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Interlibrary loan article use and user GPA: Findings and implications for library services

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Interlibrary loan article use and user GPA: Findings and implications for library services

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Abstract:

A recent institutional study at the University of Wisconsin –Green Bay investigated the academic achievement of interlibrary loan (ILL) users as compared to non-ILL users. While this study provided important local insight into ILL use and the demographics of ILL users (class rank, major), it uncovered a rather minor overall GPA difference, .20 GPA points, between ILL users and non-ILL users. However, within this data was an interesting subset that once thoroughly investigated, provided rich details about ILL article use, the users who rely on ILL for articles and the GPA differences between users' across the spectrum of ILL article use. The resulting analysis compares users who use ILL for a large number of articles, those who use ILL for a medium number of articles, those who use ILL for a small number of articles and those who do not use ILL. Takeaways from the data presented should provide libraries and practitioners with a greater understanding of ILL article use, its role in user information seeking behaviors, its correlational effect on student academic achievement, and for whom--ILL article users--libraries are incurring the high cost of articles through ILL.

*Keywords:* interlibrary loan, ILL, GPA, academic achievement, articles, Document Delivery

## Interlibrary loan article use and user GPA: Findings and implications for library services

### **Introduction:**

A recent institutional study at the University of Wisconsin – Green Bay investigated the academic achievement of interlibrary loan (ILL) users as compared to non-ILL users. While this study provided important local insight into ILL use and the demographics of ILL users (class rank, major), it uncovered a rather minor overall GPA difference, .20 GPA points, between ILL users and non-ILL users. However, within this data was an interesting subset that once thoroughly investigated, provided rich details about

ILL article use, the users who rely on ILL for articles and the GPA differences between users' across the spectrum of ILL article use. The resulting analysis compares users who use ILL for a large number of articles, those who use ILL for a medium number of articles, those who use ILL for a small number of articles and those who do not use ILL. Takeaways from the data presented should provide libraries and practitioners with a greater understanding of ILL article use, its role in user information seeking behaviors, its correlational effect on student academic achievement, and for whom--ILL article users--libraries are incurring the high cost of articles through ILL.

### **Methodology and design:**

This study collected the GPA, class standing, and department of study for the students who attended UW-Green Bay from 01/01/2010-12/31/2011. The following data was extracted from the Cofrin Library's ILLiad software, which manages all aspects of ILL: student ID number, total number of ILL requests between 01/1/2010 and 12/31/2011, and type of ILL request (article or loan). This data includes all article requests placed. Of these, 13% were unfilled by the ILL department and 6% were filled through document delivery, or were requests for journals that were a part of the Cofrin Library collection. GPA, department of study and year in school was extracted from the university's Student Information System (SIS) and merged with the ILL data. All of the student specific data was captured at the end of the period of analysis, 12/31/2011. In order to obtain this data and maintain the anonymity of the students, the researcher was only given the institutional identification numbers of the students that placed interlibrary loan request during this time period. Once the data were merged, the institutional id numbers were removed and the data were returned to the primary researcher. The data for this analysis consisted of averaging the GPA of ILL users and non-users and then averaging the GPA of users by the type of ILL request they placed and the number of article requests placed.

### **Local ILL use: Demographics**

The original design of this study was to take a broad look at ILL use and see what GPA differences existed between ILL users and non-users and even though this study narrows in on a subset of ILL users, article users, some of the overall findings provide an accurate glimpse into the ILL user demographics at UW-Green Bay. Overall, the study found that 19% of the student population used interlibrary loan during this period and interlibrary loan use increased as students progressed through the university: 12% of freshman used ILL, 16% of sophomores, 22% of juniors, and 27% of seniors. ILL use also varied within academic disciplines: 39% of social science majors, 32% of humanities majors, 27% of natural science majors and 22% of arts and communication majors. ILL use also spiked for upper level students in certain academic disciplines: 41% of junior social science students, 46% of senior social science students, 38% of senior humanities students and 35% of senior natural science students. Academic disciplines vary in required coursework and in emphasis on the types of materials that a student would need to acquire through ILL, therefore, we see greater percentages in the disciplines that require research projects that include an investigation of current academic works, which most commonly takes the form of articles published in academic journals.

