

Trends in Library Collection Circulation in Spanish Universities

The Case of the University of León

Blanca Rodríguez-Bravo and
Francisco Rodríguez-Sedano

This research analyzes the circulation of materials at the University of León Library to determine the evolution of the circulation data, identify the main users of the collection, to determine the periods of greater and lesser usage of the collection, and to identify the document types that are most often borrowed. To do so, circulation statistics from the library's Innopac Millennium ILS from the 2011–12 to the 2013–14 academic year were studied. The results show that the use of print collections is decreasing due to the abundance of electronic content to which the university library subscribes.

Evaluating academic library collection usage is an ongoing concern. Despite this, very few studies analyze collections on a large scale and exploit the usage data available in checkout or download figures. The analysis of collection usage has been fostered by the automation of library procedures and by the integration of electronic content into traditional collections. The greater data availability constitutes unquestionable progress and its subsequent analysis allows for informed decision making concerning the development of the collections.

It is easier to obtain usage data for electronic formats than for print collections. Statistics on electronic content sessions, views, and downloads have enabled a more refined approximation of user needs and priorities. This data has been used to develop a type of analysis that has come to be known as usage bibliometrics, the greatest exponent of which has been the CIBER group led by Nicholas.¹

Download statistics, citation analyses, log files, and surveys have demonstrated the progressive migration from paper to electronic format. Brady, McCord and Galbraith indicated that 94 percent of all journals are used in digital format.² In a research report from the University of Barcelona prepared by Borrego, Barrios and García, based on surveys of researchers at Catalan universities, 91 percent of those surveyed stated they exclusively (31 percent) or mainly (60 percent) used electronic journals (e-journals).³

The development of the electronic book (e-book) sector has not affected the usage of print monograph collections as much as predicted, although university libraries have increasingly included e-book collections in their offerings, as observed throughout Spain.⁴ In general, circulation studies of monographic collections at university libraries conducted in recent years make it clear that the usage of print collections drops as university libraries increase their investments in the acquisition of e-resources.⁵

Blanca Rodríguez-Bravo (blanca.rodri-
guez@unileon.es) is a Professor in the
Department of Library and Information
Science, University of León in Spain. **Fran-
cisco Rodríguez-Sedano** (fjrods@unile-
on.es) is an Assistant Professor at the Uni-
versity of León in Spain.

Manuscript submitted October 1, 2015;
returned to authors for revision Decem-
ber 1, 2015; revised manuscript sub-
mitted January 13, 2016; returned to
authors for minor revision March 25, 2016;
revision submitted April 7, 2016; accept-
ed for publication May 31, 2016.

Previous research completed by the University of León's (ULE) CONDOR (Organization and Use of Digital Contents) Research Group focused on the usage, behavior, preferences and satisfaction levels of the academic communities at universities in northwestern Spain and Portugal with respect to e-journals.⁶ Their findings confirm that e-journals are mostly used for research-related tasks, a common trend observed in much of the literature.

Also exemplifying this phenomenon is the work of Tenopir and King, which indicates that 75 percent of users prefer e-journals for research purposes versus the 41 percent who prefer using them for teaching.⁷ According to Dilek-Kayaoglu, 67.5 percent of users favor e-journals for research purposes.⁸ The aforementioned report from the University of Barcelona states that 68 percent of those surveyed consult journals primarily for research purposes, whereas the remaining 31 percent cite a balance between research and teaching purposes.⁹

We believe it is time to complement these approximations of the usage of electronic collections with an analysis of circulation or borrowing data for tangible documents. It is our belief that these documents, mainly books, are still used extensively for teaching and research purposes. These are the sources most often used by students, the largest group in the academic university community.

We have found that books are the dominant resources included on the reading lists for the subjects comprising eleven University of León degree programs analyzed for the 2013–14 and 2014–15 academic years. The data may be extrapolated from other universities given that the situations at the University Carlos III in Madrid and the University of Salamanca have been verified as similar. The percentage of electronic resources on the reading lists provided on course syllabi is still very low, and remains below 5 percent of the total at all three of these universities.¹⁰

Based on responses from 499 American university library directors, the 2013 Ithaka report shows a change in library priorities with the focus now on students' training in information skills rather than supporting faculty research.¹¹ In 2013, 97 percent of university library directors stated that offering information skills training was a priority. Only 68 percent believed supporting research was "very important," while in 2010, 85 percent considered it a priority. The report argues that university libraries are becoming more aligned with students' education and that this change may be reflected in the rest of their functions. The studies conducted by the CONDOR group focused on the use of e-resources, mainly journals, which are aimed more at researchers than students.

