available through usage reports, including examples like willingness-to-pay measures, data about what libraries purchase over and above what they receive through the consortium, and information about what categories of resources are important across libraries and library types.

Key Take-aways
Researchers and committee members identified several key takeaways following discussions held during the Summit, including:

1. **Libraries need usage data for a variety of reasons, and it is in the interest of library consortia and vendors to assist libraries in better utilizing this data.**

   Library consortia exist in order to provide efficiencies and value to their membership. Wide-scale studies, such as NC LIVE's Making Usage Data Meaningful research, provide libraries with guidance on how to positively impact and maximize their use of databases. By offering ideas and solutions for increasing the value of libraries' services, consortia are doing their part to leverage the collective knowledge of their members for improved services. Vendors looking to

showcase the value their products provide will also benefit from assisting libraries in better understanding and maximizing use. Vendors that can demonstrate a high return on their customers' investment are more likely to be retained and viewed as worthy investments.

2. **A one-sized-fits all usage data report may not be valuable to libraries.**

   Services, such as the monthly data reports currently offered by NC LIVE, fulfill some basic needs for those libraries that are primarily using usage data in a "reporting up-the-chain" fashion, but libraries still need to pull together multiple information sources and heavily manipulate the data to glean other important information from the reports. A one-size-fits-all approach to usage data reports is probably not as valuable to libraries as other more customizable approaches may be, and further investigation is needed to determine whether NC LIVE may be unnecessarily replicating services already provided by vendors. The development and availability of systems that allow for on-the-fly building of peer groups and other contextual information, may make usage data more meaningful.

3. **Usage data needed for collection development decision-making may be quite different from data used for other types of library decisions.**

   Decisions about resource selection for a consortium serving multiple types of libraries necessitate a wide variety of data, of which usage is just one component. Information about how databases are used within and across NC LIVE's Communities of Interest may be an indicator of consortium-wide need for a database or category of databases under consideration. In general, the Resource Advisory Committee needs usage data which can be calculated in ways that promote a better understanding of use across libraries.

4. **NC LIVE needs to evaluate its current usage reporting service. Before investing time and resources in creating a usage statistics interface or series of reports for libraries, more work needs to be done to assess what type of information libraries need and would actually use.**

   Despite calls for easy-to-use tools and interfaces that would promote better utilization of usage data, there was disagreement among participants about the extent to which libraries would actually use these tools, and the return on investment for these types of services. NC LIVE staff will need to do further investigations to better understand what libraries actually need and how they will use these types of tools before developing new services.

Appendix 5

Cross-tabs Analysis

This analysis examines libraries relative to their peer groups. While other analyses have looked at trends across all libraries, the purpose of this analysis is to see if libraries with similar rankings within their peer groups have any characteristics in common. For example, a library might have lower use when compared to all libraries, but it might be a high-use library among its peers.

For this analysis, each library peer group was divided into thirds in terms of their use of Academic Search Complete, and libraries were categorized as top, middle or bottom. Then all top, middle and bottom libraries were compared to look for trends among the top-ranking libraries. This analysis was completed separately for each of the three library types.

What are the top community college libraries tending to do?

Direct Links to NC LIVE-Provided Resources

77% of top community college libraries use direct links to NC LIVE-provided resources, compared with 50% of middle and 53% of bottom libraries.

NC LIVE Committee Representation

26% of top libraries have a representative on an NC LIVE committee, compared with 20% of middle and 16% of bottom libraries.

Number of Information Services to Individuals Per Full Time Enrollment

63% of top libraries have high (above the median) total information services to individuals per FTE, compared with 47% of middle and 39% of bottom libraries.

Number of Circulation Transactions Including Reserves Per Full Time Enrollment

73% of top libraries have high (above the median) circulation transactions including reserves per FTE, compared with 65% of middle and 53% of bottom libraries.

Librarians Attend Faculty Meetings

56% of top libraries have librarians that attend faculty meetings, compared with 45% of middle and 39% of bottom libraries.

What are the top four-year college and university libraries tending to do?

Direct Links to NC LIVE-Provided Resources

82% of both top and middle libraries use direct links, compared with 67% of bottom libraries.

Authenticate with a Local Proxy

94% of top libraries authenticate with a local proxy, compared with 77% of middle and 56% of bottom libraries.

Federated Search Service

41% of top libraries use a federated search service, compared with 29% of middle and 24% of bottom libraries.