### **UW-Green Bay ILL:**

Since 2010, ILL requests for articles have increased at UW-Green Bay. In 2010, 5,399 ILL requests for articles were filled at UW-Green Bay. In 2011, there were 7,980 filled and in 2012, there were 7,987. It's not just that article requests are increasing on a whole---they are also increasingly becoming the primary use of ILL at UW-Green Bay. In 2010, articles represented 68% of all filled ILL requests. In 2011, articles represented 77% of all filled requests, and articles represented 80% of all filled ILL requests in 2012. These ILL numbers represent a situation common to every academic library; our budgets cannot provide ownership to everything that our students need, especially costly electronic journal content.

This situation manifests itself almost every day in ILL. Students continue to seek materials that lie outside of the library's collection, and often the "access," or providing these articles through ILL comes at a cost to the library. The CONTU guidelines govern how interlibrary loan departments deal with patron requests and copyright compliance. The guidelines operate according to the "rule of five" or within one calendar year, five ILL requests can be placed to the same journal for articles that have been published within the last five years. These five requests are in compliance with copyright and may be obtained at no cost to the borrowing library. When this "five" threshold is crossed, request from this journal for articles published within the last five years must be purchased rather than borrowed. Some ILL departments choose to pass the cost onto the patron, some choose to pass a percentage of the cost on to the patron but most--- and this is the case at UW-Green Bay--- purchase these articles at no cost to the user. Therefore, ILL has been and will continue to be an expensive service to offer, which means that it is more important than ever for institutions to understand for whom they are incurring these costs.

### **Findings: GPA correlation and type of ILL request**

After analyzing the data, it was soon discovered that real significant comparisons did not exist simply between those who used the ILL service and those who did not, but also in how, and how often, ILL users used the service. Put simply, interlibrary loan usage can be broken down into two request types: requests for loans and requests for articles. Loans represent returnable materials or physical materials, and articles are most commonly electronic images of articles in scholarly journals (print or electronic), popular magazines or newspapers, chapters in books, or other electronic representations. While many ILL users rely on the service predominantly for loans, most rely on the service predominantly for articles, and some users utilize the service to access both types of materials. Table 1 shows ILL user GPA compared to non-users, as well as further dividing ILL users into three categories: those that strictly relied on ILL for loans, those that strictly relied on ILL for articles, and those that use ILL for both types of materials.

**Table 1**

While GPA differences according to material type show that the higher academically achieving students seek both types of materials through ILL, rather than predominantly one, the greatest GPA gaps are shown when ILL users are divided by the type of requests that most dominates interlibrary loan, article requests.

**ILL users' volume of article requests and GPA correlation**

In order to better organize and present the data, ILL article users were ordered according to one of three use categories: low use (1-9 articles), medium use (10-19 articles), and high use (20 or more article requests). The vast majority of ILL article users fit into the low use category with 85% requesting 1-9 articles over this period; 11% percent were medium users and 4% were higher volume ILL users. These percentages were consistent for freshman and sophomores who use ILL, but juniors and seniors showed a higher volume of ILL use, which is also consistent with the increase we see in overall ILL use for upper-level students. Medium use increased for 11% of juniors who use ILL, and medium and high volume ILL article use also increased at the senior level with 13 % of seniors placing 10-19 article requests and 6% placing 20 or more article requests.

**Table 2**

When GPA is factored into this analysis of ILL article use, we begin to see significant GPA gaps between users based on these categorizations.

**Table 3**

Within the population of ILL users, the high volume article users, especially at the freshman level, have the highest GPA average and succeed academically at a much higher rate than the students who are low or even medium volume ILL users. These achievement gaps grow even broader when these ILL article users are compared academically to their peers who do not use ILL.