The intent of this work is to identify the main trends in collection usage. The study was done by compiling data from the University of León Library's circulation module to determine the critical factors that affect the actual usage of the

content available for borrowing; how the borrowing service is evolving in view of the competition offered by electronic formats, identifying the main users, determining the types of documents they use, and determining the periods during which the borrowing service is used the most and the least. These data are contrasted with those available from downloads of the collection of e-resources, e-books, and e-journals to which the University of León subscribes.

Much of the professional literature published to date regarding circulation consists of case studies that are meaningful if done in a systematic and longitudinal way as valid conclusions may be drawn from them. Studies of a broader scope have been conducted in recent years. Such is the case of the study commissioned in 2010 by the Cornell University Library to analyze the use of the library's print monographs.¹²

More recently and in the context of the OhioLINK consortium, Gammon and O'Neill and O'Neill and Gammon analyzed borrowing data from the eighty-nine university libraries in the consortium, which serves more than 600,000 users.¹³ The results show how borrowing rates vary depending on the subject, language, institution, and age of the materials. The results of the analysis also demonstrate an extraordinary checkout concentration. Specifically, 80 percent of all checkouts were from about 6 percent of the collection.

The high usage of certain journal titles, the differences in the number of downloads at the respective institutions, and the disparity of scientists' behavior in various disciplines have been recorded in studies of e-journal usage statistics from the main Big Deals for various universities in the Spanish northwest and the previously mentioned surveys conducted at Spanish and Portuguese universities by the CONDOR Research Group. For future work, we would like to further investigate these aspects regarding the components of the owned and/or accessible collection at the University of León. As Bullis and Smith point out, libraries have been primarily concerned with digital resources use in recent years, but library collections still contain many other materials whose use must be also assessed.¹⁴

Objectives and Methods

The general objective of this research is to determine the circulation of the materials available in ULE libraries.

The specific objectives are

- to establish trends in circulation data and determine whether borrowing has been affected by the availability of e-resources in the collection;
- to identify the main users of the resource collection available for borrowing;

- to determine the periods of greater and lesser use of the circulating collection;
- to identify the resource types most often circulated; and
- to ascertain the preferences of various user groups (students, faculty, and administrative and services staff).

Circulation files were obtained from the Innopac Millennium ILS for the academic years 2011–12 to 2013–14. Monthly checkout files were organized

- by user type, taking into consideration the three main groups comprising the university community (students, faculty, and administrative and services staff); and
- by material type, distinguishing between textbooks and recommended reading, monographs, theses and end-of-degree projects, journals, special formats (CDs, audio, video), reference works, cartographic materials, and special collection materials.

The volume of circulation was correlated with the academic community member statistics obtained from the Castilla y León Basic Data on the University System for the 2013–14 academic year.¹⁵ Also included in the data are download statistics for subscription e-resources. The intent was to provide an overall view of the University of León community's needs. Download and borrowing data were correlated with the total figures for the available and/or accessible collection to determine a first approximation of the relative circulation volume at the University of León library.

The data were extracted from the Rebiun statistical annuals.¹⁶ Rebiun is the Spanish University Library Network. Rebiun comprises the libraries of seventy-six universities (fifty public and twenty-six private) and the Spanish Higher Council for Scientific Research (CSIC). Its mission is to lead, coordinate, and provide guidelines to university and scientific libraries to foster cooperation and joint projects.

Rebiun compiles a statistical annual report of the most significant data on the activities of Spanish university libraries and publishes them on its website. The most recent report available is for 2012. To find the download data for e-resources in 2013 and 2014, the researchers used the reports prepared in 2014 and 2015 by the University Library's Electronic Resources Unit.¹⁷

The researchers compared the data with those extracted from the analysis of the reading lists found on the syllabi of subjects comprising a significant sample of the degree programs offered at the University of León: Bachelor's in Business Management; Law; Economics; Information Science; Electrical Engineering; Electronic, Industrial and Automation Engineering; Energy Engineering; Computer

Engineering; Mechanical Engineering; Labor Relations and Human Resources; and Veterinary Science.¹⁸

Results and Discussion

The University of León Collection

The University of León is a public university founded in 1979–80.¹⁹ It is a medium-size university that offers mainly social sciences and technical sciences studies. These degree programs have the largest enrollments. However, the natural and health sciences departments have more faculty members and the most active research.

The authors began their analysis with the library collection data contained in the 2012 *Rebiun Annual*, which was the most recent edition available when this paper was written. See table 1 for an illustration of how all the university library resources are itemized.

The *Rebiun Annual* reveals that resource expenditures dropped 15 percent between 2010 and 2012, a trend that has continued and is related to the decrease in the total library and university budgets. As shown in table 1, 85.75 percent of the available collection in 2012 was composed of print monographs. All Spanish universities have in common a high percentage of print monographs.

