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Don't Stop the Presses! Study of Short-Term Return on Investment on Print Books Purchased under Different Acquisition Modes

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"WHAT'S PAST IS PROLOGUE"

Don't Stop the Presses!

Study of Short-Term Return on Investment on Print Books Purchased under Different Acquisition Modes

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Claremont Colleges Library

- Single academic library serving 7 contiguously located academic institutions:
  - 5 liberal arts colleges
  - 2 graduate universities
- ~7500 FTE, the equivalent of a mid-size University
- 1.2 million print volumes, including ~1 million print books
- close to 900,000 e-books
- 70,000 e-journals and other e-resources

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A lot of the current research, promotion, and advocacy in library collections has been focused on e-books, including my own. So, why suddenly print books? The answer is that, like many others librarians and researchers, I focus on what's relevant and where the burning questions are. And questions surrounding print books are the ones keeping us up at night lately.

For the majority of history of libraries, the value of books has never been questioned. The book was the thing libraries were all about. Lately, however, with both financial and space constraints, we all started asking a variety of questions – both very concrete and measurable, as well as more philosophical ones.

What makes a print book valuable?

- Is it checkouts? How many are enough?
- How soon do we need to see evidence of patron interest?
- What is an acceptable annual cost per use (CPU) for a print book? Or CPU for the life of the book?
- Should we even apply the same assessment methods we do for journals or e-books?
- Do we collect for usage or for posterity?
- How long are willing to wait for a book to demonstrate enough value?

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Fact: funding for print books in libraries has been declining

- Global financial crisis and overall lower increases on acquisitions funding
- Pressure from other parts of materials budget – journal subscriptions, e-books
- We no longer think print books are important?

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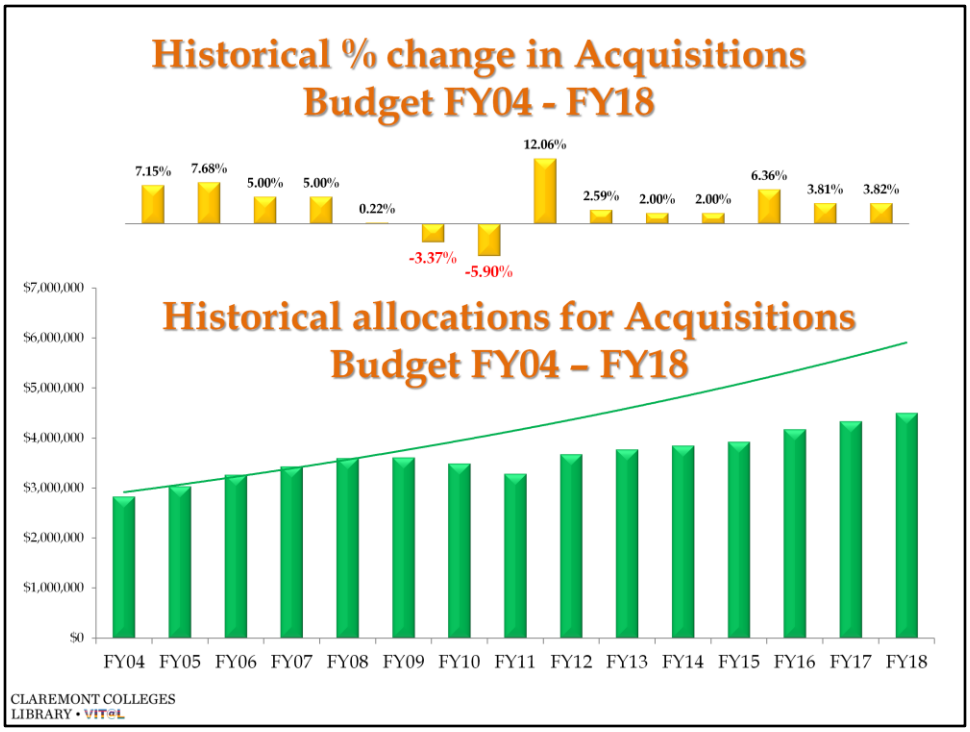
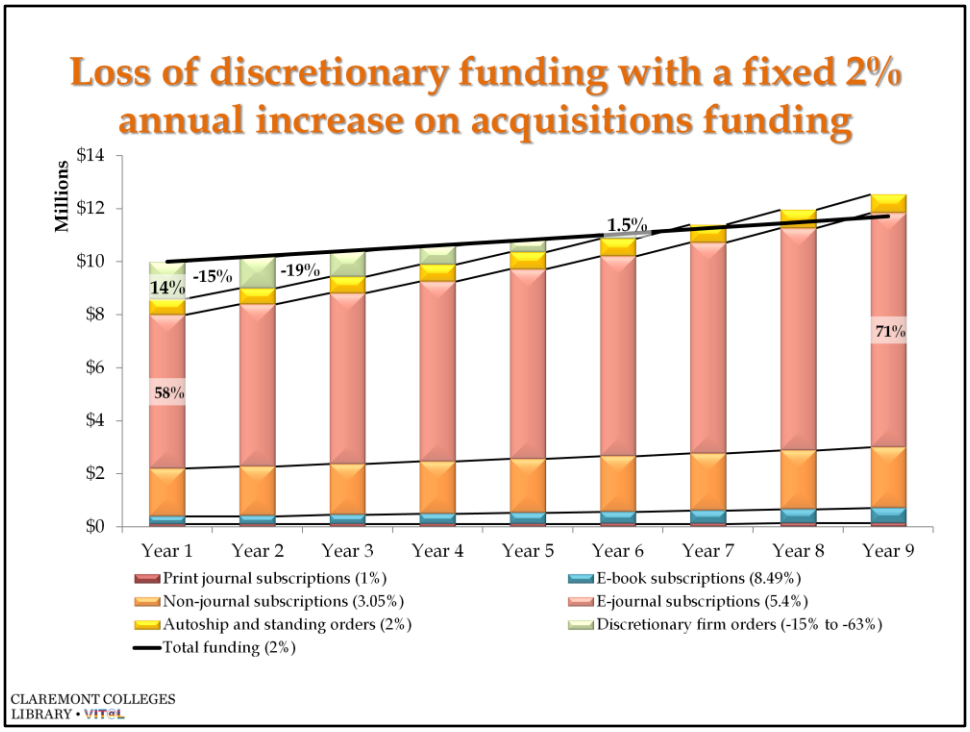
Some background on what's been happening lately and why this study is needed?



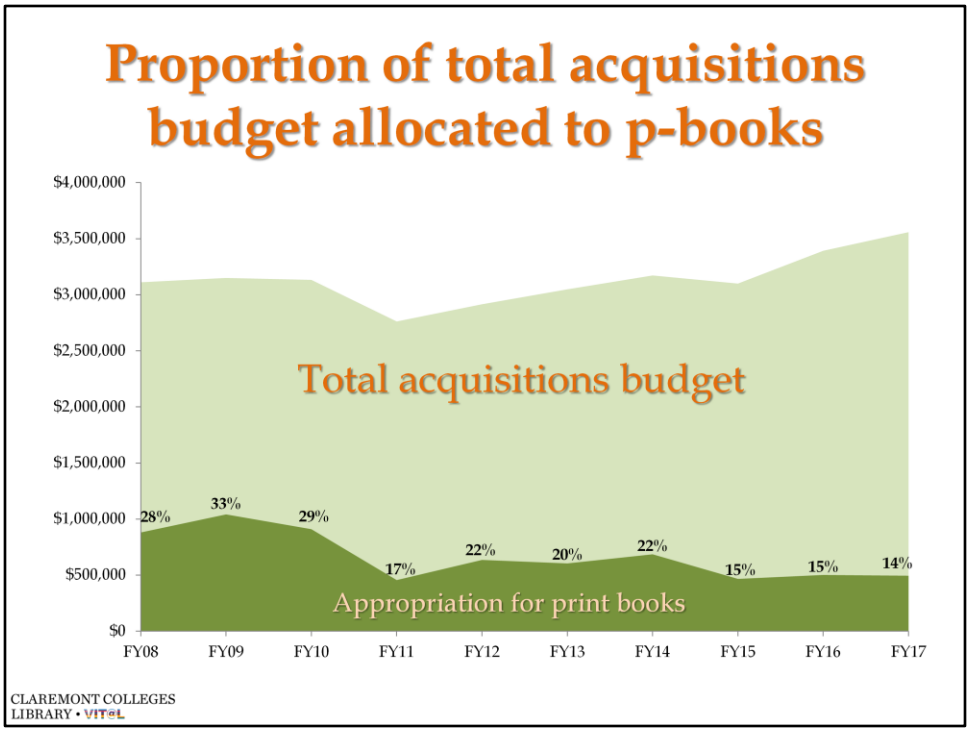
Some data from CCL to back up these statements. The top chart shows the variation in budget increase/decrease in recent years – with cuts coinciding with the Global financial crisis, then only a partial restoration, then few years with around 2% increase, another partial bump, and it has now stabilized at about 3.8% maintenance level increase.

However, looking at the actual dollar amounts in the second chart, it is evident that the cuts were a significant setback for the overall library purchasing power. The green treadline shows the levels where the budget would have been had the library been consistently getting 5% annual increase.

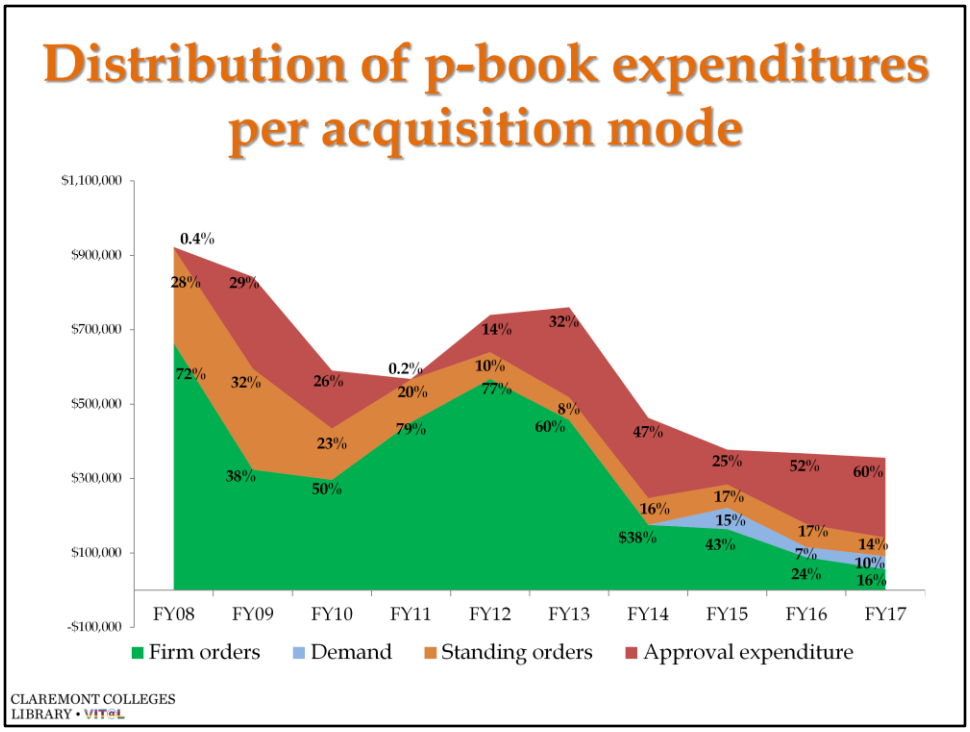
In FY18 the gap with current funding is ~1.3 million dollars.