**Table 4****Discussion and implications of finding:**

Often data can be left to exist in a vacuum or it may be viewed simply as an interesting note or observation. Yet the primary objective of any assessment study is that a detailed analysis of the data enables practitioners to better understand user behavior, make impactful change or to simply validate the budgetary dollars dedicated to a service. The data from this analysis provides valuable insight into several areas of library service and should allow us to better understand the information seeking behaviors of our users, how these information seeking behaviors might manifest themselves into weighted assignments and impact academic achievement, and the importance of budget dollars being spent to provide users “access” to unsubscribed journal content.

The findings of this study are a perfect marriage to the library studies that discuss the increasing permanence of “full-text database dependency” in academic library users. MacDonald and Dunkelberger (2000) coined this phrase in their discussion of library users over reliance on articles that are immediately available via full-text databases and described these users as often “too eager to take the easiest route and be satisfied with whatever articles they find online, instead of ones more ideally suited for their research” (p. 305). In 2007, Cooke–Cottone, Dutt-Doner, & Schoen dug deeper into this reliance on full-text databases and surveyed students asking them to quantify their reliance on full-text databases and to categorize this dependence according to four variables that most defined their behavior: convenience, few time skills (lack of time), research quality (relevance and source selection) and search knowledge (search techniques). They found that 46% of students surveyed indicated that 76-100% of the articles that they accessed came from a full-text database. On the other end of the spectrum, they found that 11% of students retrieved 25% of recently acquired articles from a full-text database and 75% using another means—these included interlibrary loan, actual library access and other means. In a 2009 study on full-text article use, Imler & Hall asked students to qualify how they accessed the articles that they used for a

paper and found that 65% came from full-text databases, 21% from print, and 13% from ILL (Imler & Hall, 2009).

Placing ILL requests for an article runs completely counter to Cook-Cottone's et al.(2007) variable of convenience---a variable that 34% of students surveyed admitted to being the lone factor for their dependence on full-text databases. At the mercy of convenience alone, returned search results that do not have the full-text immediately available are often dismissed by students. Imler & Hall (2009) found that 70% of students admitted to rejecting an article for their paper if the full-text was not immediately available on their computer. Full-text databases are even designed to cater to this type of user, if they are aware of it, and most come equipped with a simple filter that removes any search result that does not contain a full-text version of the article. Lack of convenience can also be associated with the additional steps that placing an ILL request requires, as user have to navigate away from their search results and only after progressing through various pop-up screens can they submit an ILL request.

As we see with the studies on full-text dependency, ILL users undoubtedly make use of local full text articles, but by requesting materials through ILL they are also demonstrating advanced information seeking behaviors and targeting materials that might be more relevant to their research rather than materials that are the most accessible. These information seeking behaviors displayed by ILL users fit firmly into the last variables described by Cook-Cottone et al. (2007) as research quality and search knowledge. ILL users are looking beyond full-text articles and therefor, beyond the limitations that exist with strictly relying on materials that are immediately available. They are bypassing convenience for relevance. When the additional time it takes to receive an article through ILL is added to the equation, ILL is often a more difficult path for students and, and as we see with the percentage of students who actually use ILL (19%), avoided by students during their research.

As the data shows, the students who demonstrate these advanced information seeking behaviors early in their academic lifecycles, freshman and sophomores, and apply these behaviors to their

information seeking process, are propelled to greater academic heights. The GPA of ILL article users as compared to non-users shows that those students who come equipped, as freshman, with these advanced information seeking behaviors that are played out in the ILL process fare much better academically than students who do not display these behaviors. But, this correlation is not strictly confined to ILL users versus non-users and can be seen in what extent ILL users utilize ILL for article requests. High volume article users, regardless of what year in their collegiate career, achieve at a higher academic rate than medium and low volume users. In comparison to the “full-text database dependent” students who constitute the majority of our users, high volume ILL article users reside on the opposite pole of article use behavior and this behavior deserves our attention.