However, monographic expenditures decreased from 34 percent in 2010 to 23 percent in 2012. The number of newly acquired print monographs was 14,731 in 2011 and 11,562 in 2012, which accounts for an increase of 3.11 percent and 2.44 percent respect to 2010. Purchases of audiovisual resources increased in 2012 by 5.03 percent versus the 7.65 percent recorded in 2011.

In 2010, the *Rebiun Annual* reported 486,028 monographic items in Spanish university libraries. This total, compared to the total number of monographs in 2012, shows how the collection has decreased. The same circumstances apply to print journals. In 2010, the current journals collection totaled 3,998 titles. There were 3,533 in 2011 and 3,343 in 2012. It is worth noting the progressive decline in the journals collection, a drop that is the result of contracting the main Big Deals by the ULE, a process that began a decade ago. The University of León maintains its subscriptions to various e-resources packages. The main packages are Big Deals offered by Elsevier (ScienceDirect), and Springer (SpringerLink). Both provide access to e-journals and e-book collections.

The e-journal offerings are complemented by content found in the Wiley Online Library. This vendor provided access to e-books during the first semester of 2014. Likewise, contracts have been signed for Emerald and JSTOR packages. Until 2014, there was also a subscription to IEEEExplorer, but this package was eliminated because of recent budget cuts.

Table 1. 2012 University Library collection data

Collection	Total	Percent
Print monograph titles	484,093	85.75
Audiovisual monograph titles	9,953	1.76
Print journals titles	11,167	1.98
Non-book materials	23,637	4.19
Documents prior to 1900	3,629	0.64
Paid or licensed electronic monographs	10,280	1.82
Paid or licensed journals	19,840	3.51
Own electronic open-access resources	1,940	0.34
Total	564,539	100.00

Other e-resources packages available include ABI/inform, Annual Reviews, American Society for Microbiology, Iustel, Periodical Archives Online, and Sportdiscus. With respect to the e-book collections, the offering is limited to some collections from Netbiblo and Literature on Line. In addition to this content are those available through the Buleria institutional repository, which is listed in the last row of table 1. According to Rebiun, Spanish university libraries are spending approximately 50 percent of their budgets on e-resources, and this situation was observed for the University of León.

The 2013 Ithaka Report also noted a drop in expenditures for print journals subscriptions and an increase in subscriptions to e-journals and databases.²⁰ The librarians surveyed believe that this trend will continue, as the electronic format is well adapted to users' need to obtain content as soon as possible. Regarding e-books, it seems that academics value them more than librarians. More than half of the faculty surveyed stated that e-books play a significant role in research and teaching. However, just over 20 percent of librarians share this opinion.

Borrowing and User Data by Academic Year

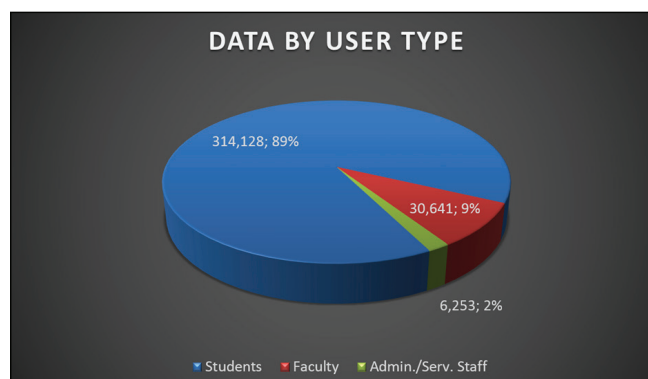
Data provided by the regional government of Castilla y León in relation to the University of León Academic Community, which can be observed in table 2, show that there has been a significant drop in the number of workers over the last few academic years. However, there was an increase in student enrollment during the 2014–15 academic year, which increased the total user data (see figure 1).

Total borrowing activity shown in the figure demonstrates that most of the circulation activity is from students, followed by faculty, and lastly administrative and services staff. The total number of student checkouts is ten times greater than those by faculty.

Table 3 shows there was a significant drop in borrowing between the first semester of 2011 and the last semester

Table 2. University of León academic community data

	2011-12	2012-13	2013-14	2014-15
Students	13,755	13,106	12,895	13,411
Faculty	936	930	854	854
Administrative and Services Staff	543	526	514	499
Total	15,234	14,562	14,263	14,764

**Figure 1.** Circulation data by user type

of 2014, with a decrease of more than 10,000 transactions. The sharpest drop is observed between the first and second semesters of the 2011–12 academic year. The authors believe it is worth analyzing the relative use by determining the borrowing ratios of users in the three groups that comprise the university community.