How do those budget increase levels affect print books in particular? This chart shows the pressure non-discretionary parts of the budget – like journal subscriptions – put on the discretionary portion – in green, where print books funding lives. We see that due to journal subscription increasing 5.4% annually, they keep eating bigger and bigger chunk of the total budget, while the discretionary part gets smaller and smaller – from 14% in year 1, to 1.5% in year 6, and then completely disapears.

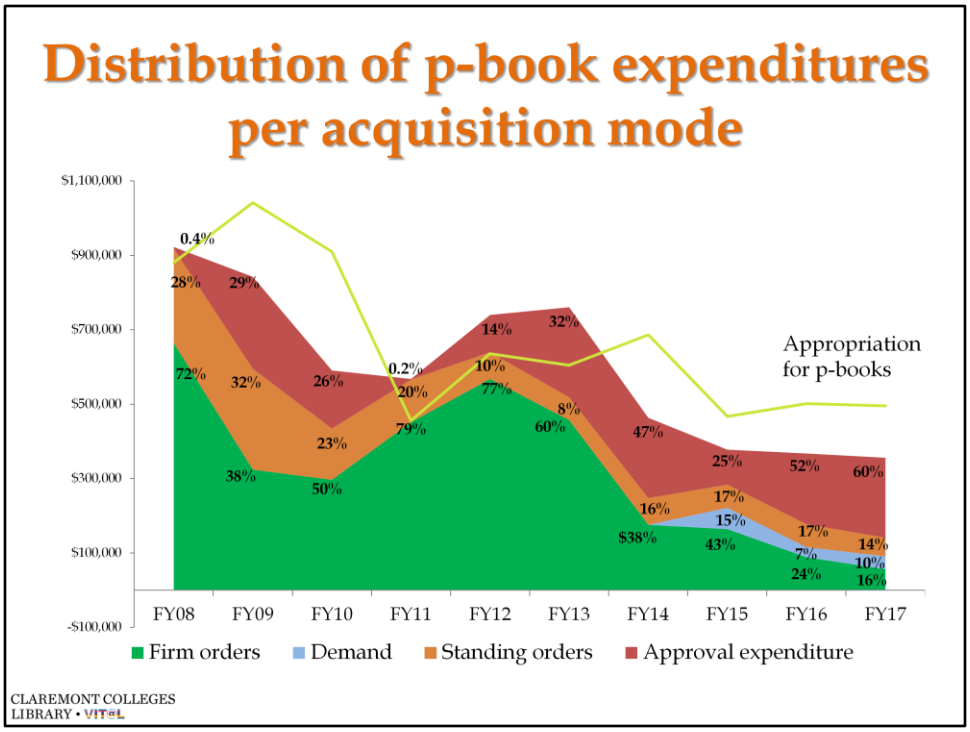


This chart shows the appropriation for print books specifically in relation to the total acquisitions budget. Before the cuts, the print book money is around 30% of total materials; with the budget cuts it gets down to 17%, then it is partially restored to about 20%, but it goes down to ~15% now, even though the total budget is growing a little more stably now.

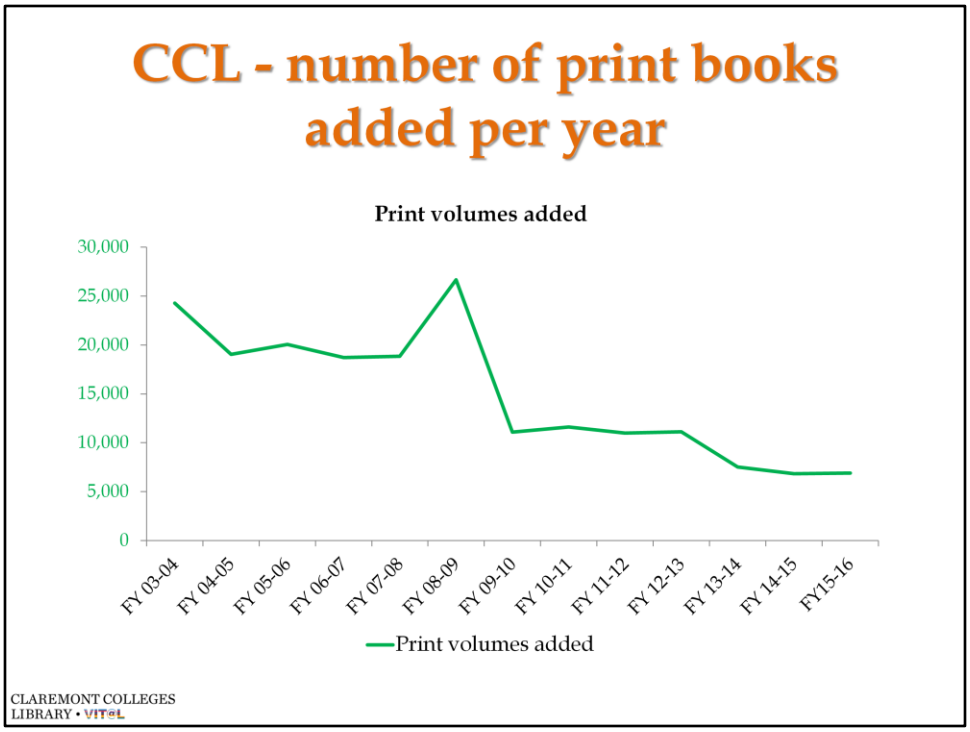


If we examine more specifically the expenditure for print books per acquisition mode, we can note several trends. The red indicates the approval plan – the nearly $0 in FY08 and FY11 are years when the plan had been suspended for review and modification, but for the rest of the time, it had been bringing a stable flow of books and in the last years it is gaining strength and in FY17 spent 60% of all p-book money. Standing orders are showing diminishing importance. The blue indicates on-demand spending that we have only been tracking separately for a few years now.

The big change is the firm orders – from the most prominent and important way to acquire p-books, it has gone down to only 16% in FY17.

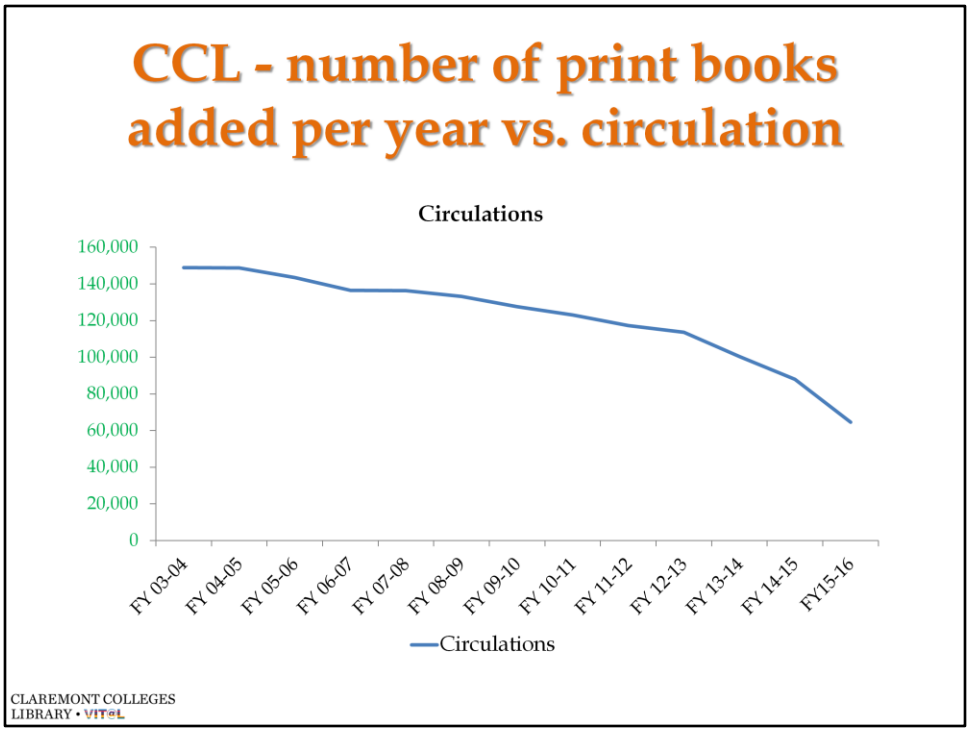


If we overlay the appropriation level for p-books on the expenditure, we'd noticed additional important trend – before the cuts, p-book money was consistently underspend, even when it was allocated. After the cuts, there were a few years with overspending. As of FY14, we restored allocations to significantly higher levels, with the help of endowment funding, but the expenditure never picked up again.



This chart shows the print book growth in numbers of volumes – between 20,000 and almost 30,000 per year. Then with the budget cuts, the number of added volumes went down to about 10,000 per year, and in the last couple of years it is even lower – at ~7,000 p.a.

However, since the library has not done any major reaccessioning, at least not since 2011, this means that the collection keeps growing – with slower rates, but the total number of available volumes is consistently higher.



Circulation rates, however, go down consistently as well. This is a trend that is being reported all across libraries – from ARLs to our Oberlin group colleagues.

These new trends in both collecting and circulation raise interesting questions that need answers

Research questions

1. What proportion of new p-books has at least one use during the first year after purchase?
2. How long does it take for a p-book to circulate for the first time? What factors influence that?
3. What is the frequency of use, as well as the turnover rates for p-books?
4. What is the cost per use of p-books a year after purchase?

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In an attempt to start tackling these important trends, CCL designed a study of p-books and initially focused on the following research questions:

The CCL study on short-term ROI on print books

- All new print books purchased between Jul 1, 2015 and Sep 30, 2016 (8025 titles)
- One year worth of circulations data pertaining to these titles - from Jul 1, 2015 to Sep 30, 2017 (WMS circulations data with timestamps)

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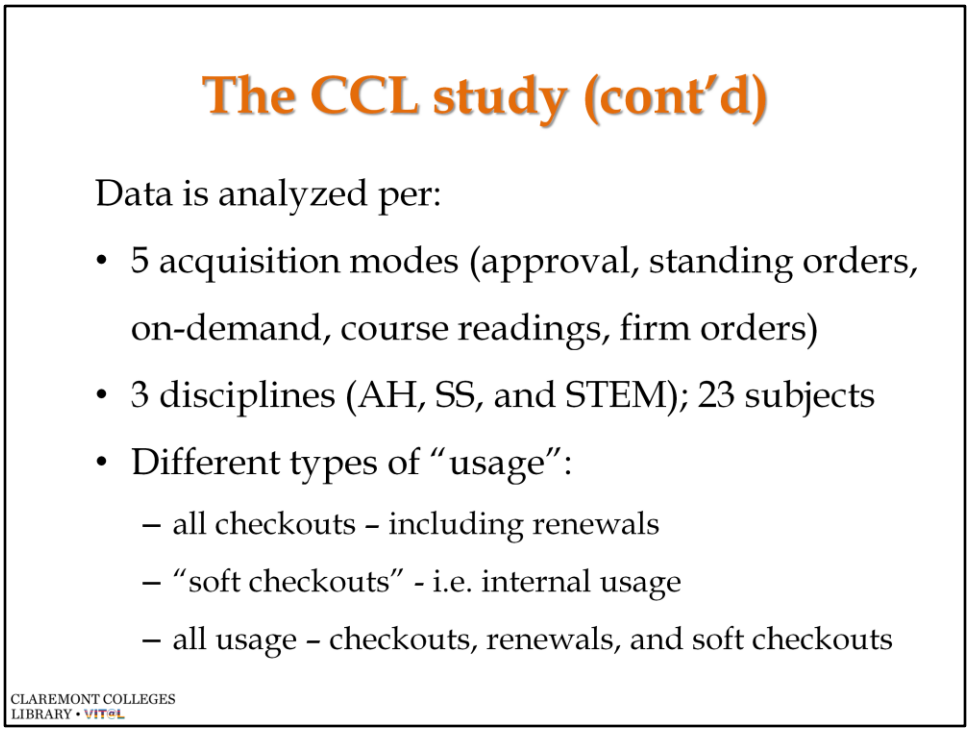
We decided to take a look at a portion of newly purchased books and try and understand what factors influence their circulation. The beginning date of the study coincides with our migration to OCLC's WMS. We could have collected acquisitions data across both systems, but only WMS circulation data comes with a timestamp that allows for the types of analyses we wanted to perform.
Even though for some of the titles – the ones purchased in the beginning of the period – we have more than a year's worth of circ data, we only used the first 366 days for each item in order to ensure consistent results.