Link Resolver

71% of top libraries use a link resolver, compared with 65% of middle and 59% of bottom libraries.

Mobile Library Website or App

47% of top libraries have a mobile site or app, compared with 35% of both middle and bottom libraries.

Number of Statistics Downloads from the NC LIVE Website

59% of top libraries have high (above the median) statistics downloads from the nclive.org website, compared with 47% of middle and 44% of bottom libraries.

NC LIVE Committee Representation

41% of top libraries have a representative on an NC LIVE committee, compared with 35% of middle and 22% of bottom libraries.

Gate Count

71% of top libraries have a high (above the median) gate count per 1,000 FTE, compared with 53% of middle and 28% of bottom libraries.

Number of Librarians Per 1,000 of Full Time Enrollment

53% of both top and middle libraries have a high (above the median) number of librarians per 1,000 FTE, compared with 35% of bottom libraries.

Website Maintained Internally

77% of both top and middle libraries maintain their websites internally, compared with 53% of bottom libraries.

Website Updates Easy

88% of top libraries described making updates to their websites as "very easy" or "easy," compared with 77% of middle and 65% of bottom.

Graduation Rate

69% of top libraries have a high (above the median) graduation rate, compared with 56% of middle and 28% of bottom libraries.

What are the top public libraries tending to do?

Direct Links to NC LIVE-Provided Resources

60% of top libraries are using direct links, compared with 46% of middle libraries and 26% of bottom libraries.

Chat Reference

72% of top libraries and 78% of middle libraries are using a chat reference box (NC Knows), compared with 45% of bottom libraries.

Number of Statistics Downloads from the NC LIVE Website

65% of top libraries have high (above the median) statistics downloads from the nclive.org website, compared with 54% of middle and 35% of bottom libraries.

Number of Promotional Items Requests

73% of top libraries have high (above the median) promotional items requests from NC LIVE, compared to 58% of middle and 57% of bottom libraries.

Number of Help Desk Tickets

69% of top libraries have high (above the median) NC LIVE Help Desk tickets, compared with 50% of middle and 39% of bottom libraries.

Descriptive Text about NC LIVE

50% of top libraries include descriptive information about NC LIVE on their website, compared with 46% of middle and 26% of bottom libraries.

Staff Training for NC LIVE-Provided Resources

80% of top libraries had staff training for NC LIVE-provided resources in the past 6 months, compared with 57% of middle and 55% of bottom libraries.

Staff Training for Other Electronic Resources

56% of top libraries had staff training for other (non-NC LIVE) electronic resources in the past 6 months, compared with 30% of middle and 35% of bottom libraries.

Patron Instruction for NC LIVE-Provided Resources

52% of top libraries provided patron training for NC LIVE-provided resources in the past 12 months, compared with 38% of middle and 35% of bottom libraries.

Total Operating Expenditures Per Legal Service Population

73% of top libraries had high (above the median) total operating expenditures per capita (legal service population), compared with 50% of middle and 22% of bottom libraries.

Number of Library Visits Per 5,000 of the Legal Service Population

69% of top libraries had high (above the median) Library Visits per 5,000 of the legal service population, compared with 62% of the middle and 17% of the bottom libraries.

Number of Virtual Visits Per 5,000 of the Legal Service Population

68% of top libraries had high (above the median) virtual library visits per 5,000 of the legal service population, compared with 58% of the middle and 13% of the bottom libraries.

Percent of Legal Service Population that are Registered Library Users

65% of top libraries had a high (above the median) percent of registered users for their legal service population, compared with 54% of middle and 30% of bottom libraries.

Number of Computer Uses Per Legal Service Population

65% of top libraries had a high (above the median) number of computer uses per capita (legal service population), compared with 62% of middle and 44% of bottom libraries.

Number of Public Internet Computers Per 5,000 of the Legal Service Population

65% of top libraries had a high (above the median) number of public internet computers per 5,000 of the legal service population, compared with 46% of middle and 35% of bottom libraries.

Municipal Library

23% of top libraries were municipal libraries, compared with 12% of middle and 4% of bottom libraries.

Percent of Legal Service Population with a Bachelor's Degree

69% of top libraries had a high (above the median) percent of residents with Bachelor's degrees, compared with 46% of middle and 44% of bottom libraries.

Population Density

62% of top libraries had a high (above the median) population density, compared with 46% of middle and 44% of bottom libraries.

