



What is an Academic Library in the 21st Century?

An Interactive Qualifying Project Submitted to the Faculty of the

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Abstract

As the world has moved into the digital age, libraries have needed to evolve. This project aims to assess WPI's George C. Gordon Library's monograph collection and the purpose it serves in the WPI community. Our team surveyed 201 WPI students about their relationship to books and the resources they need from the Gordon Library. Our results show that while a majority of students value having access to the monograph, students still tend to use e-books for research. Therefore, we recommend removing a portion of the monograph to allow room for additional workspaces.

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1.0 Introduction

Since libraries first became popular at universities in the 1600 and 1700s, they have played a fundamental role in students' education, providing them with a place to enhance their learning outside of the classroom (Krasner-Khait, 2001). However, in the 21st century, with more resources becoming readily available online, what role does the academic library serve? The modern library provides access to printed and digital collections and maintains computer stations and learning areas of various designs and functions. Therefore, the perception of the academic library expands to a center for both formal and informal learning and for non-library activities that support the developing and learning communities within the academic institution (Choy & Goh, 2016; Shoham & Roitberg, 2005; Watson, 2017).

However, the evolving world of digital media and technological advances challenges the effectiveness of the traditional library as it is presently structured. To remain fundamental to modern academia, libraries need to continue to grow with the modernizations of the 21st century to meet the needs of the 21st-century learner. Libraries need to expand past providing a home for books and printed reference materials, to become a place more conducive to the new digital landscape. Is it necessary to keep all of this information on hand in printed form as, with the use of the internet, many materials are available digitally with a few keystrokes? Does a library need books to be a library? How have people's relationships with books changed over time?

On-campus, Gordon Library provides online, digital access to many existing sources for students to use. The ease of access to these resources questions the necessity of the current monograph collection. This IQP addresses how the WPI community uses the library's books and whether the removal of the monograph would be beneficial. This project examines the

importance of the library's utilization of its physical and virtual collection and the role the collection plays on campus through the lens of student needs.

After conducting a survey of the WPI student population, our results show that a majority of students never checked out a physical book from Gordon Library last year. Additionally, a quarter of the students surveyed only checked out a book once a year. Based on students' responses to 40% would like Gordon Library to remove a portion of their print books in favor of using the space differently. With more students saying that they used more e-books for research over the past year, it is vital that Gordon Library provide its student with the resource they need to further their education.

2.0 Background and Literature Review

The main purpose of this IQP is to provide recommendations to our sponsors at Gordon Library as to what the WPI community needs in a collection. Libraries across the country are dealing with the same questions as to whether they should decrease their monograph in favor of more modern technology and digital resources. This raises a central question to the process: what is a library? Is a library still a library without books? How do people view books? Our goal with this IQP is to answer these questions in the context of Gordon Library and the WPI community.

Throughout this chapter, we will explore the history of books to determine their evolution and traditional usage. Additionally, we will examine the difference between physical books and digital books and how this pertains to libraries' collections and their importance to a community. Finally, we will explore how the digital age has impacted academia to determine if students need a more technologically adept library to keep up with the evolving classroom setting.

2.1 The History and Libraries and Books

The first known library dates back 5,000 years to ancient Mesopotamia and consisted of a collection of 30,000 tablets. Other collections of papyrus scrolls were found in ancient Egyptian cities. These "libraries" were repositories owned by royals and the rich until the ancient Greeks expanded libraries to be both public and private. With the rise of intellectual life in ancient Greek culture, libraries became a prime source of trustworthy information. Greek library served as a foundation for the Great Library of Alexandria. This library was open to the public and housed nearly 750,000 scrolls. The Library of Alexandria had a paid staff and housed its "books" in pigeonholes with wooden tags. During the reign of Cleopatra, Julius Caesar was permitted to

take some of the library's contents back to Rome. These scrolls yielded the Roman public library. The libraries were divided into Greek and Latin sections with books placed along the walls and space in the middle of the room for readers. Books were usually donated or copied from the original work. To work in a library was prestigious. Workers would fetch scrolls for readers and copy new or damaged scrolls to be added to the library. While libraries were technically open to the public, they were still only for the learned; so, imperial baths added libraries so more people could have access to knowledge. With the fall of Rome, libraries were thought to be lost (Foskett & Francis, 2017; Krasner-Khait, 2001).

However, in the early 500s, a monastery was founded in Egypt. Its founder insisted on his monks' literacy. Throughout the east, monasteries were now housing small, theological libraries. The monasteries' libraries became sacred and they soon began to lend books to other libraries. As Christianity spread, so did the libraries. By the 1400s, Europe was undergoing its renaissance and looking to the ancients for inspiration. Many aristocrats were developing private libraries. The Vatican also opened its library during this time. With the growth of universities, these private libraries often donated their works to university libraries. It was at this time that previously handwritten scrolls were replaced with printed books. In the 1600 and 1700s, libraries became popular as universities and state-supported collections grew. Many counties founded national libraries during this time. The earliest library in the United States was at Harvard University which consisted of John Harvard's collection. The first lending libraries in American were established by Thomas Bray in the late 1600s, followed by subscription libraries in the 1700s. However, public libraries were not readily available until free public education for children was introduced in 1833 (Foskett & Francis, 2017; Krasner-Khait, 2001).

Now, 5,000 years later, libraries remain fundamental to academic learning, providing access to printed and digital resource collections. While the earliest books were rare and often unique tablets and scrolls, books have evolved into bound texts that are readily available to the general public. With the rise of the digital age, knowledge and resources (including books) are steadily moving online. Therefore, as this evolution continues, the WPI community must continue to evolve, as well.

2.2 Differences Between Book Formats

Similar to the path of the library through history, the book as a physical entity can be traced from the early scrolls to bound pages through to the emergence of the digital format in the 21st century. The establishment of the Internet Archive in 1996 laid the foundation for Google's introduction of electronic literature in 2004. The subsequent debut of the iPhone and Kindle in 2007 further incited the adaption of its use by providing an easily accessible vessel to access the written content (Liberty, 2019). Although the physicality of the book before and after the emergence of the digital age have changed, the contents and its integrity remain the same. However, has the user's relationship to the contents changed beyond that of preference in mediums? How has the differences in the deliveries and the expectations of accessibility impacted the relationship to books and therefore libraries?

According to a Pew Research Center survey in 2016, the percentage of Americans who have read a book in the previous twelve months remained practically unchanged at 73%. Additionally, the survey found that Americans are more likely to read print books than digital books. Their findings showed that 65% had read a print book in the previous year, whereas 28% had read an e-book and 14% have listened to an audiobook (Perrin, 2020). However, this study

did not consider and segregate data according to age and technological usage or the type of material being accessed. How would this data relate in the realm of academia and among the demographics present in the WPI community?

A 2018 Statista survey studying e-book readers by age in the U.S. addresses this problem. Over the course of a year, 34% of 18- to 29-year-old respondents had read at least one e-book. The survey showed that those in higher age brackets read less e-books than those in the younger group with the 30- to 49-year-olds at 31%, the 50- to 64-year-olds at 20%, and those 65 and older at 15 (Watson, 2020). This data shows that there is a relationship between age demographics and the formats of the books people chose to read. However, this survey does not take into account that the average college student is aged 18- to 22-years-old. By including 23- to 29-year-olds in this category, the data for this group may have been reduced as it is possible that college students read more than working adults. This is a problem we hope to address in our own survey in the context of Gordon Library and the WPI community.

Examination of this relationship between user and book and how it has evolved with the digital adaption is warranted. More specifically in the context of this IQP and considering that WPI is a polytechnic university, how have those in the WPI community's relationship to books evolved? Is the current structure of the Gordon Library aligned with the current and future needs of the community?