Table 4 shows that faculty use the borrowing services most and administrative and services staff use them least. The teaching and research work of academics explains their above-average position in each of the semesters analyzed. However, the ratios seem to be rather moderate, which may be explained by the abundant availability of e-resources.

Student circulation ratios are small and support the faculty's opinion that their students do not actively use their reading lists. This is despite the fact that the European Higher Education Area (EHEA) system (also known as the Bologna system) fosters ongoing assessment and reading, research, etc., and has placed an emphasis on providing students with tools for independent learning. Circulation activity in the first semester is higher than in the second semester with the single exception of student checkout data in the 2013–14 academic year (see tables 3 and 4). Before concluding this section, we believe it is appropriate to present electronic collection usage data that reflect the trend in information usage by the University of León academic community.

Since 2012, the number of e-books accessible from the library has slightly increased to 11,903 volumes in 2014,

Table 3. Circulation data by user type

	2011-12		2012-13		2013-14	
	1st Semester	2nd Semester	1st Semester	2nd Semester	1st Semester	2nd Semester
Students	58,421	51,805	52,132	51,389	50,074	50,307
Faculty	6,190	4,988	4,866	4,731	5,013	4,853
Admin/Serv. Staff	1,832	963	1,115	992	749	602
Total	66,443	57,756	58,113	57,112	55,836	55,762

Table 4. Circulation/user ratios

	2011-12		2012-13		2013-14	
	1st Semester	2nd Semester	1st Semester	2nd Semester	1st Semester	2nd Semester
Students	4.24	3.76	3.97	3.92	3.88	3.90
Faculty	6.61	5.32	5.23	5.08	5.87	5.68
Admin/Serv. Staff	3.37	1.77	2.11	1.88	1.45	1.17
Average	4.36	3.79	3.99	3.92	3.91	3.90

Table 5. Download of electronic resources and user/rates

	2011	%	2012	%	2013	%	2014	%
E-books chapters	-	-	-	-	15,550	1.09	256,792	17.39
E-journals	-	-	-	-	90,117	6.31	160,783	10.89
Total	105,709	6.93	135,553	9.30	105,567	7.40	417,575	28.28

according to the report drafted by the University of León Electronic Resources Unit.²¹ The availability of Springer e-books in 2014 largely explains this increase. In contrast, the volume of e-journal subscriptions has decreased slightly to a total of 12,050 titles in 2014. This drop is primarily the result of the 2014 IEEE Explorer cancellation. The library has no separate e-book and e-journal download data for 2011 or 2012. The authors also examined the download ratios by user (see table 5).

There was a significant increase in the use of e-resources in 2014 as compared with the previous years, which may be partly because of the significant increase in the number of students in the 2014–15 academic year. The greatest increase is observed in the use of book chapters and e-books, which are the resources used most by students, the largest category of users within the university community. The expansion of the collection in 2014 was also a factor in increased use. Moreover, we believe that the current collection better suits the university community's interests and needs, and that the library staff has done considerable work in the last year to promote the available e-resources, which has stimulated interest in using them. The download ratio for the e-resources shown in table 5 substantially exceeds the circulation ratios for traditional documents.

A report prepared by the University of León Electronic Resources Unit in May 2014 offers data on the access by user type in 2013: students (70.01 percent), faculty (26 percent), and administrative and services staff (3.99 percent). Given that the number of students was between fourteen and fifteen times higher than the number of faculty during the 2013–14 and 2014–15 academic years, the data confirm that the latter use e-resources most extensively, as is the case for other types of library resources.

Total Monthly Borrowing Data by User Type and the Relationship with the Figures for Each Group

Figures 2–7 show the monthly borrowing distribution by user type. The number of students was reduced to enable a joint comparison of the three strata. The graphic representation by semesters shows the usage trends of the borrowing service by users and displays significant differences between the groups. August was not considered given the limited activity during this period when university schools and libraries remain closed for fifteen days. In contrast, the data for February were used in both semesters as it is a period of transition between the end of the first semester and the beginning of the second.