Appendix 6: Difference of Means Test
Community college libraries

Key
- ●+ Positive relationship observed
- ●– Inverse relationship observed
- ○ No relationship observed
- N/A Not enough variation to perform test

Access Variables

	Academic Search Complete Use	MasterFILE Complete Use	Wall Street Journal Use	LearningExpress Library Use	SimplyMap Use
Direct Links to NC LIVE-Provided Resources (yes/no)	○	○	○	○	○
Links to the NC LIVE Website (yes/no)	N/A	N/A	N/A	N/A	N/A
Authenticate with a Password (yes/no)	○	○	○	○	○
Authenticate with a Local Proxy (yes/no)	○	●–	○	○	○
A to Z List (yes/no)	○	○	○	○	○
Discovery Service (yes/no)	N/A	N/A	N/A	N/A	N/A
Federated Search Service (yes/no)	N/A	N/A	N/A	N/A	N/A
Link Resolver (yes/no)	N/A	N/A	N/A	N/A	N/A
Chat Reference Box (yes/no)	○	○	○	●+	○
NC LIVE Search Box (yes/no)	○	○	○	○	○
Vendor Search Box (yes/no)	○	○	○	○	○
Mobile Library Website or App (yes/no)	○	○	○	○	●–

Collection Variables

	Academic Search Complete Use	MasterFILE Complete Use	Wall Street Journal Use	LearningExpress Library Use	SimplyMap Use
Number of Statistics Downloads from the NC LIVE Website (median=6.5)	○	○	○	○	○
Electronic Materials Expenditures Per Full Time Enrollment (median=.000, cut point=.001)	○	○	○	○	○
Electronic Serials Expenditures Per Full Time Enrollment (median=.000, cut point=.001)	○	○	○	○	○
Number of Electronic Reference Aggregated Sources Per 1,000 of Full Time Enrollment (median=29.87)	○	○	○	○	○

Awareness Variables

	Academic Search Complete Use	MasterFILE Complete Use	Wall Street Journal Use	LearningExpress Library Use	SimplyMap Use
Number of Promotional Items Requests (median=1)	○	○	○	○	○
Number of Help Desk Tickets (median=3)	○	○	○	○	○
Descriptive Text about NC LIVE (yes/no)	●–	○	○	○	○
Visited by NC LIVE Staff (yes/no)	N/A	N/A	N/A	N/A	N/A
NC LIVE Committee Representation (yes/no)	●+	○	○	●+	○
Staff Training for NC LIVE-Provided Resources (yes/no)	○	○	●+	○	○
Staff Training for Other Electronic Resources (yes/no)	○	○	○	○	○

Cases excluded where dependent variable values were more than two standard deviations away from the mean. Statistical significance calculated for .05 level.

Community college libraries

	Academic Search Complete Use	MasterFILE Complete Use	Wall Street Journal Use	LearningExpress Library Use	SimplyMap Use

Library Variables

Library Variables	Academic Search Complete Use	MasterFILE Complete Use	Wall Street Journal Use	LearningExpress Library Use	SimplyMap Use
Gate Count Per 1,000 of Full Time Enrollment (median=832)	○	○	○	○	○
Number of Librarians Per 1,000 of Full Time Enrollment (median=1.08)	○	○	○	○	○
Total Library Expenditures Per Full Time Enrollment (median=141)	○	○	○	○	○
Number of Information Services to Individuals Per Full Time Enrollment (median=2.07)	○	●+	○	○	○
Number of Circulation Transactions Including Reserves Per Full Time Enrollment (median=4)	○	○	○	○	○
Computer Hardware and Software Expenditures Per Full Time Enrollment (median=1.67)	○	○	○	○	○
Website Maintained Externally (yes/no)	N/A	N/A	N/A	N/A	N/A
Website Maintained Internally (yes/no)	○	○	○	○	○
Website Updates Easy (yes/no)	○	○	○	○	○
Staff Development Less than 1% of Library Budget (yes/no)	○	○	○	○	○
Mandatory Staff Development (yes/no)	○	○	○	○	●-
Optional Staff Development (yes/no)	N/A	N/A	N/A	N/A	N/A
Library Liaisons to Academic Departments (yes/no)	○	○	○	○	○
Embedded Librarians in Academic Courses (yes/no)	○	○	○	●+	○
Faculty-Initiated Questions and Consultations (yes/no)	●+	○	○	○	○
Improptu Faculty Visits to Library (yes/no)	N/A	N/A	N/A	N/A	N/A
Librarian-Initiated Engagement With Academic Departments (yes/no)	○	○	○	○	●+
Library Orientation Programs for Faculty Members (yes/no)	○	○	○	●+	○
Librarians Attend Faculty Meetings (yes/no)	●+	●+	●+	○	○
Information Literacy Classes Upon Faculty Request (yes/no)	N/A	N/A	N/A	N/A	N/A
Marketing Aimed at Faculty (yes/no)	○	○	○	●+	○