2.3 Student Need for Technology

What students need their universities to provide is a widely researched topic. Overall, trends in the data from these studies suggests that students are moving away from the traditional

technologies of printed materials and blackboards and into the more modern technology of online research and digital learning.

According to a survey conducted by the researchers in the article “A Really Nice Spot”: Evaluating Place, Space, and Technology in Academic Libraries, the results of their student surveys suggest “that academic libraries should develop new metrics to measure library place and space in settings of technologically-supported group work” (Khoo et al., 2016). In the study What Do You Want from Us? Evaluating Student Interest in Technology-Based Services in Academic Libraries, the data showed “a decline in tablet usage and interest, continued need for library computers, and a complex relationship between social media usage and engagement with the library” (Elkins et al., 2020).

Students are spending more of their learning online than ever. Overall, 83% of college students own a laptop and over 50% have a Smartphone (The Evolution of Technology in the Classroom). In addition to technology being used in the traditional classroom, a wide variety of non-traditional education opportunities are now available including virtual or online learning, full-time online schools, blended learning, open educational resources, and the use of digital resources. “Forty-eight states and the District of Columbia currently support online learning opportunities that range from supplementing classroom instruction on an occasional basis to enrolling students in full-time programs” (Use of Technology in Teaching and Learning).

Overall, academia is trending towards an increase in the incorporation of technology and the digital world into education. Since students are using technology more in the classroom, should they have technology they can use in their studying outside of the classroom? Do libraries

need to provide students with resources that are “on the same level” as the technology they use in the classroom?

2.4 Conclusions

A library’s traditional purpose of providing a home for books to be accessed by intellectuals has evolved into a community space for all who wish to learn. Now, libraries provide not only physical resources and services, but they continue to meet the needs of their patrons by providing the digital resources that younger generations are utilizing. In looking to the future, as education is trending towards greater incorporation of technology, it is still important for libraries to maintain their purpose of providing accessible knowledge to all. Our background research leads us to conclude that a delicate balance may need to be established between the traditional monograph and online resources, as the community benefits from both. While our research has given us a general view of what a library should be, we will need to determine what the WPI community specifically needs from its library.

3.0 Methodology

Our goal in this project was to assess the WPI community's relationship to books and what resources the Gordon Library needs to provide. In order to provide accurate recommendations, we had to understand WPI students' relationship to books, their studying habits, their usage of Gordon Library's collection, and their expectations for Gordon Library. Additionally, we need to understand how WPI's collection is used, such as, the usage of the print collection and online resources.

3.1 Survey

This project aimed to gather valuable ideas and information from the population of WPI's students. In this case, surveys were an advantageous method in describing the characteristics of a large population because it was only needed to collect information from a sample of a minimum feasible size. No other research methodology would have provided this broad possibility. We considered conducting focus groups because they are an excellent way to foster open discussions, they provide more in-depth data than a survey, and they can also supply more helpful qualitative information. However, the downside of this approach lies in that, without the anonymity of a survey, it is often harder to convince people to speak their minds freely. Therefore, we decided to use a survey because we can gather targeted results. Moreover, surveys are inexpensive and the anonymity of surveys allows respondents to answer with more candid and valid answers (DeFranzo, 2020).

In this IQP, we conducted a survey that collected data from subjects responding to a basic series of questions. The survey subjects were WPI undergraduate, graduate, and PhD students.

The standard survey format allowed individuals a degree of anonymity where they could express their personal opinions. Details of how we computed the sample size with its confidence levels can be found in Appendix A.

The advantages of using the survey method to collect data were to survey a large population and that the quantitative data was easy to chart. However, this method had some challenges as it is time-consuming and it was challenging to encourage participants to respond (Lumen Learning). The survey included both quantitative and qualitative questions. The survey collected information in the main areas of demographics, relationship to books, and overall library usage.

As mentioned above, the main challenge when conducting surveys is getting participants to respond. We had hoped to circumvent this problem by using a combination of online and in-person solicitation. However, due to the restriction on WPI's campus during the COVID-19 pandemic and out of concern for public safety, we decided to distribute our survey entirely online via emails WPI department heads using Qualtrics software. Our initial expectation for the respondents' number was 385 to meet the 95% of confidence level. However, we received answers from 201 respondents for the survey. Although the number of respondents to the study is not as high as expected, it still meets the confidence level higher than 93%.

3.2 Data Analysis

Demographic questions such as grade level and major of study allowed us to ensure that we had a proper representation of the WPI population. Obtaining this information was beneficial in the overall analysis of all data collected.

Questions on past usage of the Gordon Library provided quantitative data on the frequency and type of utilization. This question gave insight into the amount of usage of the library materials. As a follow-up, respondents who indicate they have never checked out a book from the library were asked why. This qualitative question helped identify any shortcomings that exist within the current offerings, resulting in non-usage of the library as a resource.

Questions on preferences of book format were captured through a series of preference questions and allowed insight into the user's tolerance of any content availability delays. We also were able to ascertain if a difference in the preferences exists between intended usages. Preferences for the book format of physical books versus e-books and the length of time they are willing to wait for a physical copy provided insight on the library's options for housing the monograph. Additionally, we gathered opinions on which types of books should be removed to help guide any removal of all or part of the monograph.

4.0 Findings

Our survey questions were divided into four main groups. First, two demographics were used to determine whether the respondents correctly represented the WPI student population. The second group included questions related to the student's interest in the Gordon Library. They answered questions regarding how often they went to the library, what kind of books they checked out, whether the library should remove a portion of their print books, and their preferences for book formats the library provides. Third was the group of questions focusing on understanding different aspect of the students' preferences for e-books and print books. It consisted of questions such as preferences for subjects to read as a print book and choices in book format by specific purposes. The last group concentrated on learning about the experience of e-book usage among respondents, such as the importance of free e-book content, the importance of using e-books in research, and changes in e-book usage over the last year.

4.1 Demographics

Some of our first questions were about the demographic information of respondents. Of the total of 201 students who responded to our survey, the vast majority were undergraduate students at 86%. We had hoped for a more even spread of respondents as based on the data from 2019-2020 school year (Common Data Set Initiative), prepared by the Office of Institutional Research of WPI, the proportion of postgraduate students in the WPI population is 30%. We estimate the cause of the mismatch of these figures was due to our online survey not reaching them or them not being interested in the topic.

The majority of our survey respondents (86%) are currently pursuing their bachelor's degrees. Among the 86% of undergraduate students, we had a relatively even split of participating students by class year (shown in Figure 1 below). The majority of students were in their junior year. We believe this majority is likely due to juniors being more likely to help with IQP surveys as they have recently or were currently completely their own IQP.