We sliced and diced the data several different ways with the most important analyses performed per acquisition mode.
By firm order we mean "librarian selections" as opposed to on-demand – which represents selections initiated by faculty or a student.
In our budget, course readings are technically "on-demand" orders, but for the purpose of this study, we identified them and pulled them out in their own acquisition mode because we thought being course readings would certainly influence their circulation patterns.
We also looked at the data per discipline, and subject area. Some of these results are included here as well.
In the majority of cases we summed up the different types of usage, since it was just important to us that the title presented interest to a patron. In some cases we differentiated between checkouts, renewals, and "soft checkouts" – i.e. OCLC's term for internal usage. In most cases where we compared soft usage to checkouts, renewals are included in the "checkouts" count.

Q1: What proportion of the books had at least one use during the first year?

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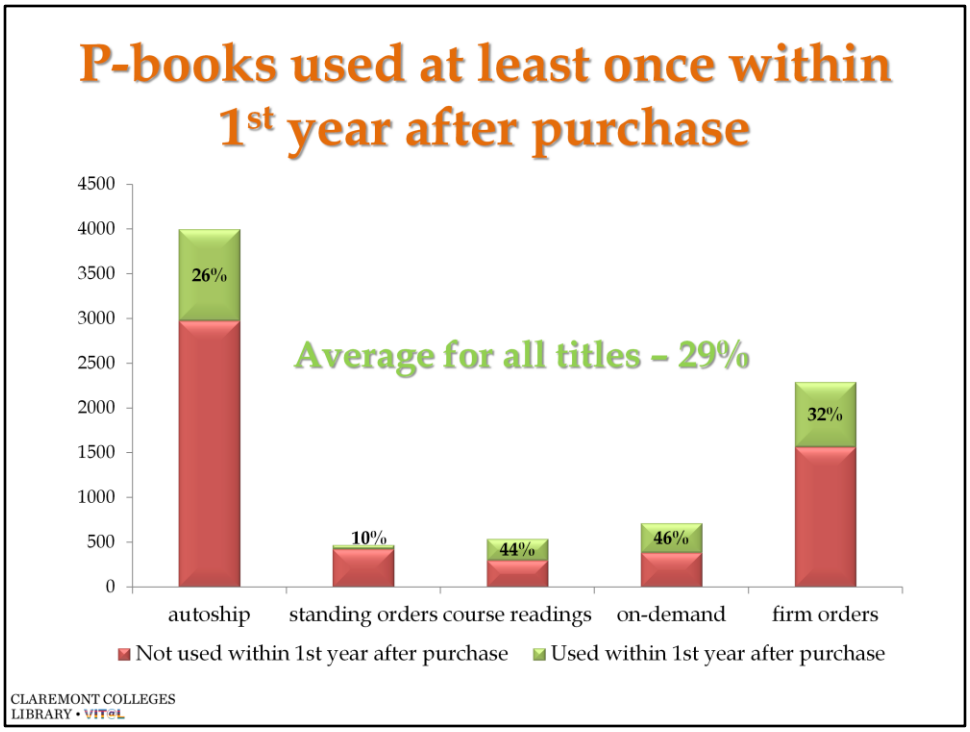
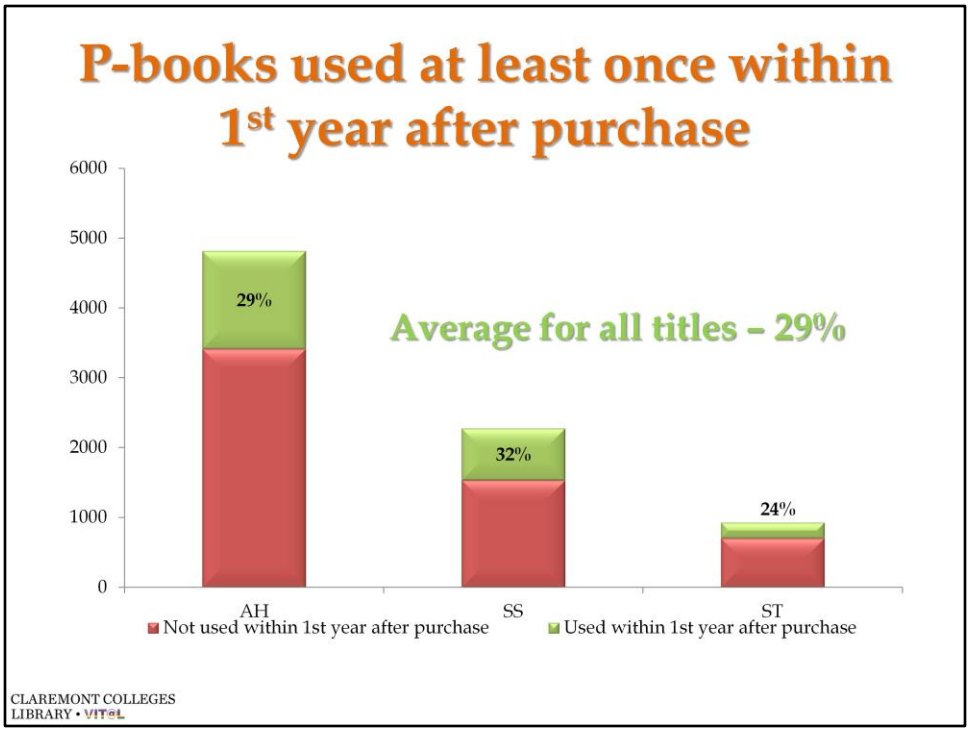
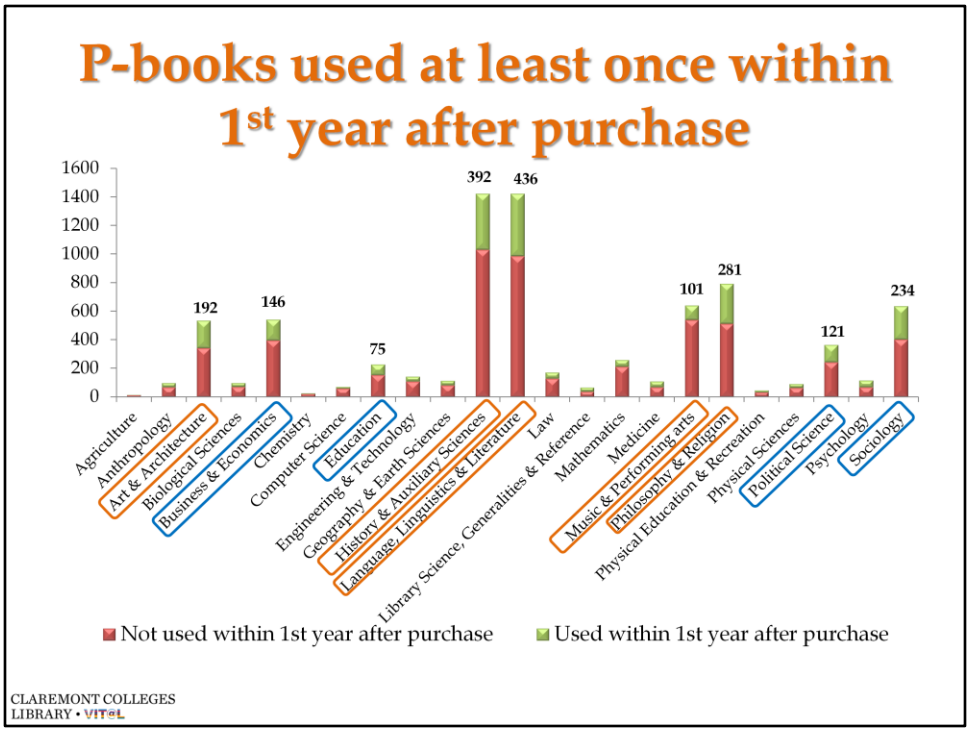


In green – titles with at last one usage during the first year. Course readings and on-demand have the highest proportion of all available titles showing usage. However, since the highest proportion of all titles arrived on approval, the 26% approval titles with usage represent a higher number.

I'd like to talk about the significance of the 29% overall of titles used. We know from the literature that depending on the library type and the size if the collection, anywhere between 40% and 60% of print books never get touched for their entire shelf-life. So I found the fact that almost 30% of our sample had already escaped that fate after only a year very encouraging and a sign we are doing something right.



Same analysis by discipline – most notably showing how predominant arts and humanities discipline is when it comes to print books. The portion that had registered usage in AH is in line with the average for all books.



Zooming in to subject level – all areas with notable green bars fall into AH or social sciences subjects.

Q2: How long did it take for the books to circulate for the first time?