Community Variables

Community Variables	Academic Search Complete Use	MasterFILE Complete Use	Wall Street Journal Use	LearningExpress Library Use	SimplyMap Use
Total 12 Month Full Time Enrollment (median=2236)	●+	○	○	○	○
Information Literacy in Student Learning Outcomes (yes/no)	○	○	○	○	○
Graduation Rate (median=26.5)	○	○	○	○	○

Cases excluded where dependent variable values were more than two standard deviations away from the mean. Statistical significance calculated for .05 level.

Four-year college and university libraries

	Academic Search Complete Use	MasterFILE Complete Use	Wall Street Journal Use	LearningExpress Library Use	SimplyMap Use

Access Variables

	Academic Search Complete Use	MasterFILE Complete Use	Wall Street Journal Use	LearningExpress Library Use	SimplyMap Use
Direct Links to NC LIVE-Provided Resources (yes/no)	○	○	○	○	○
Links to the NC LIVE Website (yes/no)	○	○	●-	○	●-
Authenticate with a Password (yes/no)	●-	○	○	○	●-
Authenticate with a Local Proxy (yes/no)	●+	○	○	○	●+
A to Z List (yes/no)	N/A	N/A	N/A	N/A	N/A
Discovery Service (yes/no)	○	○	○	○	●+
Federated Search Service (yes/no)	●+	○	○	○	○
Link Resolver (yes/no)	○	○	○	○	●+
Chat Reference Box (yes/no)	○	○	○	○	○
NC LIVE Search Box (yes/no)	●-	○	○	○	●-
Vendor Search Box (yes/no)	○	○	○	○	○
Mobile Library Website or App (yes/no)	○	○	○	○	●+

Collection Variables

	Academic Search Complete Use	MasterFILE Complete Use	Wall Street Journal Use	LearningExpress Library Use	SimplyMap Use
Number of Statistics Downloads from the NC LIVE Website (median=8.5)	○	○	○	○	○
Electronic Materials Expenditures Per Full Time Enrollment (median=5.37)	○	○	○	○	○
Electronic Serials Expenditures Per Full Time Enrollment (median=67.19)	○	○	○	○	●+
Number of Electronic Reference Aggregated Sources Per 1,000 of Full Time Enrollment (median=41.82)	○	○	○	○	○

Awareness Variables

	Academic Search Complete Use	MasterFILE Complete Use	Wall Street Journal Use	LearningExpress Library Use	SimplyMap Use
Number of Promotional Items Requests (median=.5)	○	○	○	○	○
Number of Help Desk Tickets (median=3)	○	○	○	○	○
Descriptive Text about NC LIVE (yes/no)	○	○	○	○	●-
Visited by NC LIVE Staff (yes/no)	N/A	N/A	N/A	N/A	N/A
NC LIVE Committee Representation (yes/no)	○	○	○	○	○
Staff Training for NC LIVE-Provided Resources (yes/no)	○	○	○	○	○
Staff Training for Other Electronic Resources (yes/no)	○	○	○	○	○

Cases excluded where dependent variable values were more than two standard deviations away from the mean. Statistical significance calculated for .05 level.

Four-year college and university libraries

Key
- ●+ Positive relationship observed
- ●- Inverse relationship observed
- ○ No relationship observed
- N/A Not enough variation to perform test