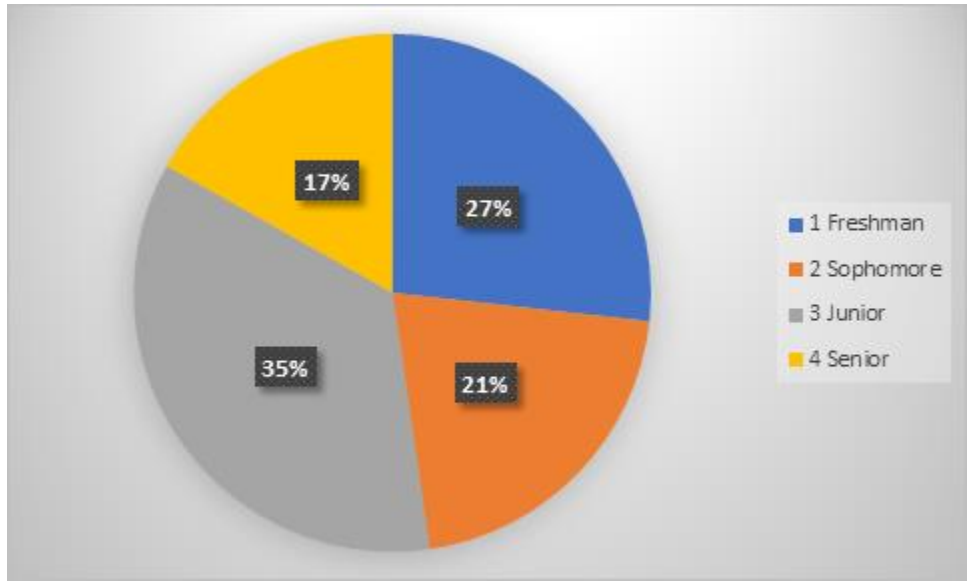


Figure 1: Distribution of school year of undergraduate respondents

Additionally, the number of Freshman participants in our survey correctly reflects the population structure of undergraduate students at WPI. The Common Data Set for 2019-2020 (Common Data Set Initiative) shows that freshmen students should account for 27% of undergraduate students.

As can be expected with a polytechnic institution, 50% of undergraduate respondents were studying in various engineering departments with the highest percentages in Biomedical Engineering and Electrical and Computer Engineering. We also received a substantial percentage

of responses from students in Computer Science and Biology & Biotechnology, as shown in Figure 2.

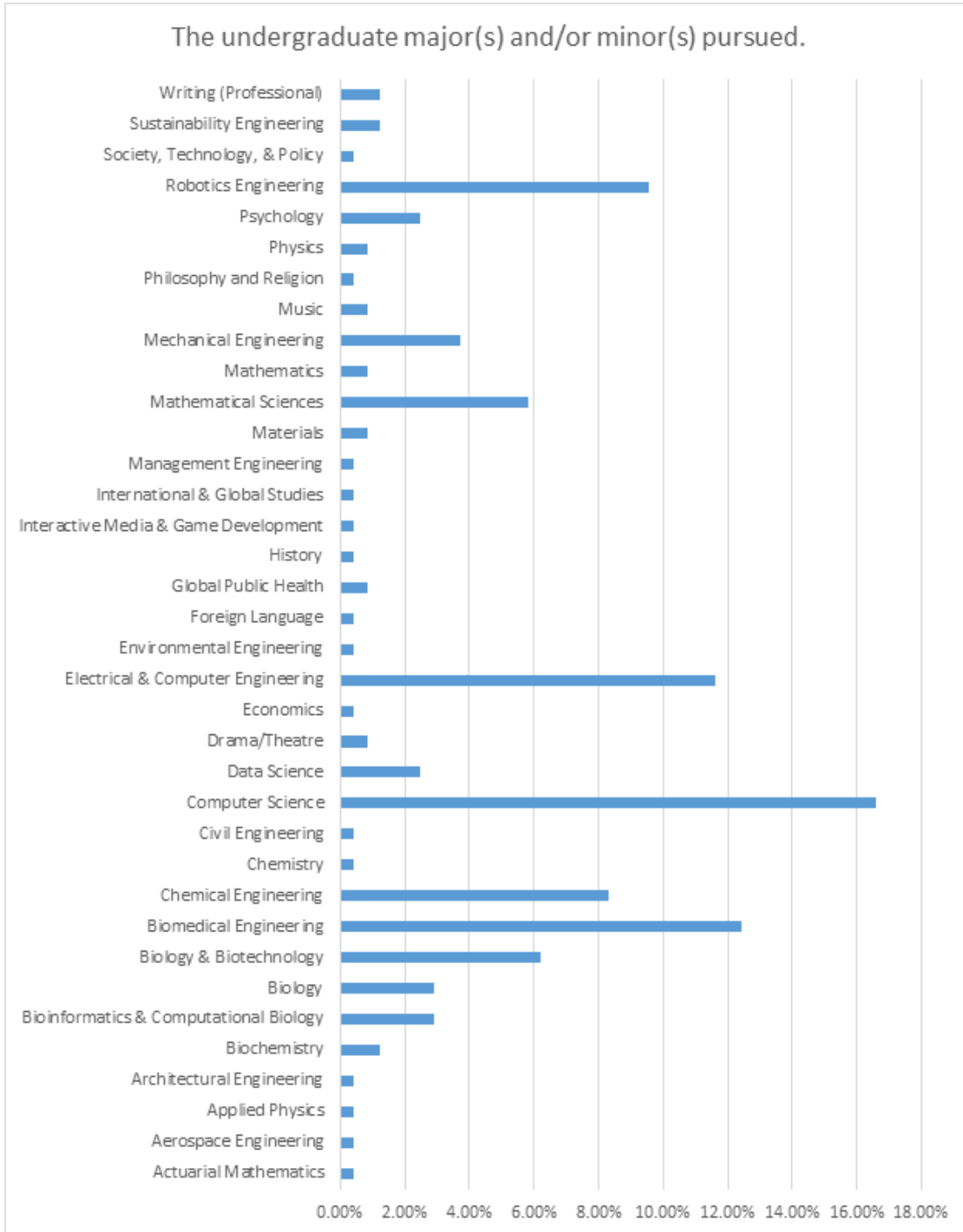


Figure 2: Distribution of undergraduate majors and minors

4.2 Usage of Gordon Library

In order to understand what students' need from Gordon Library, we had to understand how they current use library resources. When respondents were asked how often they had checked out a physical book from Gordon Library, 61% answered "never," followed by 25% that answered "once a year." This statistic may be artificially inflated due to social distancing over the last year from the COVID-19 pandemic. However, we must consider that only nine students checked out a book at least "once a week" and only one student checked out a book "multiple times a week." A full spread of this data is shown below in Figure 3. Another aspect to consider is when asked what their preferred format of book to access from Gordon Library was, the majority of students (58%) responded that they prefer to access digital books.

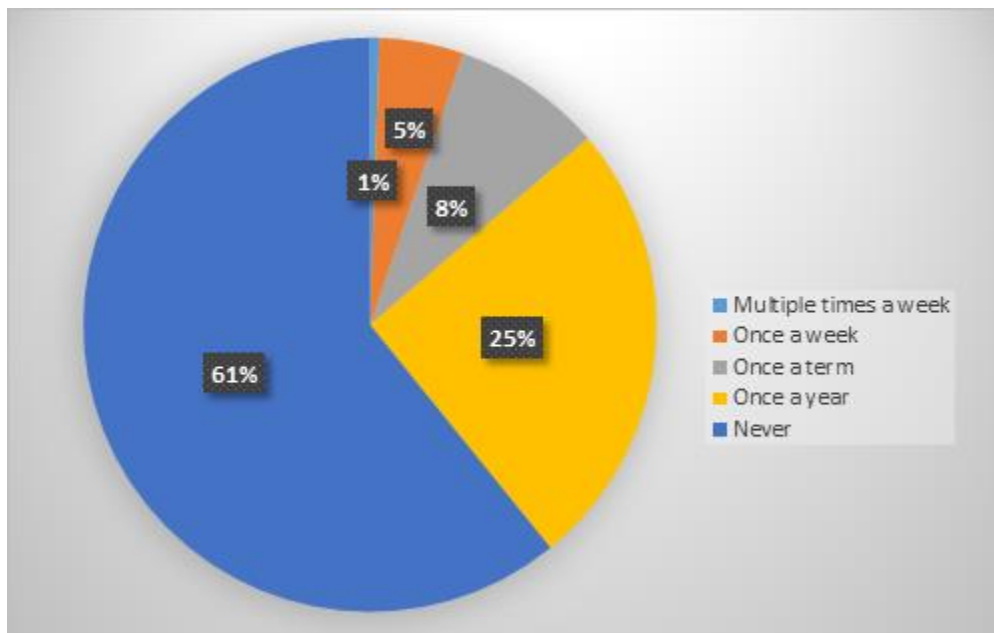


Figure 3: How often have you checkout out a physical book from the Gordon Library?