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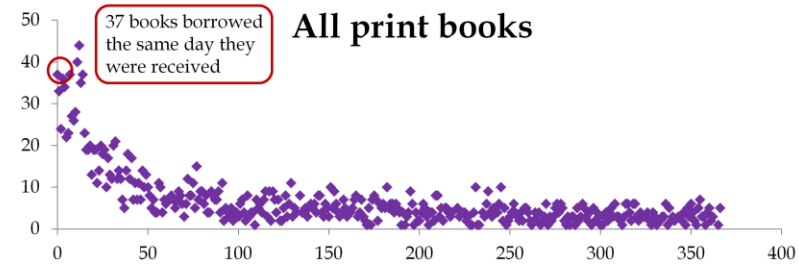
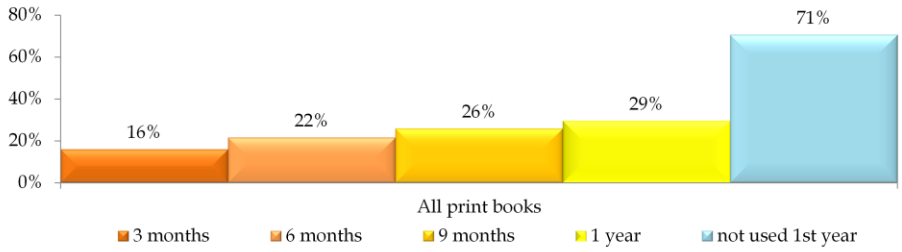
Time from purchase to first use





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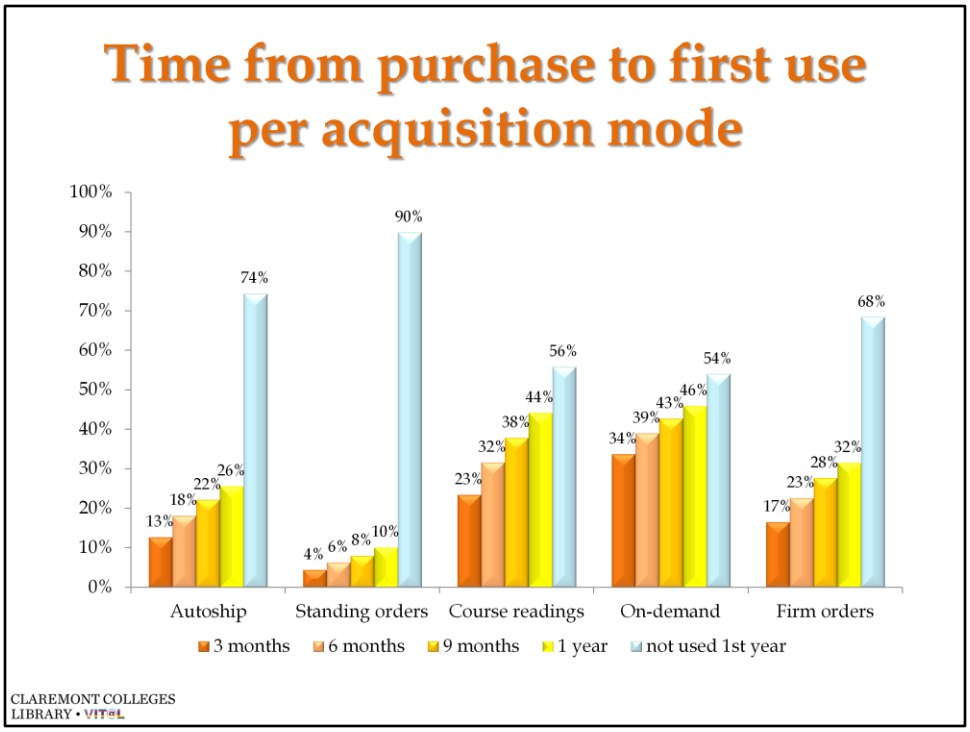
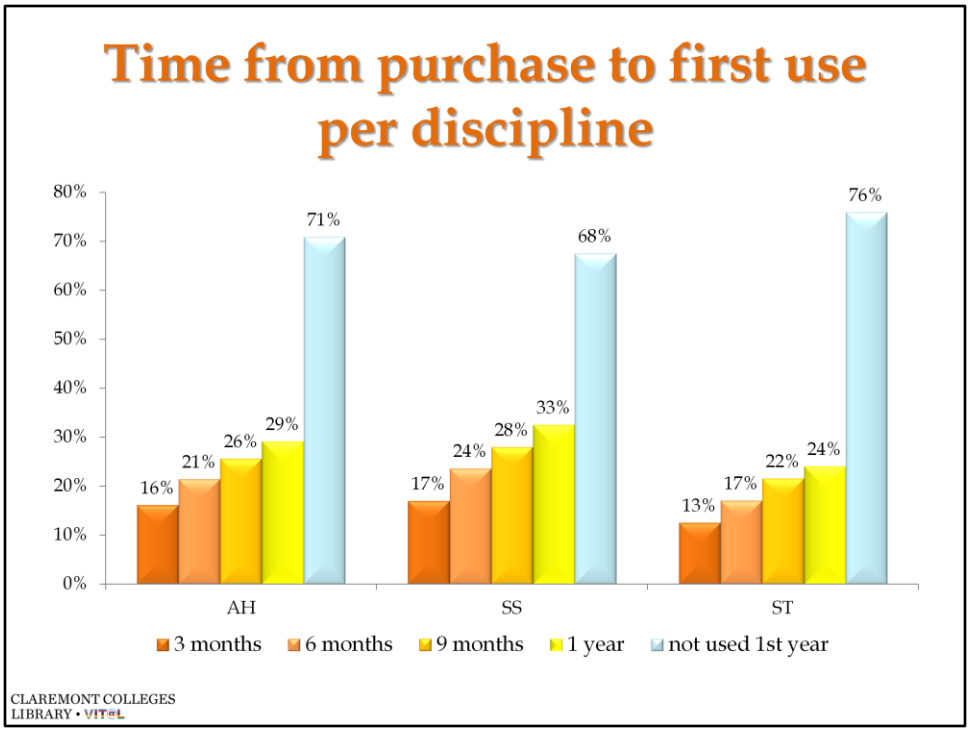
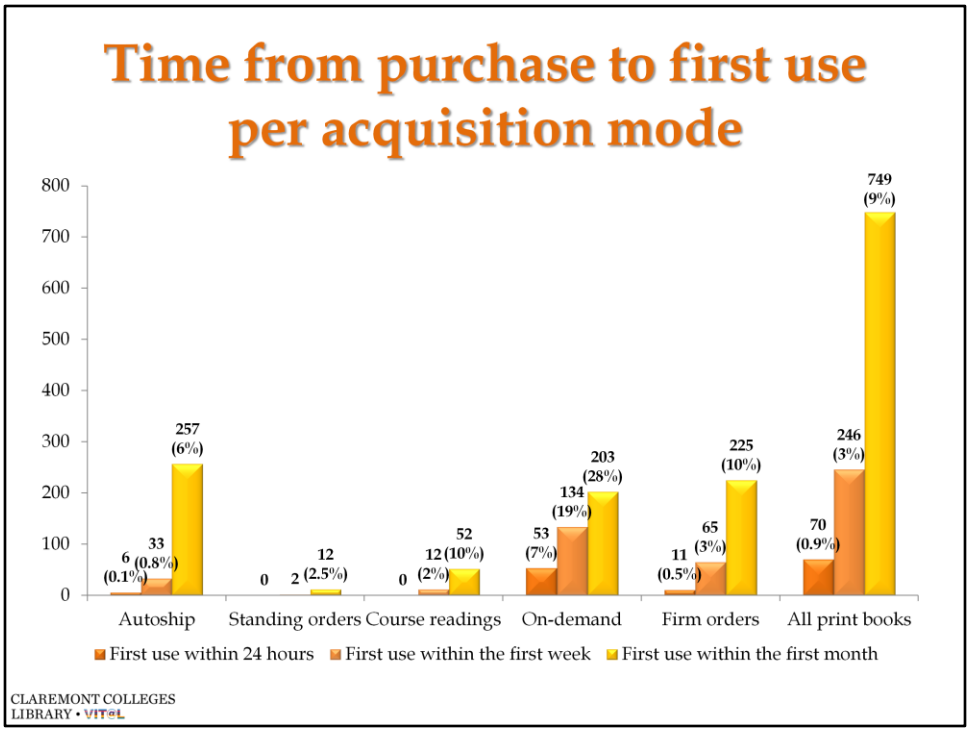


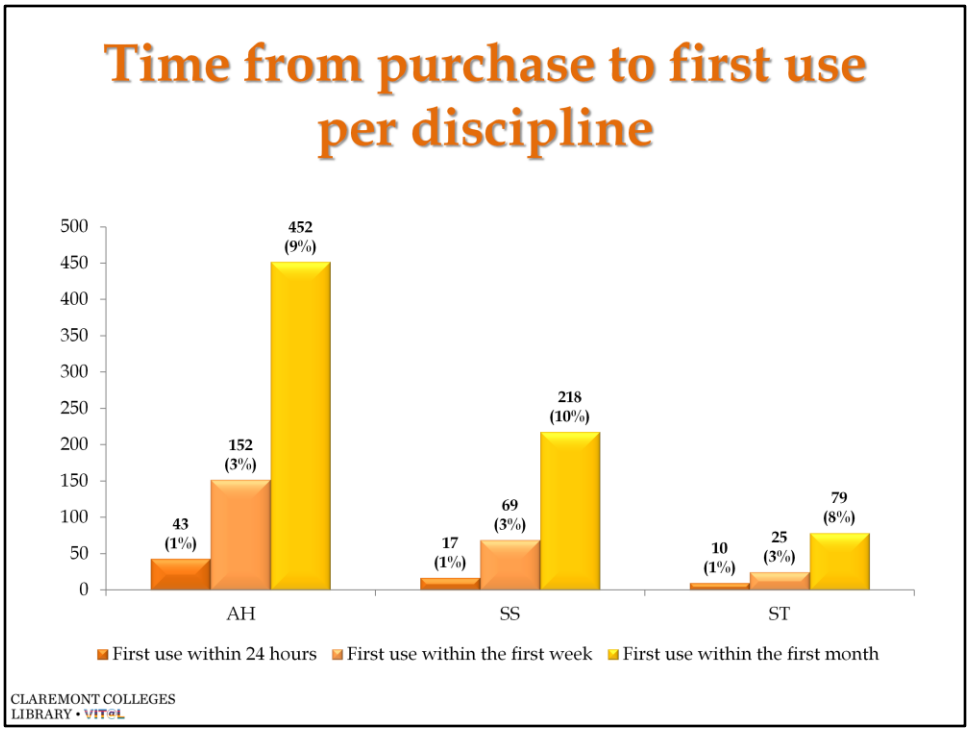
Same data broken down by acquisition mode