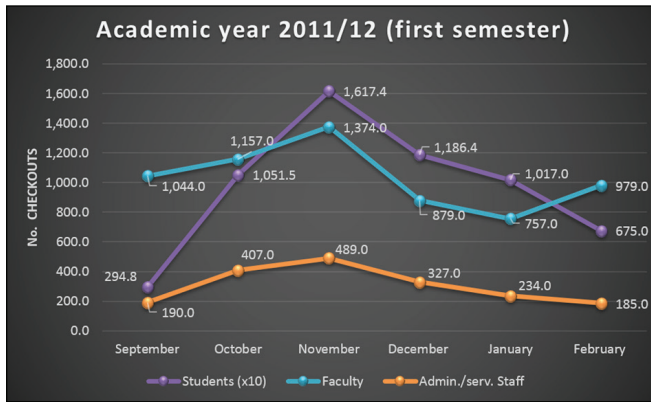


Figure 2. Data from the first semester of the 2011/12 academic year, by user type

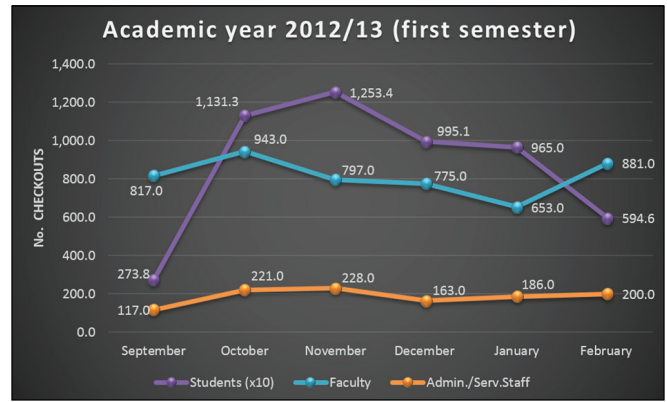


Figure 3. Data from the first semester of the 2012/13 academic year, by user type

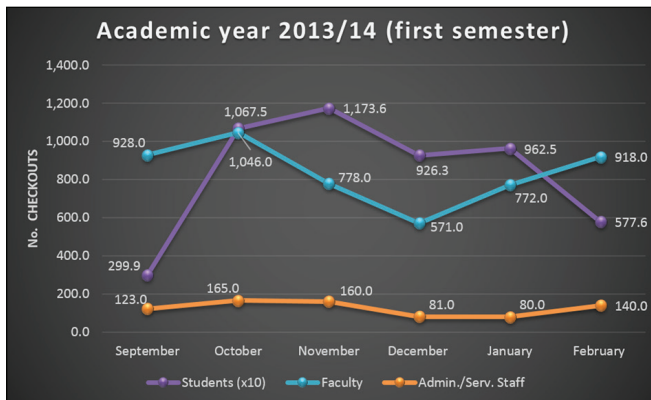


Figure 4. Data from the first semester of the 2013/14 academic year, by user type

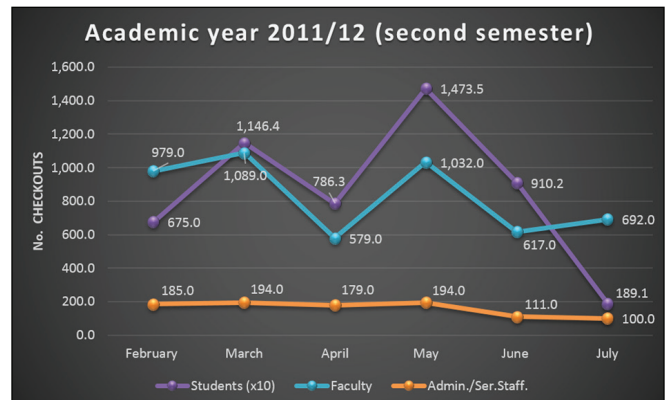


Figure 5. Data from the second semester of the 2011/12 academic year, by user type

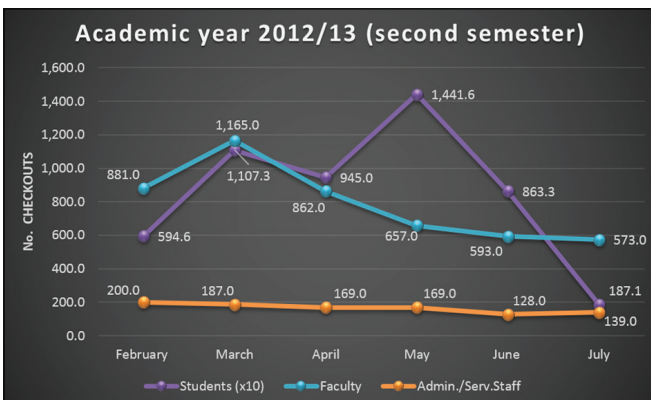


Figure 6. Data from the second semester of the 2012/13 academic year, by user type