Additionally, we asked students who responded that they would rather use a physical book from the library, whether they be willing to wait 24 hours for access to the physical book or if they would rather have immediate access to the digital book. A little less than half of the students said they would rather wait for the physical book (Figure 4). When those willing to wait were asked the same question with a wait of 48 hours, 89% of students still said that they would prefer the print version (Figure 5). This large percentage shows that those who prefer print books tend to insist on using print instead of a digital book, even when the digital version is more readily available.

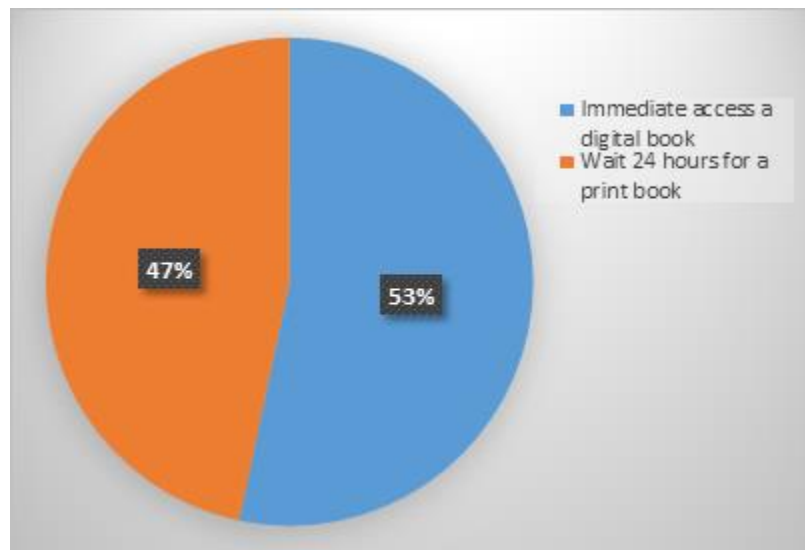


Figure 4: Would you rather have immediate access to a digital book or wait 24 hours for a print book?

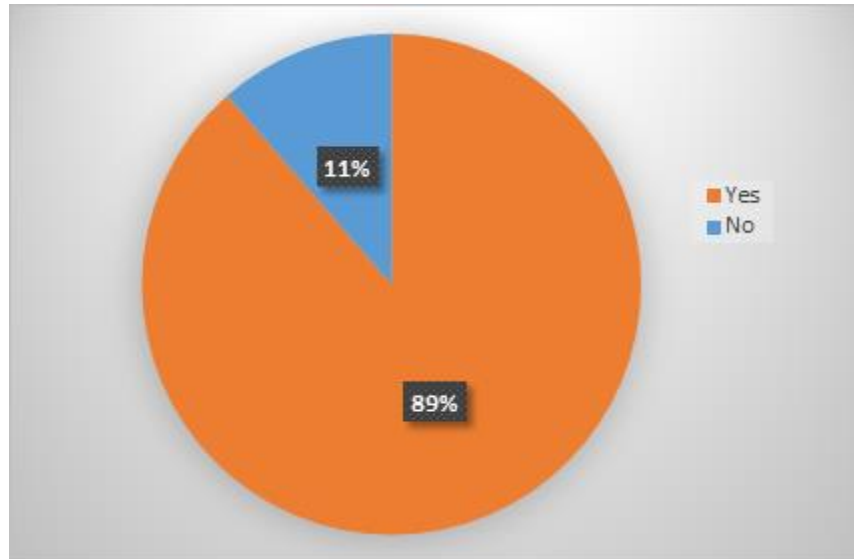


Figure 5: Would you be willing to wait 48 hours for a print book?

As part of our survey, we wanted to get students' opinions on whether the library should remove a portion of their print books in favor of using the space differently. The students were then asked to justify their responses. The 40% of students who responded that they would like the space used differently generally agreed that removing some of the monograph to make room for more study and group workspaces would be beneficial. One student commented, "[removing part of the monograph] could brighten up the library and leave more room to incorporate extra study spaces or other resources that cannot be accessed digitally." Of the 60% that were against some of the monograph being removed, many expressed that they did not know what a library would be without books. Still, others were open to the idea, but hesitant as they felt having access to the physical books was important, but they also wanted the collection to be better organized so the space could be used more effectively. One student suggested, "the library could implement a reservation system where only librarians could access the books in storage, and they had to be reserved ahead of time." Overall, no matter whether the students wanted to remove part

of the monograph or not, they generally agreed that the space could be used better and the collection could be better organized.

Lastly, students were asked a series questions about which books they have checked out and which books should stay or go if a portion of the monograph was removed. Figure 6 shows which books were the most checked-out, with the majority being Engineering, English & Literature, History, Mathematics, and Other. Similarly, when asked which books should stay if a portion of the monograph was removed, students answered Engineering, English & Literature, History, Languages, Mathematics, and Natural Sciences (Figure 7). In contrast, the types of books that were most often selected for removal from the library were Agricultural Science, Arts, Communications, Computer Science, Education, and Law (Figure 8). This result is consistent with the types of books students reported they checked out as in the case of Agricultural Science, Communications, and Law, students did not report ever checking out books of those kind.

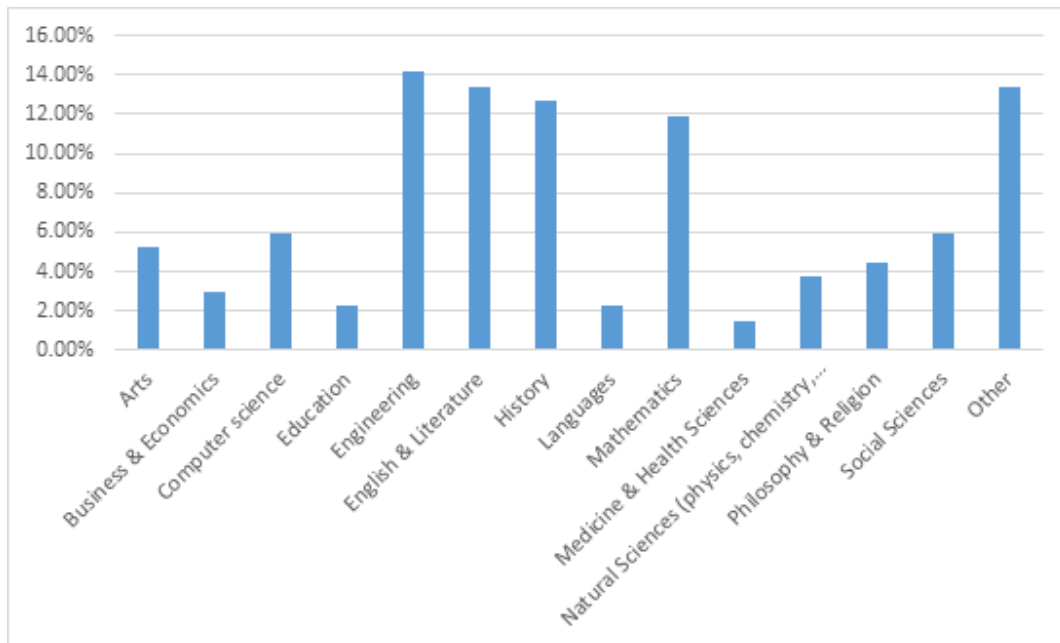


Figure 6: What kind of books did you check out?