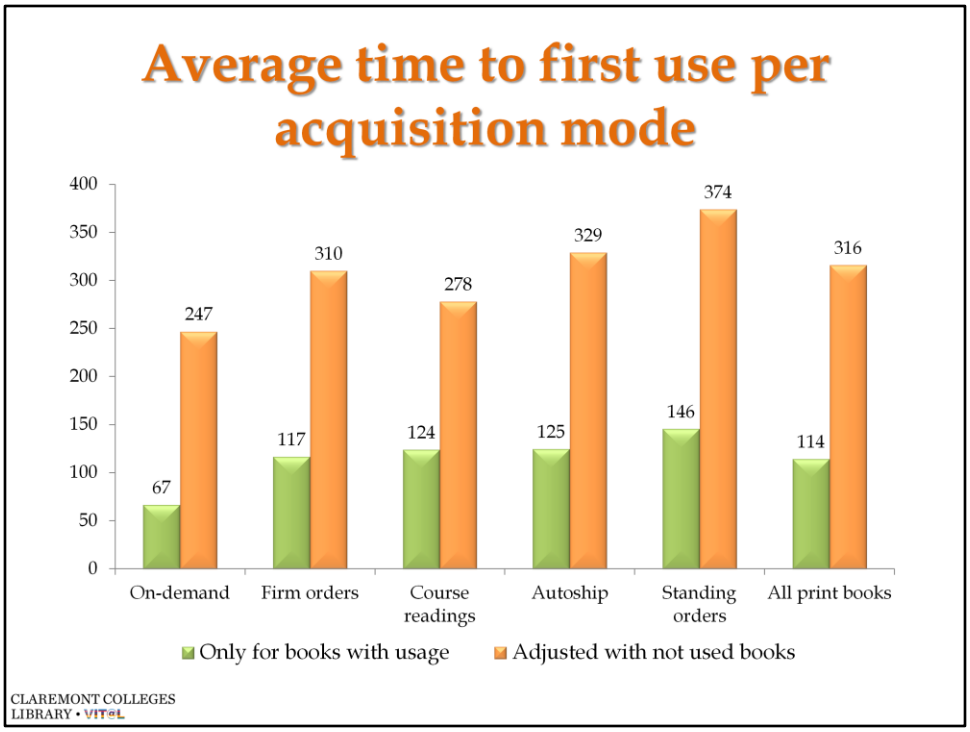
…and by discipline



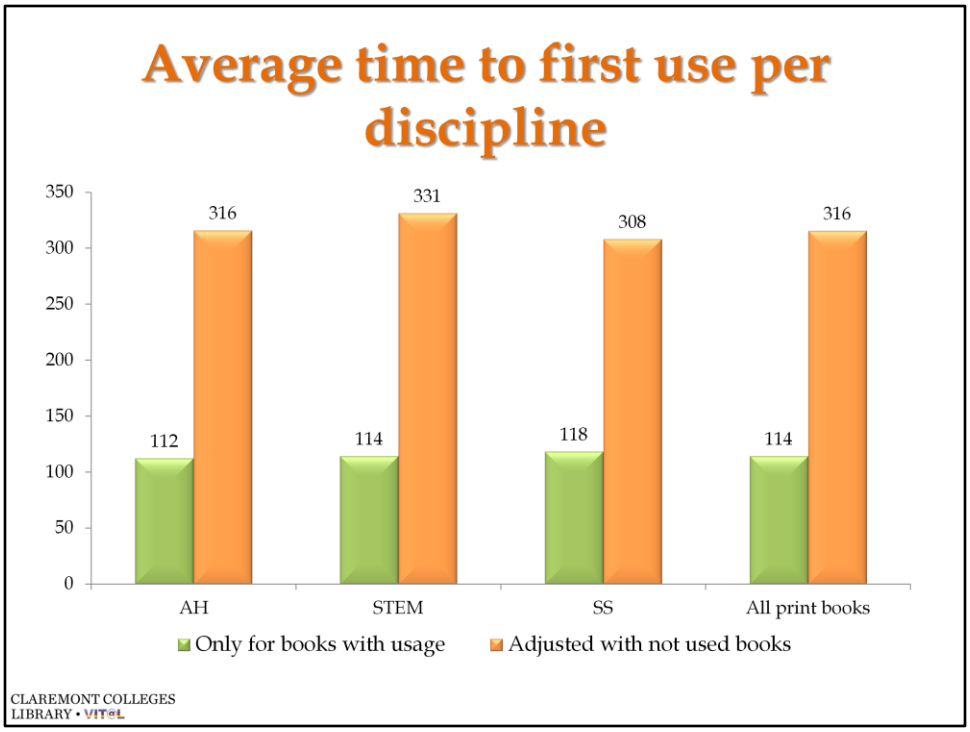
Zoom in to the first 24 hours, the first week, and the first month. It is not surprising that on-demand are some of "hottest" titles, but it is interesting that so many autoship and firm order titles get discovered that quickly. We are wondering if our new book shelf or the new books notifications are having an effect.



The data per discipline shows the exact same trends for the fist 24 hours and the first week with very slight difference in the whole first month.

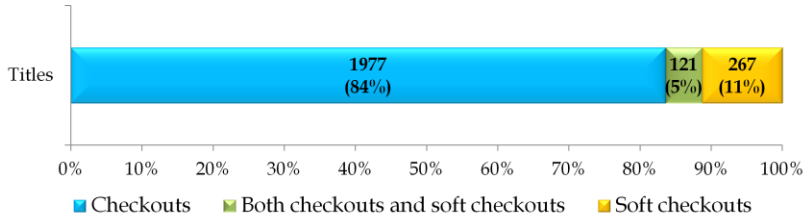


The green bars are the averages calculated only for the books with usage. The orange bars are adjusted with the addition of the titles that did not have usage within the first year. In order to include them we assigned first usage day of 400 for these titles.



Same for discipline groups.

By different types of usage



Of the 121 titles that had both checkouts and soft checkouts:

- 63 (52%) had circulated first
- 58 (48%) had internal usage first

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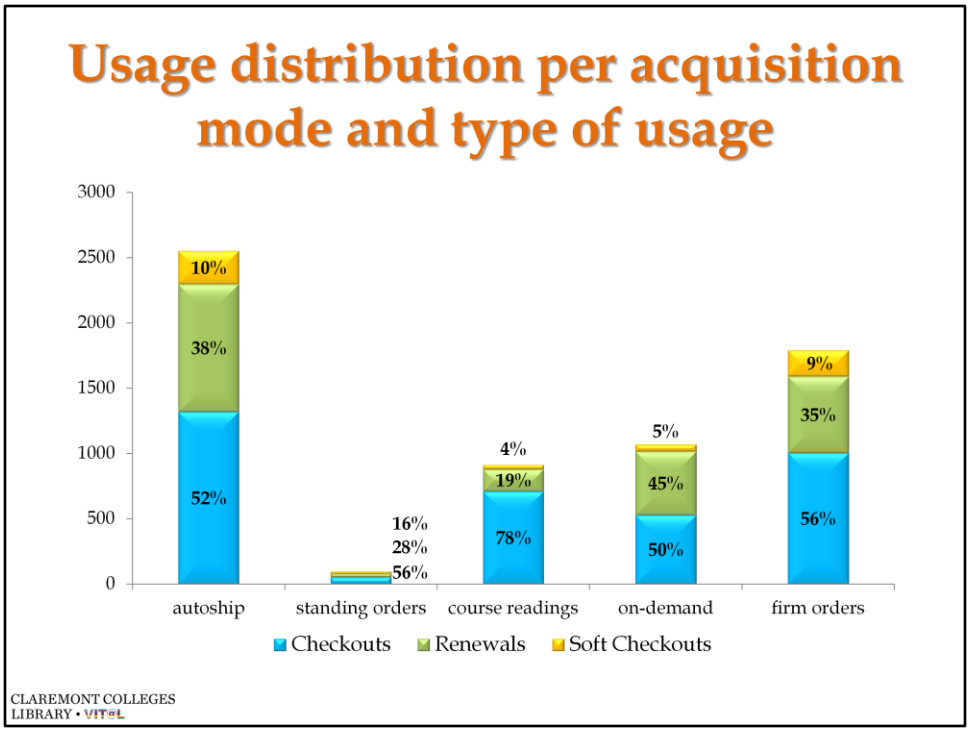
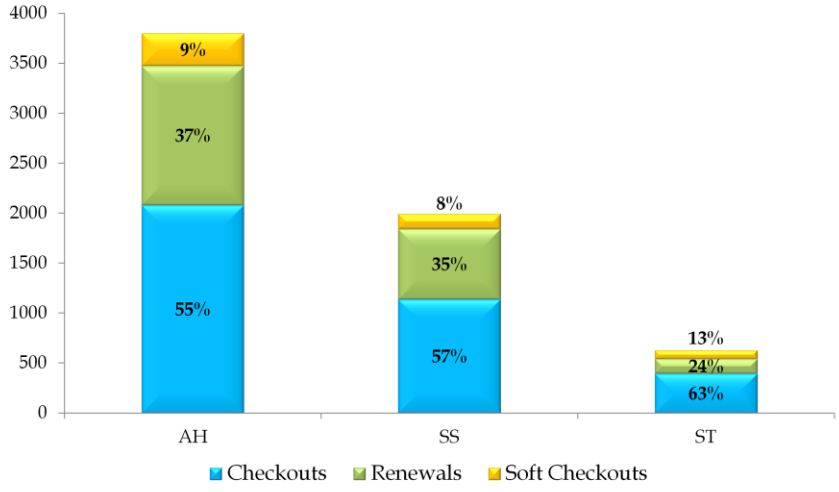
This chart shows titles per type of usage – 84% has only external usage – checkouts and renewals, 11% had only soft checkouts – i.e. internal usage, and 5% had both. We looked into these 5% to see if there was a prevalent trend in circulation – for example, did titles more often got internal usage first and then got borrowed, or vice versa. The data shows it was almost equal.

Q3: Frequency of use and turnover rates



It is interesting that most of internal usage is on autoship and firm orders. Only 4% soft checkouts on course readings doesn't seem right. Students must be reshelving or we are not counting as reliably as we should.
Renewals should be all coming from students, since faculty has a year loan period.