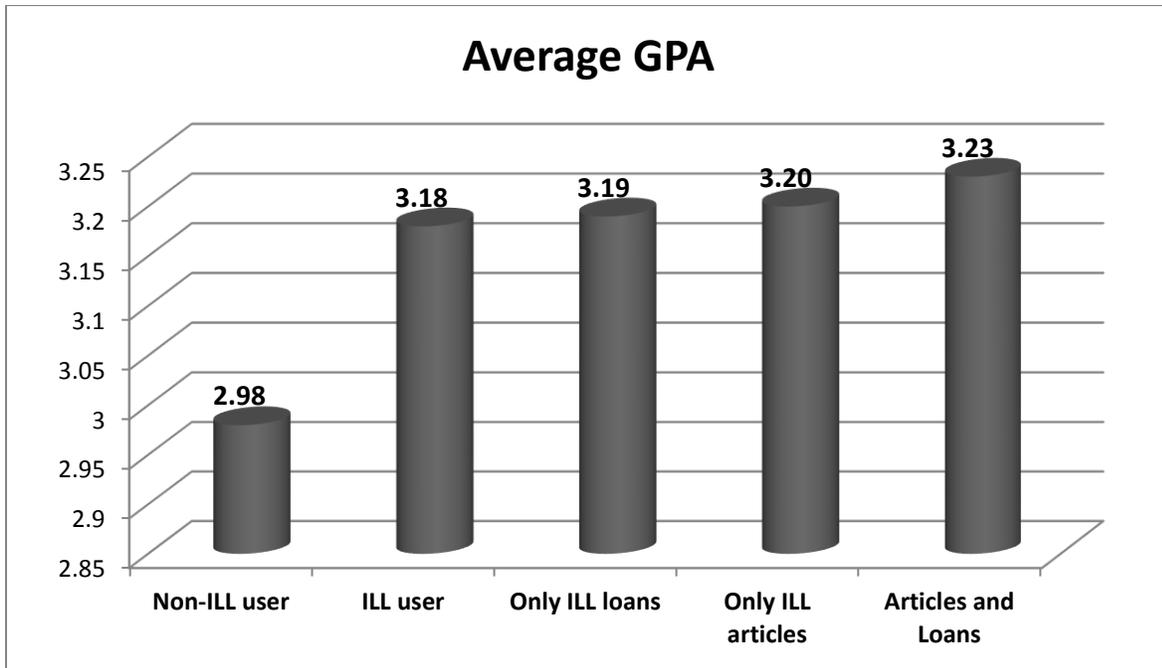
It’s commonly known that academic libraries are staring into a largely unwinnable situation of flattened or only minimally increasing budgets yet continually increasing E-journal subscription costs. Therefore, our ability to effectively manage E-journals costs yet still provide access to our users has become one of the biggest issues of the day. Many libraries have responded by backing away from “big deal” publisher packages and only retaining E-journal subscriptions that meet certain criteria, including cost, use and local needs (Blecic, Wiberley, Fiscella, Bahhnaier-Blaszczak, & Lowery, 2013; Nabe & Fowler, 2012). As more E-journal subscriptions are canceled, libraries are faced with trying to find cost effective options for continuing to provide users with access to these materials and pay-per-view article access (PPV) through ILL (mediated PPV) has proven to be one of the best methods. Much has been written about PPV (Weicher & Tain, 2012; Sammonds, 2012; Weir & Ireland, 2011), and in terms of continuing to provide access for higher use journals that have been deemed too expensive for subscription the PPV model is often the most efficient and cheapest option afforded to ILL departments. However, while this might be the most cost effective way to handle ILL and the unsubscribed materials that drive the costs associated with the service, this isn’t the method that is the most equitable to our primary users—those that prefer full-text only content and do not place ILL requests.

While unmediated PPV access might be more equitable and more closely mimic the full-text access that the majority of our users want, it also might not be sustainable and it certainly cannot fill every need. As a result, ILL will continue to be relied upon by students to gain access to materials that lie outside of the library collection. The data simply shows correlation to academic achievement, not causation, and it would be naïve to suggest that interlibrary loan is the reason for higher student academic achievement. The data does show, however, that ILL has certainly been adopted by the best students on campus as a necessary service, and while ILL may not be the driving force to greater academic achievement, the information seeking behaviors displayed in the process of requesting an article through ILL certainly play an important part. In terms of collection dollars being spent, it's comforting to know that our current direction of spending through ILL seems to be benefiting the highest academically achieving students on campus. It's truly a return on investment service.