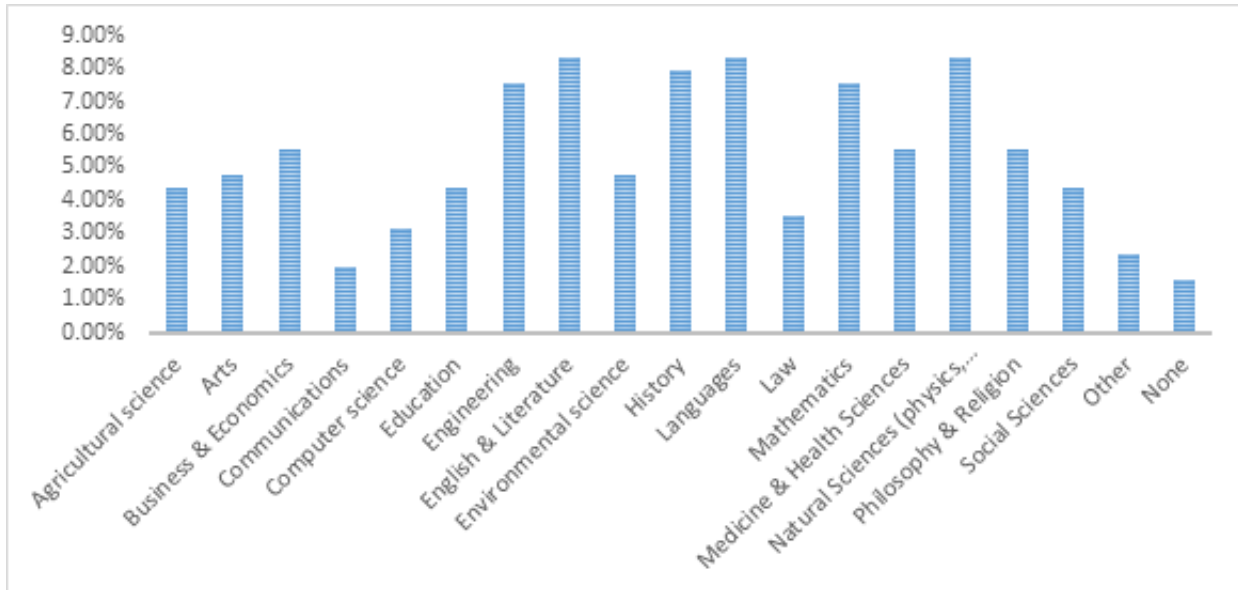


Figure 7: What books should stay?

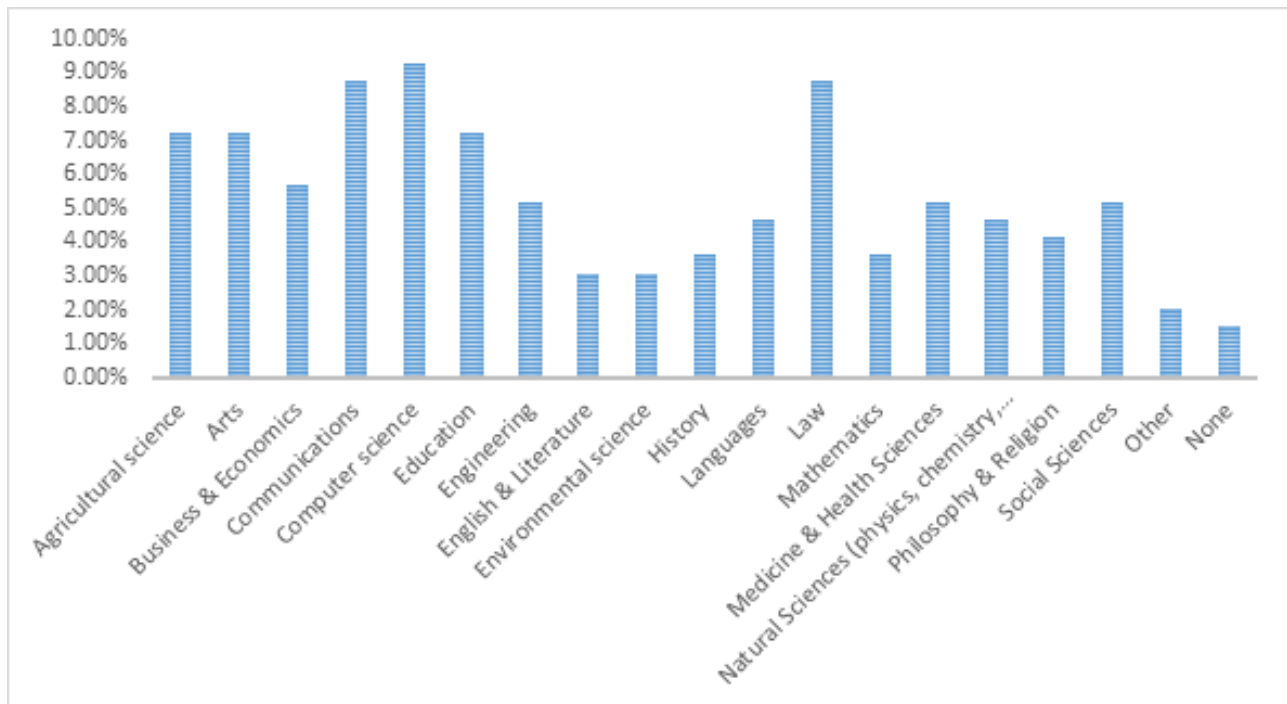


Figure 8: What books should go?

4.3 Book Format Preferences

Next, we needed to understand students' overall preference for e-books vs physical books. We started by asking for what subject areas they preferred to read as physical books. Students' overwhelmingly chose English & Literature, followed by History and Mathematics. Full results are shown in Figure 9 below. These results, combined with results from the previous section, show that students value have access to books on these subjects.