Usage distribution per discipline and type of usage



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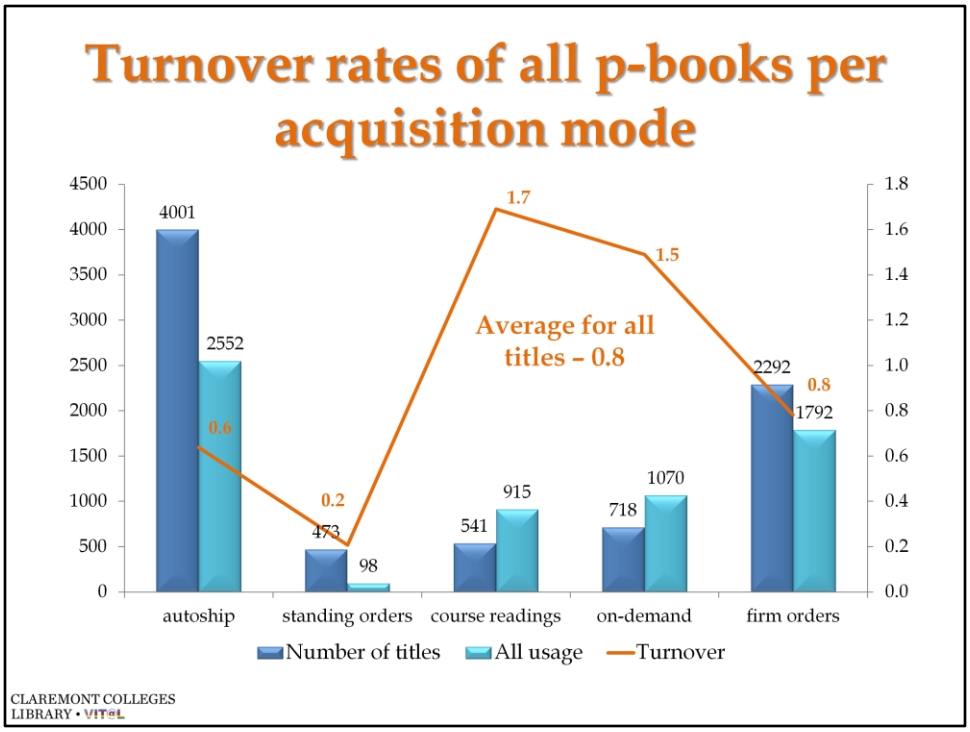
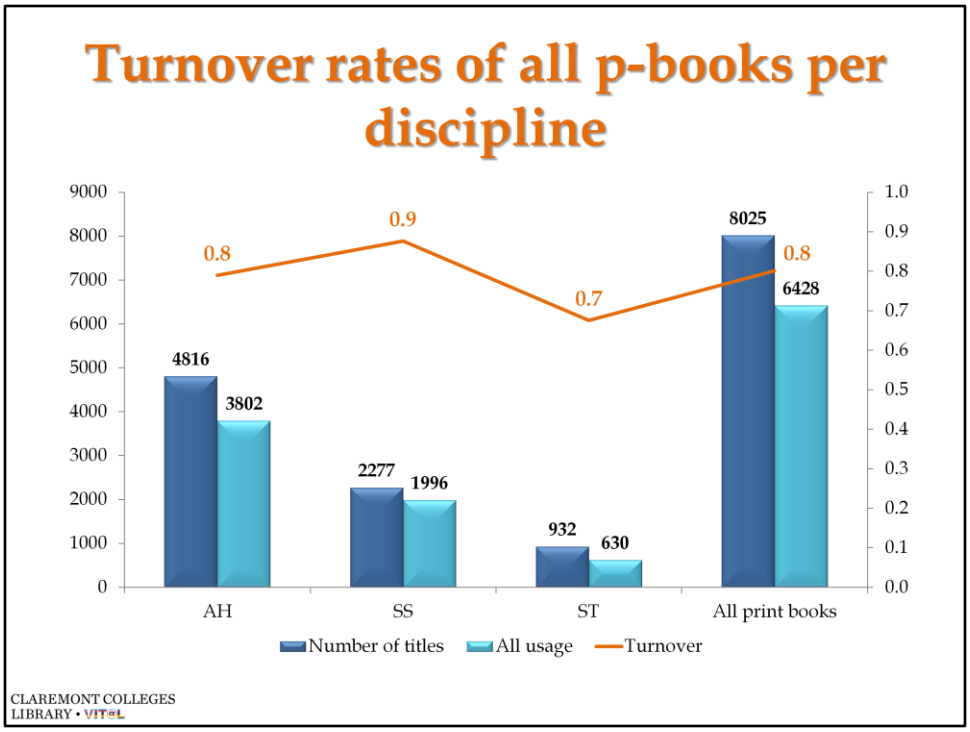
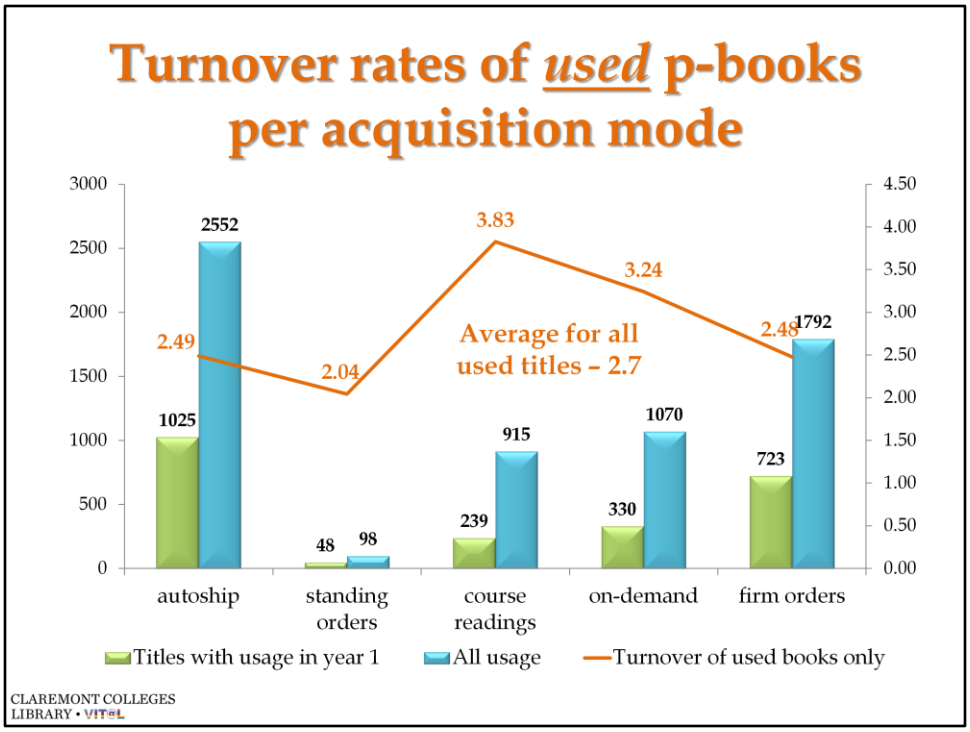


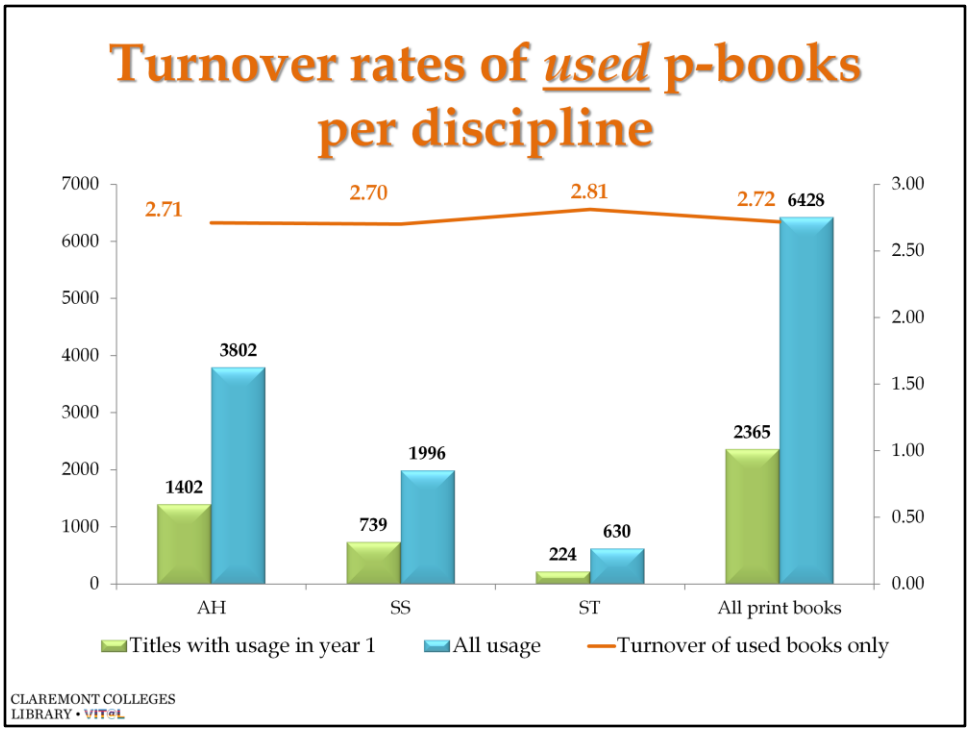
This chart shows all usage distribution per acquisition mode in context of the total number of titles acquired under that acq mode. The turnover rate shows the average number of circulations per available title. For example: there are 4001 titles purchased under approval autoship and 2552 uses related to these titles. Therefore, the turnover of autoship titles is 0.6, which means that per average 60% of all titles had one use or each available title had per average 0.6 uses. Course readings are the clear winner with the highest turnover per purchased title, followed by on-demand. Firm orders are in line with the average for all titles – 0.8.



Same analysis per discipline does not show notable differences.



This is a different way to look at the data – if we correlated all usage only with the titles that has seen use, we can calculate how intensely these titles have been used. Course readings and on-demand titles have been used most intensely – with 3.83 and 3.24 uses per title respectively.



Same analysis per discipline does not show notable differences.

Some other interesting highlights

- Most borrowed book: Chemistry course reading with 53 checkouts, 5 renewals, 1 soft checkout
- Only 4 books had 3 soft checkouts each, 96 has 2, all the rest (462) – just 1 soft checkout*
- 22% of all first checkouts went out on RS; 26% were borrowed by undergrads, 16% - by faculty; 14% - by grad students; remaining 21% - staff, alumni, community members, retired faculty, and affiliates

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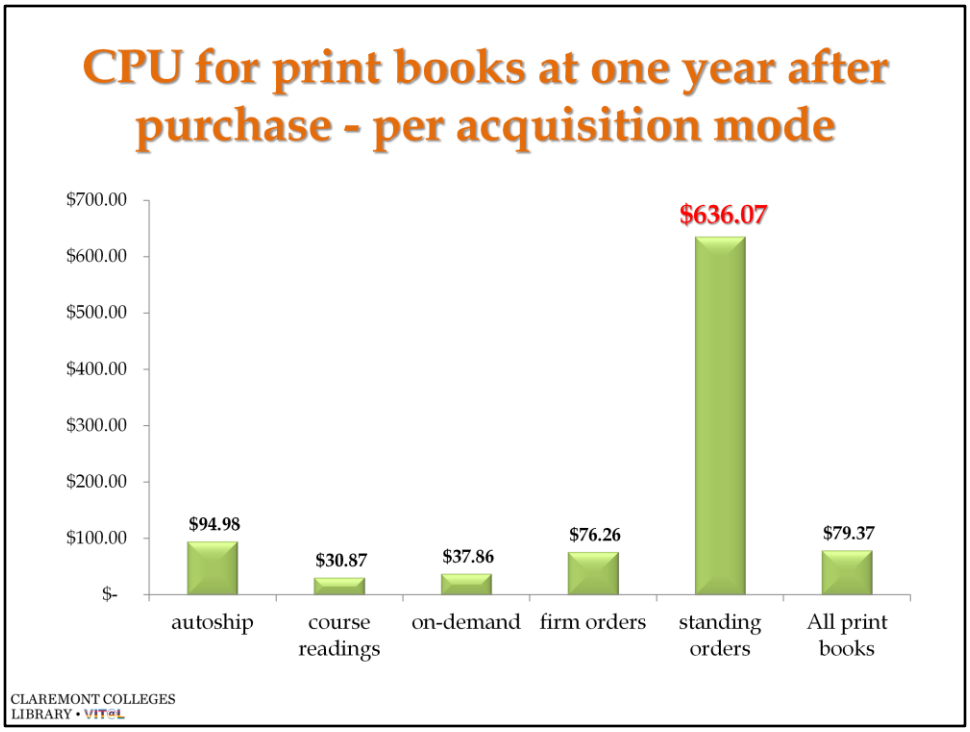
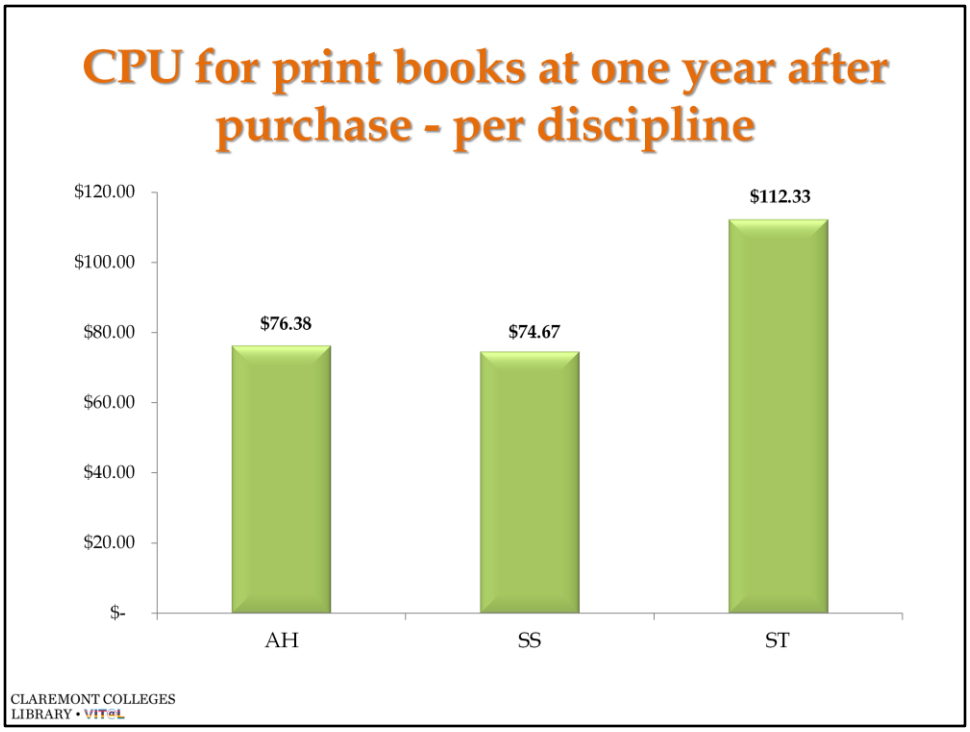
No titles with intense internal usage. We will never know how many books patrons are reshelving themselves.
The significance of the 22% of titles that circulate first to other libraries is that our library got a lot of reproach for leaving Link+ borrowing consortium when we migrated out of our III ILS. This data shows that we are still very much a team player and lending a lot, including our newest titles.