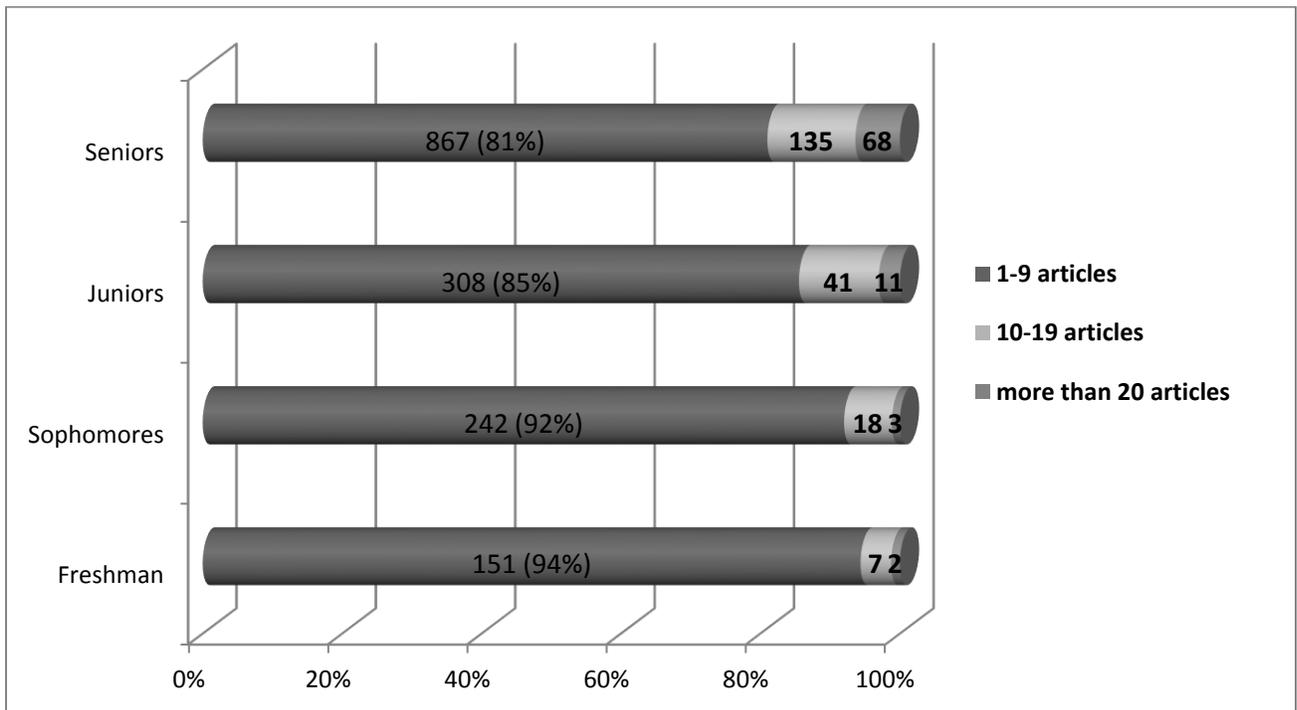
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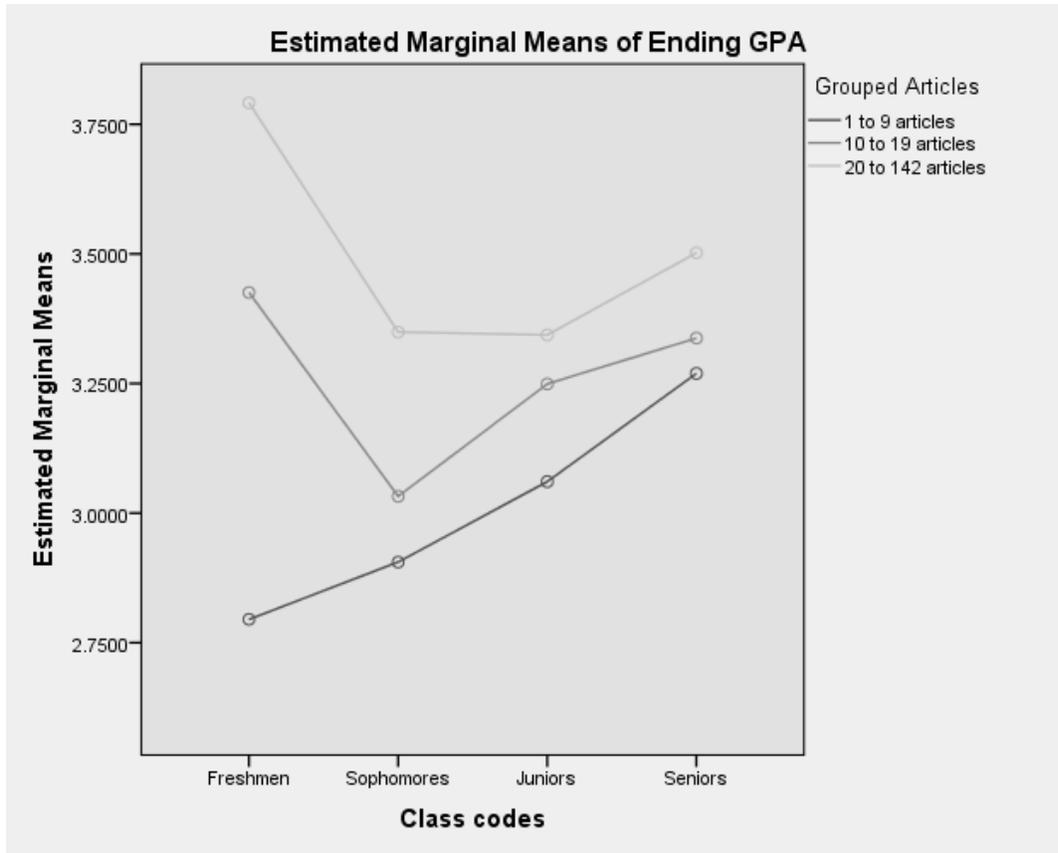
**Table 1 ILL use, non-use and types of ILL use by GPA**