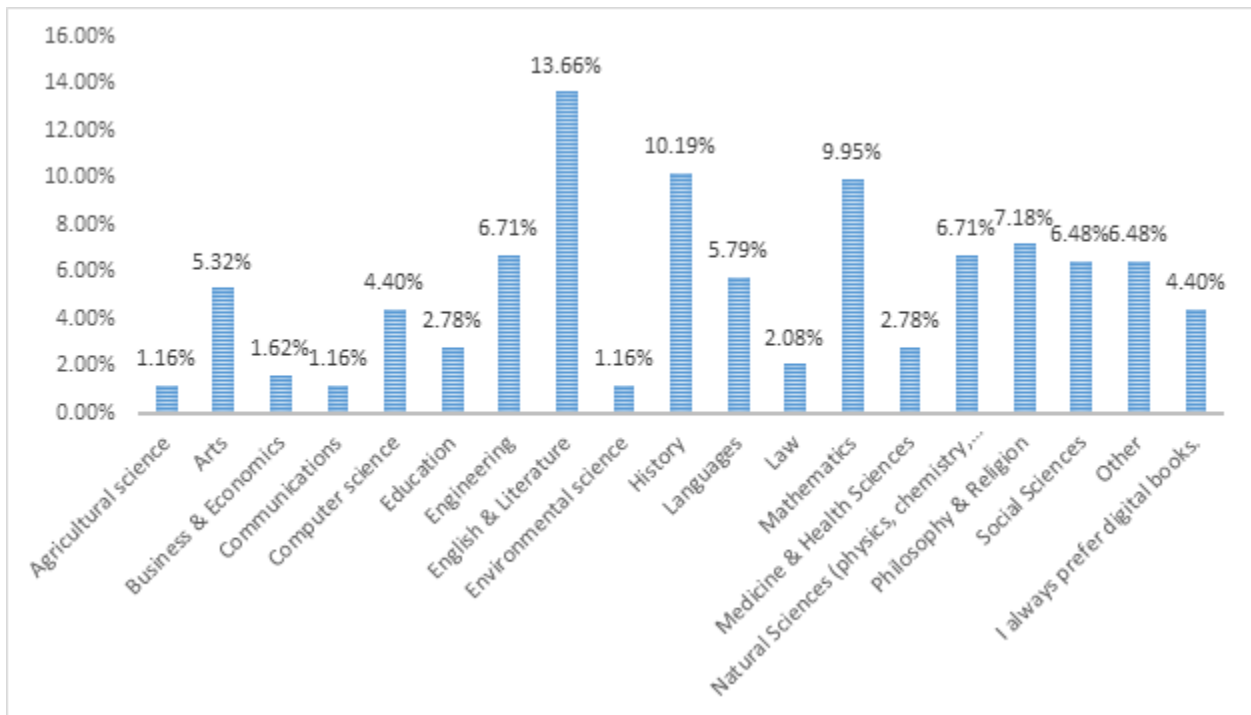


Figure 9: What subject area(s), if any, do you prefer to read as a physical book?

A rather significant part of a library is allowing patrons to browse and search for books. Therefore, we asked students if they preferred browse and search either online or in-person. For our purposes browsing was defined as looking for a book without a specific book or topic in mind and searching as looking for a specific book or a book on a particular topic. A majority of

respondents had a preference for in-person browsing (Figure 10); while a majority preferred online searching (Figure 11). This difference indicates that students would like the opportunity to browse, they also value the convenience of a quick online search.

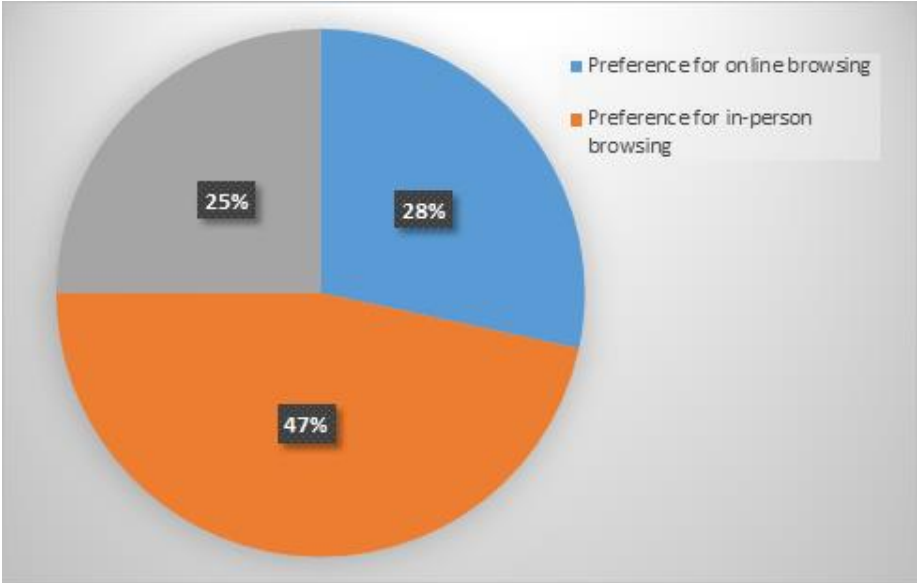


Figure 10: Do you have a preference for browsing for books online versus in person?

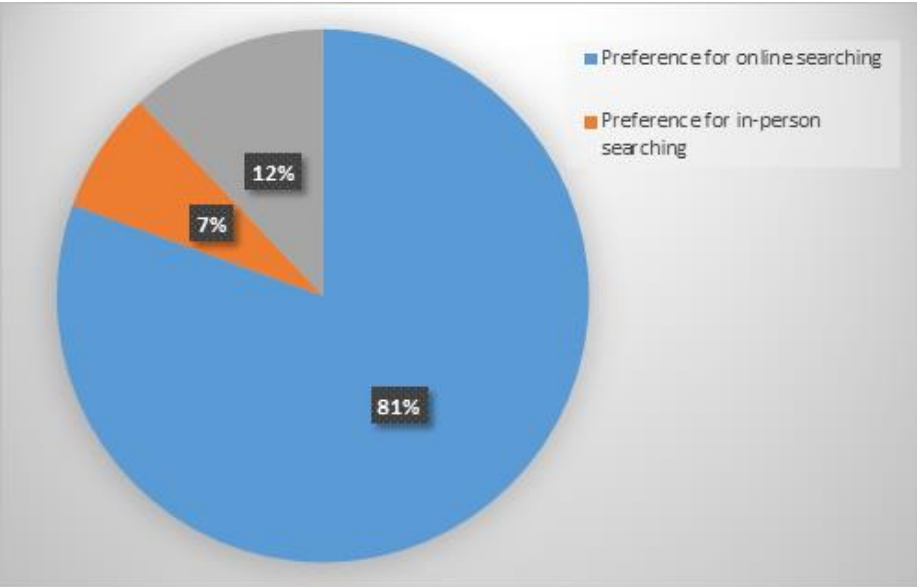


Figure 11: Do you have a preference for searching for books online versus in person?

Additionally, we wanted to know if there was a difference in which format WPI students preferred when they were using the books for different purposes. We asked what format they would prefer for doing research for a class or paper, for narrative reading, such as several chapters of assigned reading, and for pleasure reading. Our results show that the vast majority of students prefer to use e-books for doing research for a class or paper, but the majority prefers using print books for narrative and pleasure reading, as shown in Figure 12. Therefore, we believe that students would prefer to have quick access to commonly assigned narrative books and pleasure books and would be happy with having most reference books being digital.

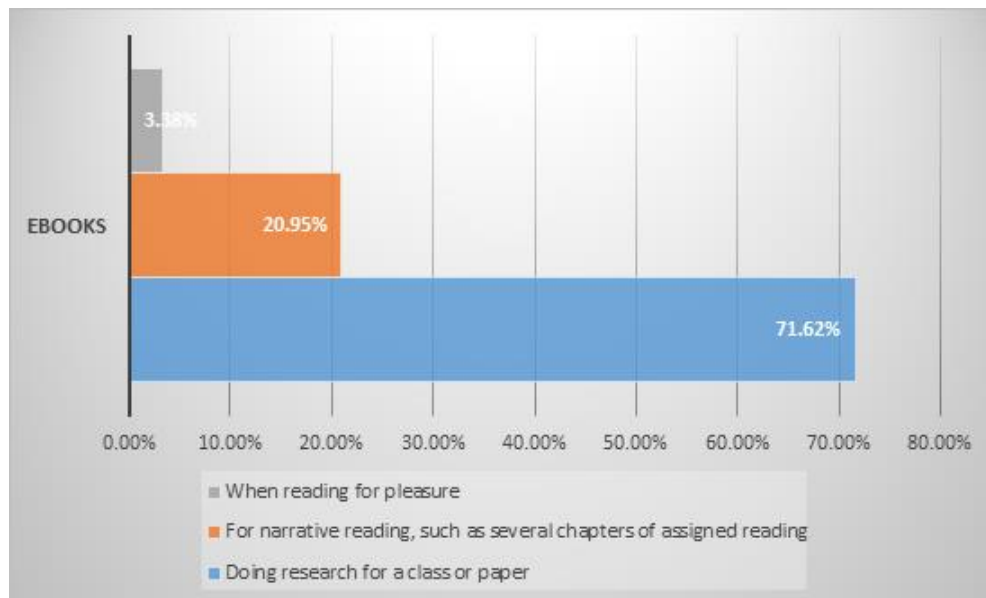


Figure 12: What book format do you prefer in the following circumstances? – E-Books

The last question we asked in this section was in regard to the students' preference for book and journal format when conducting research. When it came to books, a two-thirds majority of students often or always use e-books compared to the 10% that rarely or never use e-books for research (Figure 13). When students were using journal for research, 88% often or

always used e-journals (Figure 14). With the majority of students using both e-books and e-journals for research, we think the library should focus on expanding their digital resourcing in this area.