Q4: Cost per use of print books a year after purchase



Good CPU for a journal is no more than $25 per PDF; it cost $30 to borrow a print book via Resource Sharing.
The data for standing orders is very troubling. But the course readings number is great! Even though this service requites a significant investment in both dollars and staff time, it seems to be our BEST investment.



Seems right, given that STEM books tend to be more expensive per average

CPU for print books at one year after purchase - per subject

Subject	CPU
Chemistry	$ 42.32
Psychology	$ 49.95
Sociology	$ 57.91
Philosophy & Religion	$ 59.29
Education	$ 60.66
Political Science	$ 63.31
Medicine	$ 64.79
Language, Linguistics & Literature	$ 65.34
Recreation	$ 68.62
Art & Architecture	$ 69.06
History & Auxiliary Sciences	$ 79.17

Subject	CPU
Computer Science	$ 97.97
Business & Economics	$ 102.22
Physical Sciences	$ 102.29
Anthropology	$ 103.11
Geography & Earth Sciences	$ 104.18
Library Science, Generalities, & Reference	$ 105.22
Biological Sciences	$ 105.92
Engineering & Technology	$ 135.54
Law	$ 140.05
Mathematics	$ 235.34
Agriculture	$ 346.59

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Not at all what we expected. We will be spending more time with this data to understand what it means and how it can inform our future collection development.

ZOOM BACK OUT TO THE BIG PICTURE

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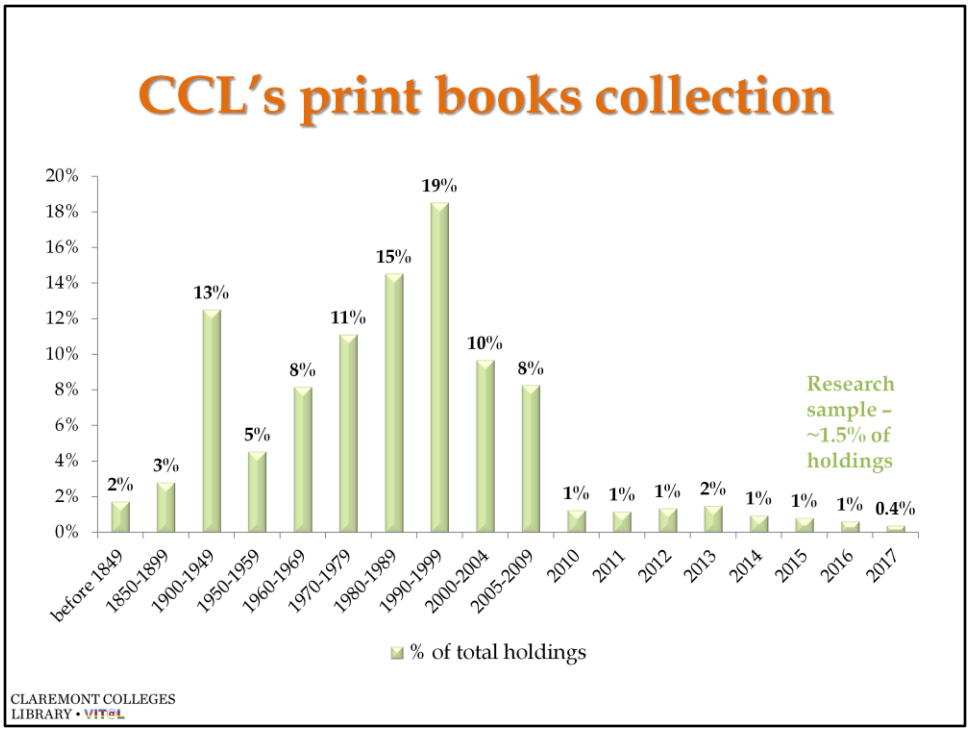
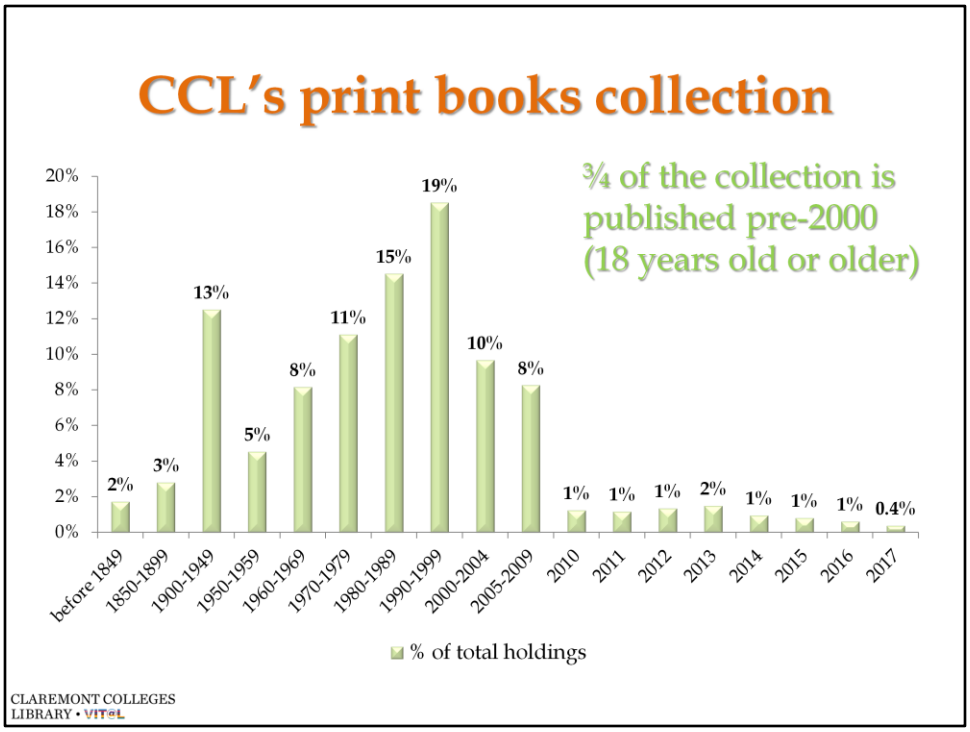
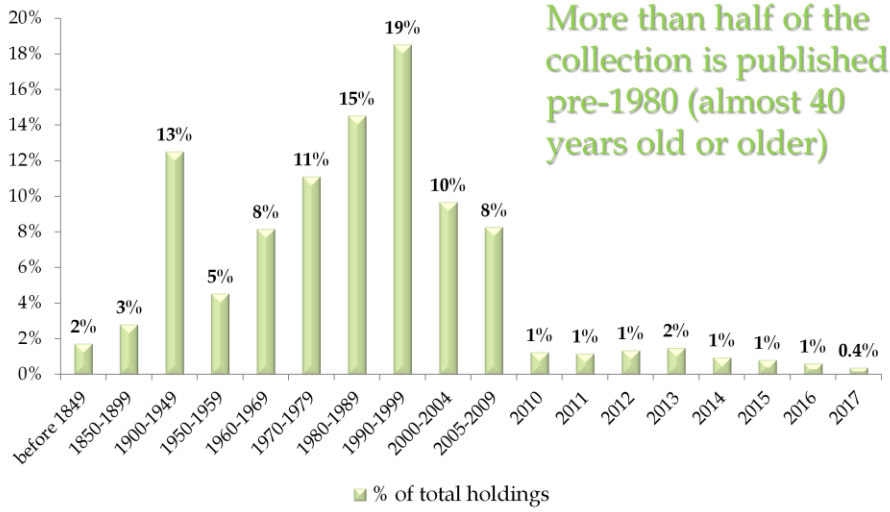


I'd like to put in context the sample we just examined. While not every title is purchased in the year it is published, those two are *usually* the same or close. We also rarely go back and purchase significant number of print backlist, so, publication year tends to be a good indicator as to how long the book has been in the library. The sample we talked about represents ~1.5% of all holdings.



To put that in perspective – ¾ of the collection is 18 years old or older. I'd like to talk about the significance of the number 15 in book age. It is number that is being thrown around in libraries a lot lately – we consider titles older than 15 years for weeding, we look for circulations within the last 15 years, we commit to keep books for 15 years in Shared print agreements. All this to say is that 15 years seems to be the threshold beyond which a book is no longer considered new and hot. And that's where ¾ of our collection falls.