**Table 2 ILL article use by class**



**Table 3 Low, medium and high volume ILL users' GPA by class**



**Table 4 Article use GPA and non-use GPA by class**

**Freshman:**

Class	Article Use	Mean GPA	Student requests
Freshmen – ILL user	1 to 9 articles	2.794940	151 (94%)
	10 to 19 articles	3.425571	7
	20 to 142 articles	3.791500	2
	Total	2.834988	160
Freshman Non-ILL user		2.36	

**Sophomores:**

<b>Class</b>	<b>Article Use</b>	<b>Mean GPA</b>	<b>Student requests</b>
Sophomores – ILL users	1 to 9 articles	2.905405	242 (92%)
	10 to 19 articles	3.032278	18
	20 to 142 articles	3.349333	3
	Total	2.919152	263
Sophomore Non-ILL user		2.59	

**Juniors:**

<b>Class</b>	<b>Article Use</b>	<b>Mean GPA</b>	<b>Student requests</b>
Juniors – ILL users	1 to 9 articles	3.060685	308 (86%)
	10 to 19 articles	3.249098	41
	20 to 142 articles	3.343636	11
	Total	3.090789	360
Junior Non-ILL user		2.86	

**Seniors:**

<b>Class</b>	<b>Article Use</b>	<b>Mean GPA</b>	<b>Student requests</b>
Seniors – ILL users	1 to 9 articles	3.269431	867 (81%)
	10 to 19 articles	3.337659	135 (13%)
	20 to 142 articles	3.502088	68
	Total	3.292825	1070
Senior Non-ILL user		3.16	

**ILL article users total:**

<b>Class</b>	<b>Article Use</b>	<b>Mean GPA</b>	<b>Student requests</b>
Total	1 to 9 articles	3.126551	1568 (85%)
	10 to 19 articles	3.295308	201 (11%)
	20 to 142 articles	3.482774	84
	Total	3.161005	1853
Non-ILL user		2.74	