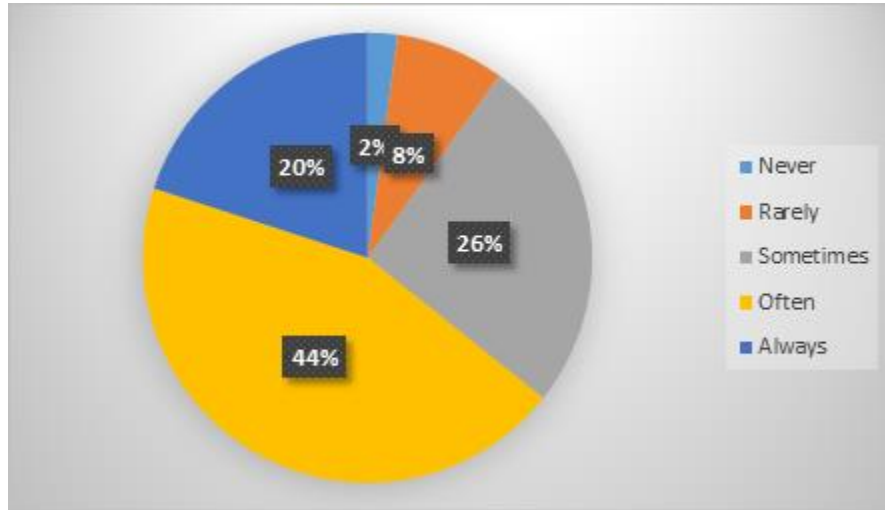


Figure 13: When conducting research, how often do you use the following sources? – E-Books

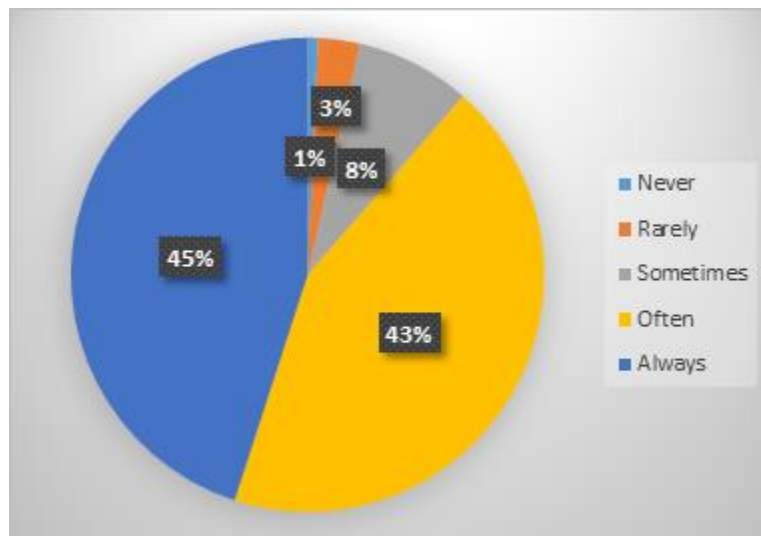


Figure 14: When conducting research, how often do you use the following sources? – E-Journals

4.4 E-Book Usage and Preferences

In our last section of questions, we asked students about their experiences with e-books. The first question asked respondents to rate five statements on a scale from strongly agree to strongly disagree. The statements and the net positive and net negative responses are shown in Table 1 below. This table shown that while respondents have an easier time reading print books, they find e-books to be more convenient to get. Additionally, even if they prefer a print book, 90% said that an e-book is a good alternative if a print book is not available. Students also find have an easier time finding the information they are looking for in an e-book. However, it is important to note that students were split when it comes to using e-books to avoid visiting the library. This split could be for a couple reasons. One being the current COVID-19 pandemic. Another possible reason is that e-books are generally faster and more convenient than making the trip to the library.

Statement	NET Agree/Strongly Agree	NET Disagree/Strongly Disagree
I have an easier time reading print books than e-books.	68.79%	9.93%
E-books are more convenient to get than print books.	89.36%	1.42%
If a print book is not available, an e-book is a good alternative.	90.07%	2.84%
I'd rather use an e-book so that I don't have to visit the library.	31.21%	41.84%
It's easier to find the information I'm looking for in an e-book.	80.15%	7.80%

Table 1: Please indicate the extent to which you agree or disagree with the following statements about print books and e-books (not including e-textbooks).

When the library is considering purchasing an e-book, they have to be aware of the restrictions that come with the book. Many e-books place restrictions on printing, downloading, and sharing content. When students were asked to rate how important having an e-book without these restrictions is on a scale of not all important to extremely important, a majority of students rated less restrictions as extremely (39%), very (18%), or moderately (24%) important (Figure 15). Students were also asked to rate seven statements regarding e-book restrictions on a scale of strongly agree to strongly disagree. A two-thirds majority of students agreed or strongly agreed that e-books from the library should have no restrictions. Additionally, the same majority said that while prefer those without restrictions, they sometimes use e-books with restrictions anyway. This data conflicts with the nearly 60% of respondents who said they do not usually need or choose to print, save, or share e-book content. Approximately 49% also agreed that restrictions make no difference in what e-books they use in research. However, there was an about even split regarding if it is fair that publishers restrict e-books and those that were aware that there are restrictions on e-books.

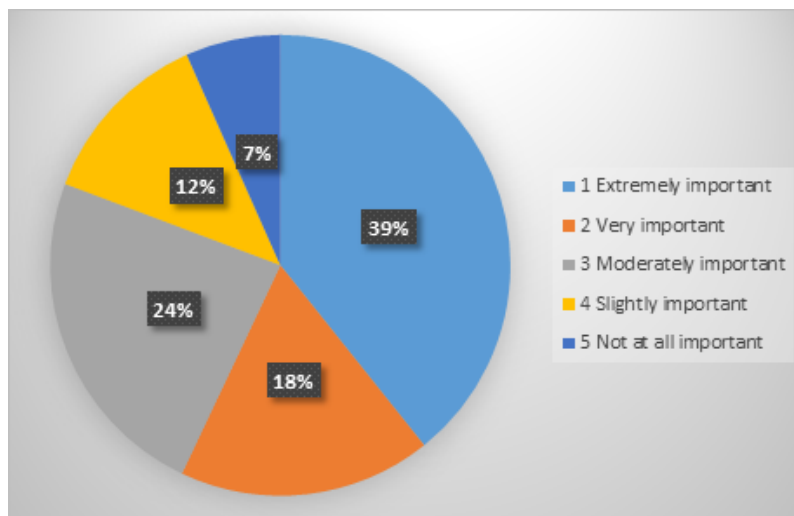


Figure 15: How important is it to you that e-books from your library allow you to print, download, and share content without restrictions?