CCL's print books collection



More than half of the collection is published pre-1980 (almost 40 years old or older)

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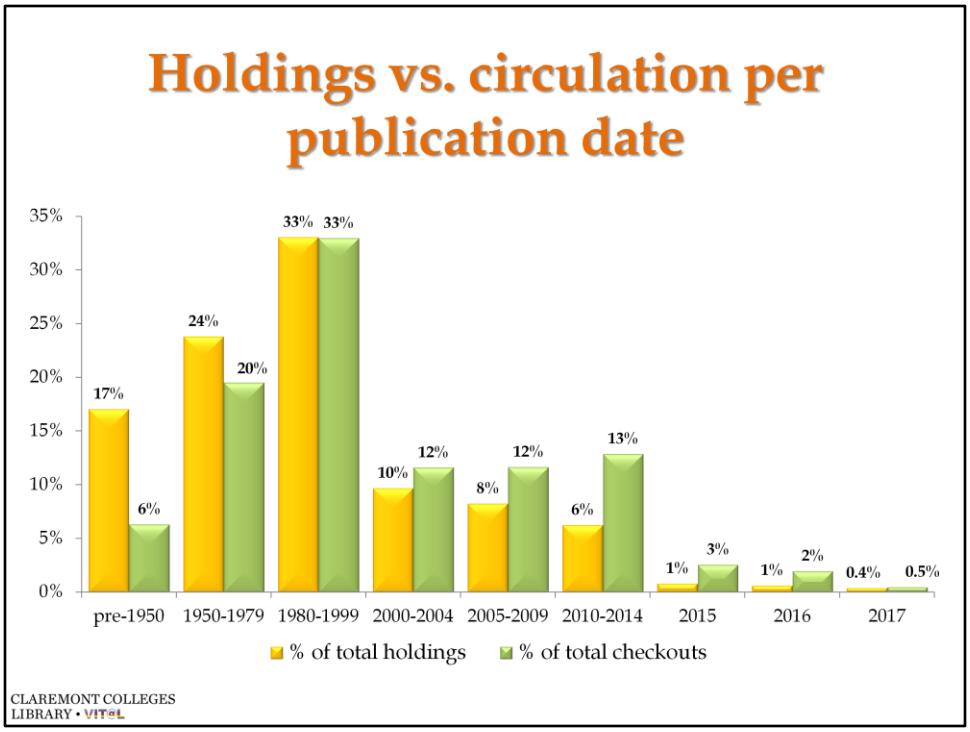
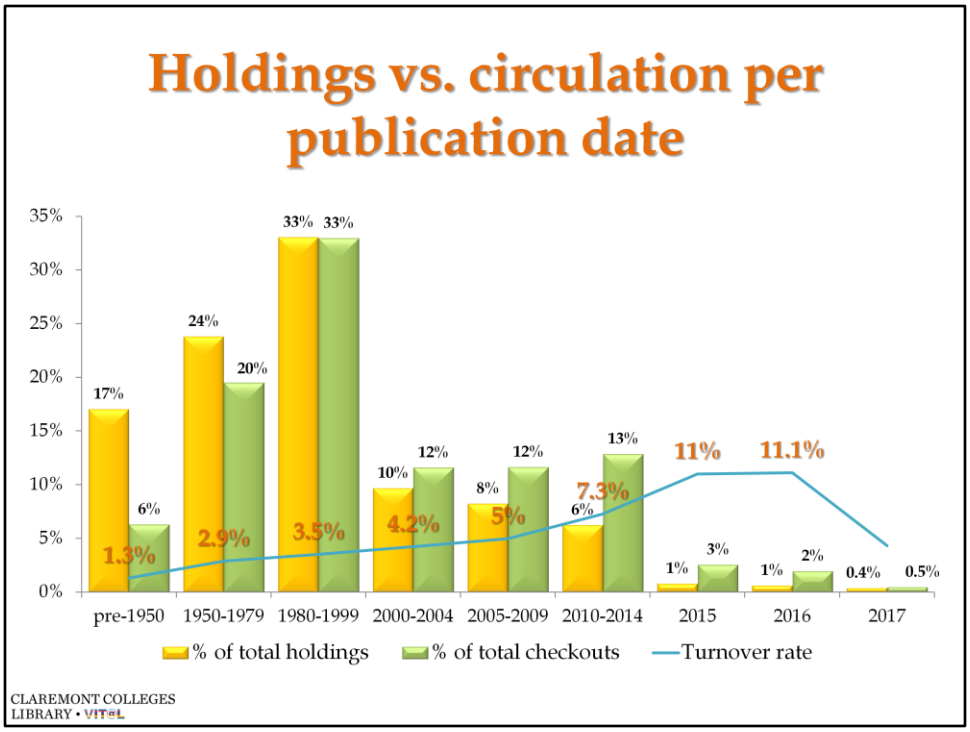
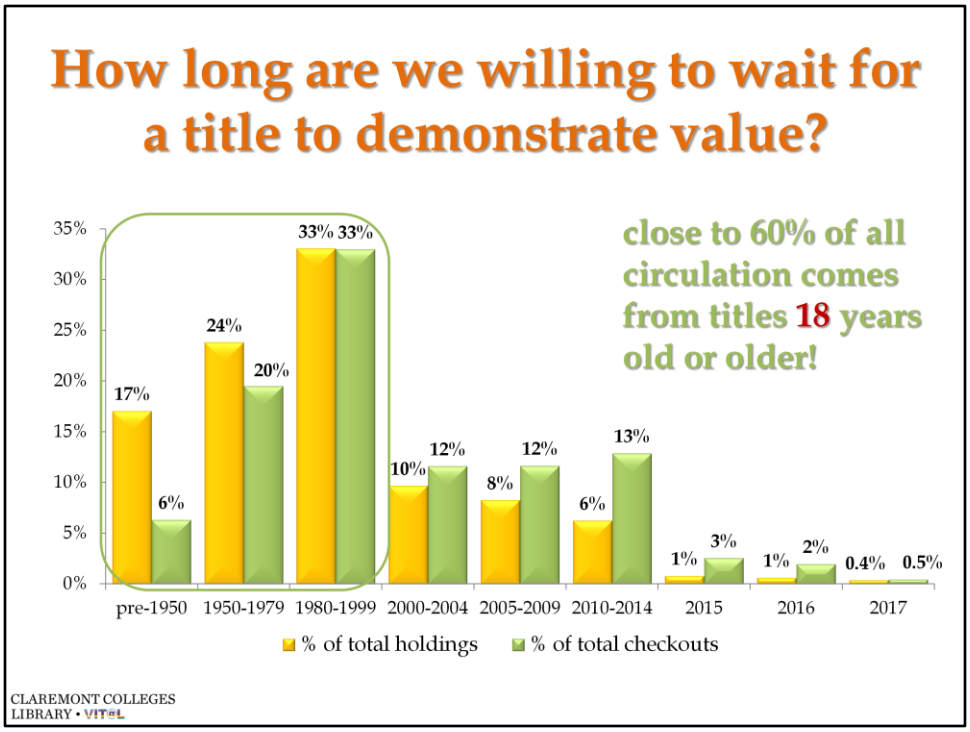


We correlated the distribution of circulations with the distribution of holdings. The yellow bars show what percentage of total holdings were published in the specific publication period, while the green bars show what proportion of circulations belonged to that groups between Jul 1, 2015 and Sep 30, 2017.

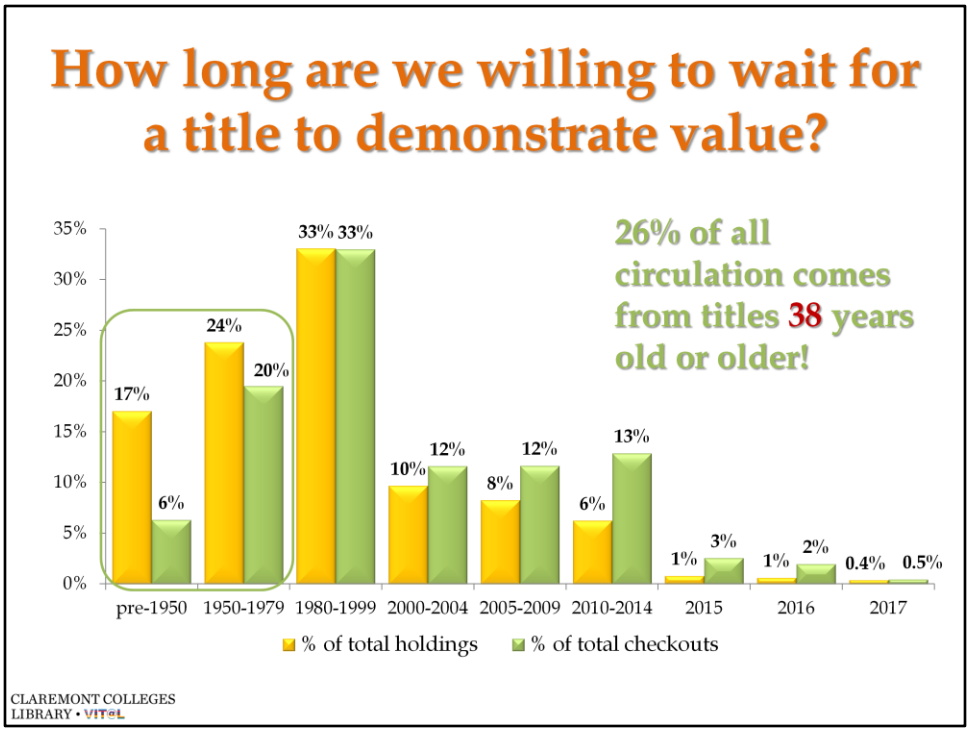
For example – pre-1950 books are 17% of all holdings, but received only 6% of all circulations; titles published between 2010 and 2014 on the other hand represent 6% of holdings, but 13% of all circs. So, clearly if the green bars are higher, titles have circulated more intensely per average.



Adding the turnover rate makes that more visible.
For example – the 2016 turnover rate is 11%, meaning that in average 11% of all titles published in 2016 have seen a circulation in the period between Jul 1, 2016 and Sep 30, 2017 vs. only 4.2% of the titles published between 2000 and 2004.

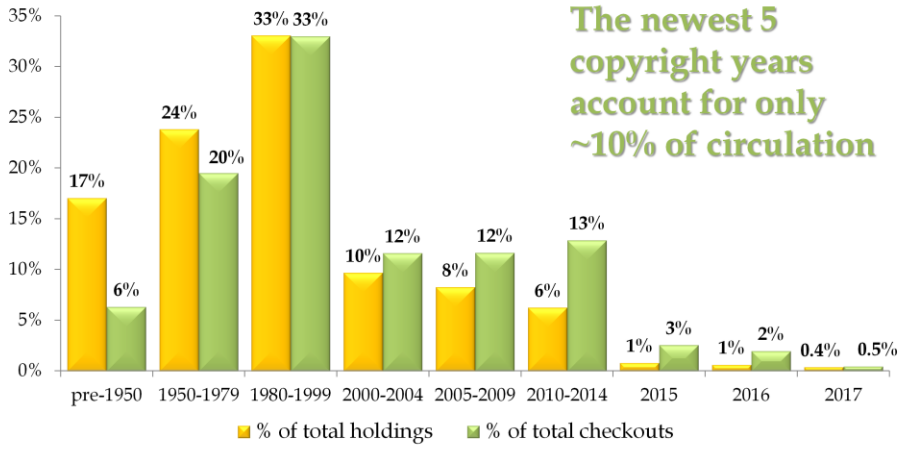


While we recognize newer titles are used more, 60% of all circulation still comes from titles 18 old or older – the titles we consider old. So, if we are going to be removing some of these from the open shelves, we'll need to do that very thoughtfully.



Significant circ numbers from even older titles.

How long are we willing to wait for a title to demonstrate value?



The newest 5 copyright years account for only ~10% of circulation

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Don't stop the presses!

Our data points to the conclusion that print books are an important and desired resource for academic teaching, learning, and research and their value manifests over a long period of time after purchase.

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Don't stop the presses!

The short term return on investment, while an important piece of evidence, is a small part of the picture.

What did we learn?

- The study reinforced our commitment to purchase all course readings and our focus on meeting immediate demand
- Course readings are our best short-term investment
- Discipline does not seem to be a significant factor influencing circulation
- Review of standing orders is forthcoming

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What's next?

- Look for more trends that can inform our collection development strategies
- Closer look at course readings and on-demand titles that did NOT get used
- Closer look at internal usage and usage per patron type - to inform our space planning and active print initiatives

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What's next? (Cont'd)

- Compare this set to e-books purchased at the same time
- Follow that same list of titles through short-term and long-term:
  - Will not used titles pick-up later?
  - Will disciplinary differences manifest?
  - Will per acq mode trends continue?

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Inform space planning for active print

QUESTIONS?

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