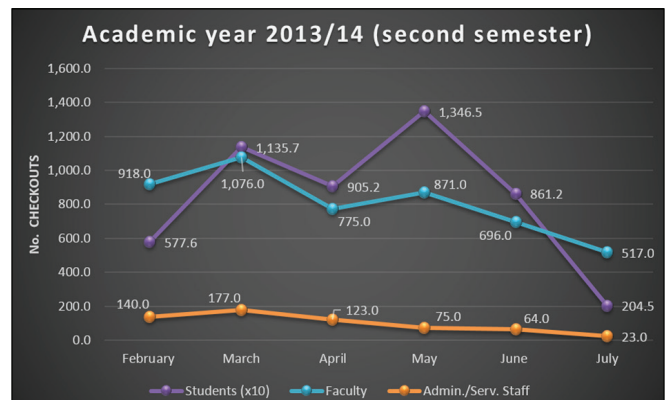


Figure 7. Data from the second semester of the 2013/14 academic year, by user type

Regarding the first semester, the authors observed that the most intense period of use is in October and November. For faculty, October is when the borrowing service is most

often used and corresponds to the start of the academic year. November is the period of greatest activity for students. This is when they must begin the work assigned from the

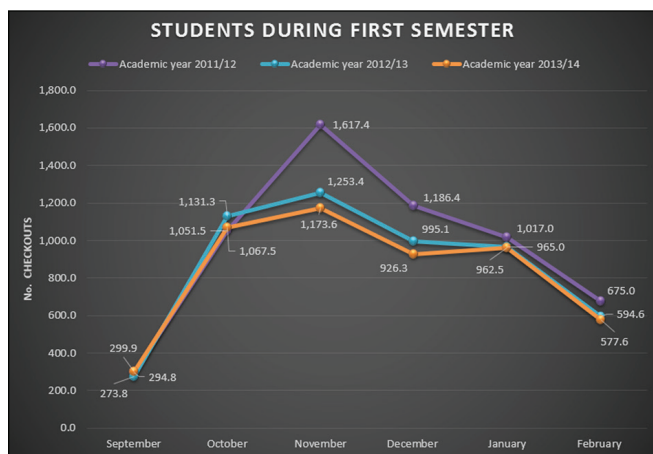


Figure 8. Data on students during the first semester of all academic years

start of the course in September and begin studying for final exams, the first session of which is held in January and the second in February.

The month with the least activity is December, a time of rest and when the University has closed its facilities in recent years. The schools and library were closed for approximately fifteen days between December 19–22 and January 7–8.

The information for faculty in the figures shows an increase during the months of January and February, which the authors believe is related to the preparation of instructional materials for the second term and a period of greater research activity considering that there are four weeks of no teaching activity during January and February.

The information in the figures that corresponds to administrative and services staff also shows higher borrowing activity during the first few months of the semester. This is especially true during October and November. The end of the summer holiday often coincides with an initial study phase and greater activity in general.

Figures 5–7 and 9 showing checkout activity during the second semester demonstrate significant parallels between student and faculty usage during the first and last academic years analyzed. A considerable increase was observed during March and a notable peak during May, when it is time to prepare second term exams, the ordinary session for which is held in the month of June. The decreased activity recorded during April is related to the inactivity during the Holy Week break period which often falls during this month.

There is a sharper drop in borrowing by students after June. In comparison, the decline is not as steep for faculty. With the implementation of the EHEA system, the academic year has been extended to include most of July, which is when the second exam session for the second semester takes place. Borrowing by administrative and services staff are higher during the first few months of the semester. This

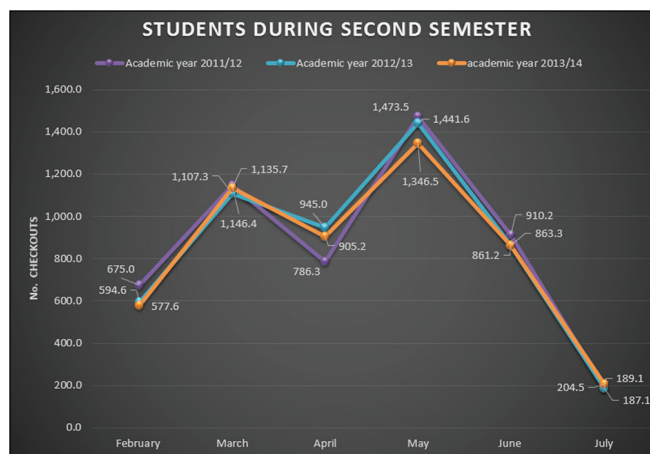


Figure 9. Data on students during the second semester of all academic years

did not strike the authors as odd, given the well-known fact that students begin each year with good intentions. The total number of checkouts by students during the three academic years analyzed, distributed by semesters appear, are provided in figures 8 and 9.