Library Variables

Variable	Academic Search Complete Use	MasterFILE Complete Use	Wall Street Journal Use	LearningExpress Library Use	SimplyMap Use
Gate Count Per 1,000 of Full Time Enrollment (median=1522)	○	○	○	○	○
Number of Librarians Per 1,000 of Full Time Enrollment (median=2.66)	○	○	○	○	○
Total Library Expenditures Per Full Time Enrollment (median=464)	○	○	○	○	●+
Number of Information Services to Individuals Per Full Time Enrollment (median=1.32)	○	○	○	○	○
Number of Circulation Transactions Including Reserves Per Full Time Enrollment (median=8)	○	○	○	○	●+
Computer Hardware and Software Expenditures Per Full Time Enrollment (median=9.35)	○	○	○	○	○
Website Maintained Externally (yes/no)	N/A	N/A	N/A	N/A	N/A
Website Maintained Internally (yes/no)	○	○	○	○	●+
Website Updates Easy (yes/no)	○	○	○	○	●+
Staff Development Less than 1% of Library Budget (yes/no)	○	○	○	○	○
Mandatory Staff Development(yes/no)	○	○	○	○	○
Optional Staff Development (yes/no)	N/A	N/A	N/A	N/A	N/A
Library Liaisons to Academic Departments (yes/no)	○	○	○	○	●+
Embedded Librarians in Academic Courses (yes/no)	○	○	○	○	○
Faculty-Initiated Questions and Consultations (yes/no)	N/A	N/A	N/A	N/A	N/A
Improptu Faculty Visits to Library (yes/no)	N/A	N/A	N/A	N/A	N/A
Librarian-Initiated Engagement With Academic Departments (yes/no)	N/A	N/A	N/A	N/A	N/A
Library Orientation Programs for Faculty Members (yes/no)	○	○	●+	○	●+
Librarians Attend Faculty Meetings (yes/no)	○	○	○	○	●+
Information Literacy Classes Upon Faculty Request (yes/no)	N/A	N/A	N/A	N/A	N/A
Marketing Aimed at Faculty (yes/no)	○	○	○	○	●+

Community Variables

Variable	Academic Search Complete Use	MasterFILE Complete Use	Wall Street Journal Use	LearningExpress Library Use	SimplyMap Use
Total 12 Month Full Time Enrollment (median=2067)	○	○	○	○	●+
NCICU Institution (yes/no)	○	○	○	○	○
UNC Institution (yes/no)	○	○	○	○	○
Information Literacy in Student Learning Outcomes (yes/no)	○	○	○	○	○
Graduation Rate (median=28.5)	○	○	○	○	●+

Cases excluded where dependent variable values were more than two standard deviations away from the mean. Statistical significance calculated for .05 level.

Public libraries

	Academic Search Complete Use	MasterFILE Complete Use	Wall Street Journal Use	LearningExpress Library Use	SimplyMap Use

Access Variables

	Academic Search Complete Use	MasterFILE Complete Use	Wall Street Journal Use	LearningExpress Library Use	SimplyMap Use
Direct Links to NC LIVE-Provided Resources (yes/no)	●+	●+	○	●+	●+
Links to the NC LIVE Website (yes/no)	N/A	N/A	N/A	N/A	N/A
Authenticate with a Password (yes/no)	N/A	N/A	N/A	N/A	N/A
Authenticate with a Local Proxy (yes/no)	N/A	N/A	N/A	N/A	N/A
Authenticate with EasyOn (yes/no)	○	○	○	N/A	○
A to Z List (yes/no)	N/A	N/A	N/A	N/A	N/A
Discovery Service (yes/no)	N/A	N/A	N/A	N/A	N/A
Federated Search Service (yes/no)	N/A	N/A	N/A	N/A	N/A
Link Resolver (yes/no)	N/A	N/A	N/A	N/A	N/A
Chat Reference Box (yes/no)	○	●+	○	○	○
NC LIVE Search Box (yes/no)	○	○	○	○	○
Vendor Search Box (yes/no)	N/A	N/A	N/A	N/A	N/A
Mobile Library Website or App (yes/no)	○	○	○	○	●+

Collection Variables

	Academic Search Complete Use	MasterFILE Complete Use	Wall Street Journal Use	LearningExpress Library Use	SimplyMap Use
Number of Statistics Downloads from the NC LIVE Website (median=7)	●+	●+	●+	●+	●+
Collections Expenditures Per Legal Service Population (median=1.77)	○	●+	●+	●+	○
Collections Expenditures as a Percent of Total Operating Expenditures (median=9.61)	○	●+	○	●+	○
Number of Licensed Databases (median=60)	○	○	○	○	○
Electronic Materials Expenditures as a Percent of Total Operating Expenditures (median=.49)	●+	●+	○	●+	○