Observing the distribution of checkouts for the academic years studied shows that there are months of considerable activity that correspond to exam preparation periods. The parallel usage by month during the years analyzed is remarkable in both semesters with greater activity during the 2011–12 academic year than in the two following years. The authors believe this is related to the growth of the e-resource collection and a progressive drop in the number of students during the years analyzed. However, this circumstance is more noteworthy in the first semester than in the second.

Borrowing Data by Material Type

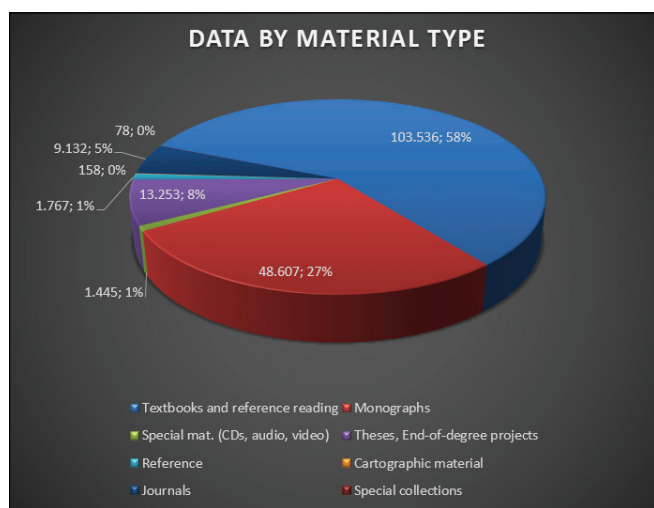
The circulation figures broken down by material type make it possible to establish which resources can be considered essential for learning, teaching, and research (see table 6 and figure 10).

The authors note that the taxonomy used to classify the materials is not the most adequate. Reference materials were combined with textbooks and are mostly comprised of monographs that are, however, considered in a separate section.

When considering the borrowing trends by material type, the predominance of textbooks and monographs is notable. However, it must be taken into account that some of the resources recorded in other categories have not traditionally circulated; rather, their use has been limited to reading rooms, as is the case for theses and end-of-degree projects, reference works, cartographic material, special

Table 6. Overall data by material type

	2011–12 Academic Year	2012–13 Academic Year	2013–14 Academic Year
Textbooks and reference reading	35,185	34,904	33,447
Monographs	15,880	16,154	16,573
Special mat. (CDs, audio, video)	398	314	733
Theses, End-of-degree projects	5,181	4,573	3,499
Reference	627	586	554
Cartographic material	82	45	31
Journals	3,401	2,851	2,880
Special collections	30	27	21

**Figure 10.** Overall data by material type

collections, and print journals.

Analysis of the basic and supplementary reading lists shows that faculty recommend that their students consult textbooks, monographs, and reference works, mainly in print (as opposed to electronic), and other documents such as journal articles, book chapters, and research papers. The authors report that books constitute more than 70 percent of the total references suggested in each of the degree programs, exceeding 90 percent in four of the degree programs analyzed, revealing considerable homogeneity in the selection of resources. This does not prevent faculty from recommending more specific reading throughout the course during classes.

Circulation data for the different document types by user type is presented below. It was not possible to provide the figures for the 2011–12 academic year as these data are not available in the Millennium circulation module. The data are not presented by semesters because the differences in those years are not significant. As can be observed in tables 7 and 8, nine user types were differentiated in the

circulation module. The three sectors of the academic community—faculty, students, and administrative and services staff—are the primary collection users. The section labelled “external users” includes former students who are preparing to take government employment exams. Tables 7 and 8 show how textbooks, monographs, theses, and other academic papers, journals, music, and film and reference works are the resource types most commonly checked out by the academic community.

Students typically borrow textbooks and monographs, which are the resources most recommended on class syllabi. In addition, students in doctoral programs or who are finishing their master’s and bachelor’s degrees also use doctoral theses and end-of-degree master’s and bachelor’s papers. Journals, reference works, and audiovisual materials are also well represented among these users’ checkouts. There was an increase in the number of checkouts for audiovisual resources during the 2013–14 academic year and a decrease in the use of academic works. These data suggest that faculty mostly borrow monographs followed by textbooks, journals, and reference works. The data for both academic years are quite similar.

Administrative and services staff also prefer monographs and textbooks. The checkout data for these two resource categories were higher in the 2012–13 academic year than in the 2013–14 academic year. Journals were the third-most borrowed resource during the first of these academic years whereas audiovisual materials, music, and films were borrowed most during the following academic year.

Conclusion

The number of resources available in relation to the number of potential users seems adequate. The ratio is 37.05 resources per user during 2011–12 and 38.76 during 2012–13. The collection of traditional materials has scarcely increased in recent years due to the University of León’s reduced budget.

Table 7. Data by user and material type during the academic year 2012-13

User Type	Textbooks and Reference Reading	Monogr.	Special Mat. (CDs, audio, video)	Theses, End-of-Degree Projects	Refere.	Cartogra. Material	Journals	Special Collections
Students	31,532	11,745	177	4,441	412	42	1,700	1
Library	142	170	7	20	0	1	11	1
Inquiry Room	3	8	0	57	0	0	2	0
My Millennium	0	8	5	0	0	0	0	0
Admin./Serv. Staff	382	566	15	21	21	0	77	1
Faculty	2,485	3,072	67	19	152	0	965	22
Interlibrary Loan	11	139	2	5	0	2	29	2
External Users	338	377	40	10	0	0	67	0
Temporal Users	11	69	1	0	1	0	0	0
Total	34,904	16,154	314	4,573	586	45	2,851	27

Table 8. Data by user and material type during the academic year 2013/2014

User Type	Textbooks and Reference Reading	Monogr.	Special Mat. (CDs, audio, video)	Theses, End-of-Degree Projects	Refere.	Cartogra. Material	Journals	Special Collections
Students	30,064	12,026	476	3,317	396	30	1,606	7
Library	104	217	19	30	0	0	62	0
Inquiry Room	4	2	0	26	0	0	4	0
My Millennium	240	268	18	23	9	1	50	0
Admin./Serv. Staff	166	164	152	14	6	0	18	0
Faculty	2,528	3,074	32	47	140	0	1,043	14
Interlibrary Loan	11	281	7	4	0	0	22	0
External Users	317	532	28	38	3	0	73	0
Temporal Users	13	9	1	0	0	0	2	0
Total	33,447	16,573		3,499	554	31	2,880	21

It is worth noting that print subscriptions are being cancelled because of the abundance of content available through the electronic subscriptions that the university libraries have made available for a decade. In 2012, the University of León canceled 7,824 of its 11,167 print journal subscriptions, and only 3,343 remain. The decrease in the print collection has been offset by e-journal subscriptions.

Collection circulation does not seem high. Faculty borrow the greatest number of resources. The Fesabid report, coordinated by Gómez Yáñez, states that the number of checkouts per user in academic libraries was 9.7 in 2010.²² This figure is higher than the one found in the current study, which ranges between 3.79 and 4.36.

The greatest period of activity is during October and November, in the first semester, and March and May, in the

second semester. Data on student borrowing reveals that students use the library uniformly throughout the academic year, which the authors believe is related to the fact that the learning system is not limited to evaluations based solely on three final exams a year. Ongoing assessment plays an important role and occurs throughout the academic year. For print collections, checkouts are dominated by books, both textbooks and monographs, which continue to make up the core of the basic reference reading list recommended to students for their courses.

The university community appears to use e-resources in a way that more accurately reflects the university libraries' expenditures on digital content. More intensive use of e-resources than print has been observed. The authors believe the recent e-book package subscriptions from Elsevier and Springer have been a factor in the increase in downloads seen in 2014. Further, evidence does not suggest that e-books are used for teaching purposes given that they are rarely listed on course syllabi.²³ The main use of e-journals is linked to research by the faculty and master's and doctoral students.

Future work will focus on determining circulation by subject and the degree of dispersion and concentration of use. The ultimate goal is to determine the extent to which the collection adequately meets the university community's needs. Further studies may focus on the collection coverage to detect gaps by analyzing the over-use of some materials and interlibrary loan requests. It would be useful to identify items or materials that receive little or no use so they can be transferred to storage because of low use.

These data support the preparation of guidelines for grounded purchase decision-making, which is in line with each institution's needs and the group of universities in the region. These studies may be of interest at other universities to facilitate cooperative collection development, mainly for those institutions comprising the BUCLE Consortium.²⁴ BUCLE, the Consortium of University Libraries of the Castilla y León Region, consists of the university libraries in Burgos, León, Salamanca, and Valladolid. Its purpose is to establish cooperative agreements for the joint acquisition and development of the collections, technological updates, and other organizational activities. One of the main results of this cooperation is that ideally all academic libraries in the region will have similar subscriptions to e-collections.

The Fesabid report noted that Spanish librarians are critical of the investment made in library budgets and believe that many information resources and costly subscriptions were contracted during the first decade of the twenty-first century—a period of economic abundance—without any prior analysis of their potential use by researchers.²⁵ E-resource collections are too expensive to be acquired without a prior thorough evaluation. Likewise, investment in print materials and other types of resources should be shared by libraries in a regional or national basis.

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