Awareness Variables

	Academic Search Complete Use	MasterFILE Complete Use	Wall Street Journal Use	LearningExpress Library Use	SimplyMap Use
Number of Promotional Items Requests (median=2)	○	○	●+	●+	○
Number of Help Desk Tickets (median=3)	●+	●+	○	○	●+
Descriptive Text about NC LIVE (yes/no)	○	○	○	○	○
Visited by NC LIVE Staff (yes/no)	N/A	N/A	N/A	N/A	N/A
NC LIVE Committee Representation (yes/no)	N/A	N/A	N/A	N/A	N/A
Staff Training for NC LIVE-Provided Resources (yes/no)	○	○	●+	○	○
Staff Training for Other Electronic Resources (yes/no)	●+	●+	○	○	○
Patron Instruction for Computer Skills (yes/no)	●+	●+	○	○	○
Patron Instruction for NC LIVE-Provided Resources (yes/no)	●+	●+	○	○	○

Cases excluded where dependent variable values were more than two standard deviations away from the mean. Statistical significance calculated for .05 level.

Public libraries

	Academic Search Complete Use	MasterFILE Complete Use	Wall Street Journal Use	LearningExpress Library Use	SimplyMap Use
Patron Instruction for Other Electronic Resources (yes/no)	●+	●+	○	●+	○

Library Variables

	Academic Search Complete Use	MasterFILE Complete Use	Wall Street Journal Use	LearningExpress Library Use	SimplyMap Use
Total Operating Expenditures Per Legal Service Population (median=18)	●+	●+	●+	●+	●+
Number of Virtual Visits Per 5,000 of the Legal Service Population (median=7855)	●+	●+	●+	●+	○
Number of Library Visits Per 5,000 of the Legal Service Population (median=15307)	●+	●+	●+	●+	○
Number of Reference Questions Per 5,000 of the Legal Service Population (median=2671)	○	○	○	○	○
Percent of Legal Service Population that are Registered Library Users (median=54)	●+	●+	○	○	○
Number of Librarians Per 25,000 of the Legal Service Population (median=3)	○	○	○	●-	○
Number of Computer Uses Per Legal Service Population (median=.8)	○	○	○	○	○
Number of Computer Uses Per Registered Users (median=1.4)	○	○	○	○	○
Number of Public Internet Computers Per 5,000 of the Legal Service Population (median=3.48)	○	○	○	○	○
Website Maintained Externally (yes/no)	N/A	N/A	N/A	N/A	N/A
Website Maintained Internally (yes/no)	○	○	○	○	○
Website Maintained Both Externally and Internally (yes/no)	○	○	○	○	○
DSL or Cable Internet (yes/no)	○	○	○	○	○
Fiber Optic Internet (yes/no)	○	○	○	○	○
Website Updates Easy (yes/no)	○	○	○	○	○
Staff Development Less than 1% of Library Budget (yes/no)	○	○	○	○	●-
Mandatory Staff Development (yes/no)	○	○	○	○	○
Optional Staff Development (yes/no)	N/A	N/A	N/A	●+	●+
Regional (yes/no)	○	○	○	●-	○
County (yes/no)	○	○	○	○	○
Municipal (yes/no)	N/A	N/A	N/A	N/A	N/A

Community Variables

	Academic Search Complete Use	MasterFILE Complete Use	Wall Street Journal Use	LearningExpress Library Use	SimplyMap Use
Legal Service Population (median=81380)	○	○	○	●+	○
Percent of Legal Service Population with a Bachelor's Degree (median=18)	●+	●+	●+	●+	●+
Population Density (median=177)	●+	●+	●+	●+	●+

Cases excluded where dependent variable values were more than two standard deviations away from the mean. Statistical significance calculated for .05 level.

Appendix 7: Regression Models and Output

Academic Libraries Regression Model

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.690[a]	.476	.398	3.880242	.476	6.128	12	81	.000

a. Predictors: (Constant), Discovery Service, Staff Training for NC LIVE-Provided Resources, Chat Reference Box, NCICU Institution, NC LIVE Committee Representation , Librarian-Initiated Engagement With Academic Departments, Electronic Materials Expenditures Per Full Time Enrollment, Mobile Library Website or App, Authenticate with a Local Proxy, UNC Institution, Total Library Expenditures Per Full Time Enrollment, Number of Librarians Per 1,000 of Full Time Enrollment

b. Dependent Variable: Academic Search Complete Use

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1107.213	12	92.268	6.128	.000[b]
	Residual	1219.559	81	15.056		
	Total	2326.772	93			

a. Dependent Variable: Academic Search Complete Use

b. Predictors: (Constant), Discovery Service, Staff Training for NC LIVE-Provided Resources, Chat Reference Box, NCICU Institution, NC LIVE Committee Representation , Librarian-Initiated Engagement With Academic Departments, Electronic Materials Expenditures Per Full Time Enrollment, Mobile Library Website or App, Authenticate with a Local Proxy, UNC Institution, Total Library Expenditures Per Full Time Enrollment, Number of Librarians Per 1,000 of Full Time Enrollment

Academic Libraries Regression Model (continued)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	4.135	1.520		2.721	.008	1.111	7.159		
	NCICU Institution	5.896	1.370	.547	4.304	.000	3.170	8.621	.400	2.499
	Total Library Expenditures Per Full Time Enrollment	-.006	.002	-.501	-2.906	.005	-.011	-.002	.218	4.590
	Number of Librarians Per 1,000 of Full Time Enrollment	.839	.598	.254	1.404	.164	-.350	2.028	.197	5.064
	Mobile Library Website or App	.086	.990	.008	.087	.931	-1.884	2.056	.781	1.280
	Electronic Materials Expenditures Per Full Time Enrollment	.005	.017	.030	.295	.768	-.028	.038	.633	1.581
	Staff Training for NC LIVE-Provided Resources	1.189	.857	.119	1.388	.169	-.515	2.894	.887	1.127
	Librarian-Initiated Engagement With Academic Departments	-1.086	1.163	-.080	-.934	.353	-3.400	1.227	.883	1.132
	NC LIVE Committee Representation	.310	.947	.028	.327	.744	-1.575	2.195	.853	1.172
	Authenticate with a Local Proxy	2.728	.976	.271	2.795	.006	.786	4.669	.688	1.453
	UNC Institution	2.942	1.455	.217	2.022	.046	.047	5.836	.564	1.772
	Chat Reference Box	-.368	.944	-.033	-.389	.698	-2.246	1.511	.898	1.114
	Discovery Service	.532	1.213	.049	.438	.662	-1.881	2.945	.510	1.959

a. Dependent Variable: Academic Search Complete Use

Public Libraries Regression Model

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.713[a]	.508	.438	31.627603	.508	7.240	8	56	.000

a. Predictors: (Constant), Number of Public Internet Computers Per 5,000 of the Legal Service Population, Number of Statistics Downloads from the NC LIVE Website, Chat Reference Box, Percent of Legal Service Population that are Registered Library Users, Direct Links to NC LIVE-Provided Resources, Authenticate with EasyOn, Patron Instruction for NC LIVE-Provided Resources, Percent of Legal Service Population with a Bachelor's Degree

b. Dependent Variable: Academic Search Complete Use

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	57941.254	8	7242.657	7.240	.000[b]
	Residual	56017.094	56	1000.305		
	Total	113958.348	64			

a. Dependent Variable: Academic Search Complete Use

b. Predictors: (Constant), Number of Public Internet Computers Per 5,000 of the Legal Service Population, Number of Statistics Downloads from the NC LIVE Website, Chat Reference Box, Percent of Legal Service Population that are Registered Library Users, Direct Links to NC LIVE-Provided Resources, Authenticate with EasyOn, Patron Instruction for NC LIVE-Provided Resources, Percent of Legal Service Population with a Bachelor's Degree

Public Libraries Regression Model (continued)

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	-20.451	18.147		-1.127	.265	-56.804	15.903		
Direct Links to NC LIVE-Provided Resources	18.702	8.694	.223	2.151	.036	1.285	36.118	.816	1.225
Percent of Legal Service Population with a Bachelor's Degree	1.179	.420	.299	2.808	.007	.338	2.021	.776	1.289
Number of Statistics Downloads from the NC LIVE Website	.786	.248	.312	3.166	.002	.289	1.284	.906	1.103
Patron Instruction for NC LIVE-Provided Resources	13.535	8.465	.160	1.599	.115	-3.423	30.492	.876	1.142
Authenticate with EasyOn	1.163	10.758	.011	.108	.914	-20.388	22.713	.883	1.132
Chat Reference Box	11.172	8.445	.128	1.323	.191	-5.746	28.089	.944	1.060
Percent of Legal Service Population that are Registered Library Users	.266	.133	.192	1.997	.051	-.001	.532	.953	1.049
Number of Public Internet Computers Per 5,000 of the Legal Service Population	.647	.774	.083	.837	.406	-.902	2.197	.892	1.122

a. Dependent Variable: Academic Search Complete Use