Statement	NET Agree/Strongly Agree	NET Disagree/Strongly Disagree
I believe e-books from the library should have no restrictions.	64.92%	8.21%
I only use e-books that allow me to print, download and share without limits.	16.42%	52.24%
I prefer e-books that allow me to print, download and share content without limits but sometimes use those with restrictions anyway.	64.66%	10.53%
I usually don't need/choose to print, save, or share e-book content.	59.70%	23.88%
Rights restrictions make no difference in what I use for research.	49.26%	22.39%
I believe it's fair that publishers restrict the use of e-books from the library.	32.84%	38.80%
I was not aware there are restrictions on the use of e-books from the library.	43.28%	44.78%

Table 2: To what extent do you agree or disagree with the following statements about your experience with printing and download restrictions on e-books from your library?

Next, we asked the students to rate eight statements from not at all important to extremely important. The responses are shown below in Table 3. With the majority of students listing every feature as at least somewhat important, it is apparent that students value less restrictive e-books.

Question	NET Not important at all/Not too important	NET Somewhat important/Important/Extremely Important
Allow you to bookmark a page, highlight text, or take notes to come back to later.	30.08%	69.93%
Be readable on your phone and tablet.	25.56%	74.44%
Resize text to fit your screen.	7.52%	92.47%
Link to references at the end of a chapter.	12.78%	87.22%
Allow you to download chapters.	30.83%	69.18%
Allow you to download the entire e-book.	26.32%	73.68%
Allow you to transfer parts of the e-book between devices.	44.70%	55.30%
Have page numbers to use in citations	8.28%	91.73%

Table 3: How important is it that an e-book you are using in your research do the following?

Our final question asked if students' e-book usage changed over the past year.

Approximately six out of ten respondents reported that they had used more e-books for research over the past year, while one-third had used about the same amount. The increase in using e-books may be due to the Covid-19 pandemic that prevented students from going to the library in-person.

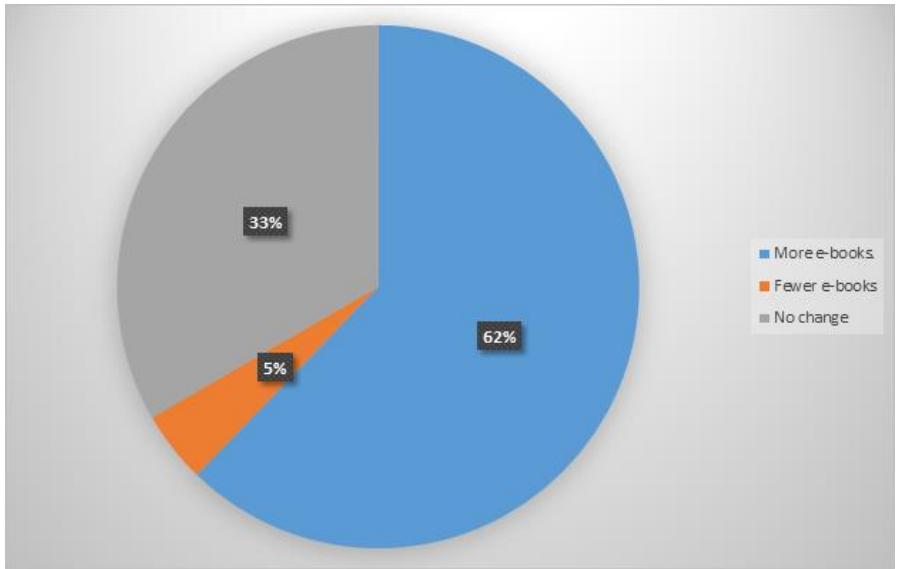


Figure 16: Has the number of e-books you have used for research changed over the past year?

5.0 Conclusions and Recommendations

Our overall data leads us to conclude that a majority of the students at WPI do not visit the library to check out books. While a majority of students do not want any of the monograph to be removed, both those who would like a portion of the monograph removed and those who do not, agree that they would like more study and group workspace. Additionally, many students feel that the library's collection could be better organized to allow for this extra space. Even those who said they did not want to remove any of the monograph stated that they would be open to the idea if there was still a way to access the collection. Therefore, our recommendation to Gordon Library is to remove a portion of their monograph to be stored in a separate location on or around campus. Students would still be able to access these books through a database that allows them to reserve offsite books to be available within 24 hours. While the monograph is still important for students to have access to, we would recommend also expanding the library's e-book collection as a vast majority of students prefer using e-books for research. Additionally, any new e-books should be in a format that offers minimal restrictions on printing, downloading, and sharing while still being easy to access on a mobile device. Overall, students are using more e-books than ever so it is vital that the Gordon Library follows its students' lead and provides the best resources to meet their needs.

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Appendix A: Survey Sample Size

For determining the minimum sample size for a confidence interval for the mean, we can apply the formula:

$$n = \left(\frac{z_{\alpha/2} * \sigma}{E} \right)^2$$

where: $z_{\alpha/2}$ is the two-tailed critical z-value, σ is the standard deviation, and E is the maximum error of estimate. However, we do not know the standard deviation before we collect the data for analysis, so we use another approach to estimate the sample size. This approach is based on the fact that our survey is most relevant to the proportion so we want to calculate the sample size based on the degree of confidence and the corresponding maximum error with that estimation.

For this project, our objectives are to estimate some proportion parameters, with 95% confidence, and those studied proportions would be within 5% of the true proportion of the population. Note that in determining the sample size in this case, the size of the population is irrelevant.

$$n = p * q \left(\frac{z_{\alpha/2}}{E} \right)^2$$

With a 95% confidence, the two-tailed critical z-value is equal to 1.96 and the maximum error of estimate is 0.05. We can suppose that both p and q are equal to 0.5. Therefore, the sample size for our survey should be 385 participants.

Because our survey questions should include the demographic questions such as class-year, major, gender, etc., we can calculate the corresponding proportions from our collected data and use it to compare with data from the WPI Common Data Set 2019-2020 (Common Data Set

Initiative, 2020). If our hypothesis about the sample size does not seem appropriate, we can adjust it later to meet the confidence level.

Appendix B: Questionnaire and Responses

Q1 - What is your class year?

Table 1. What is your class year?

#	Answer	%	Count
1	Freshman	23.12%	46
2	Sophomore	18.09%	36
3	Junior	30.65%	61
4	Senior	14.57%	29
5	Masters	7.04%	14
6	PhD	6.53%	13
	Total	100%	199

Q2 - Please select the undergraduate major(s) and/or minor(s) you are pursuing. (If Undergraduate in Q1 is selected)

Table 2. The undergraduate major(s) and/or minor(s)

#	Answer	%	Count
1	Actuarial Mathematics	0.41%	1
2	Aerospace Engineering	0.41%	1
3	Applied Physics	0.41%	1
4	Architectural Engineering	0.41%	1
6	Biochemistry	1.24%	3
7	Bioinformatics & Computational Biology	2.90%	7
8	Biology	2.90%	7
9	Biology & Biotechnology	6.22%	15
10	Biomedical Engineering	12.45%	30
12	Chemical Engineering	8.30%	20
13	Chemistry	0.41%	1
14	Civil Engineering	0.41%	1
15	Computer Science	16.60%	40
16	Data Science	2.49%	6
17	Drama/Theatre	0.83%	2
18	Economics	0.41%	1

19	Electrical & Computer Engineering	11.62%	28
23	Environmental Engineering	0.41%	1
25	Foreign Language	0.41%	1
26	Global Public Health	0.83%	2
27	History	0.41%	1
30	Interactive Media & Game Development	0.41%	1
31	International & Global Studies	0.41%	1
35	Management Engineering	0.41%	1
38	Materials	0.83%	2
39	Mathematical Sciences	5.81%	14
40	Mathematics	0.83%	2
41	Mechanical Engineering	3.73%	9
43	Music	0.83%	2
45	Philosophy and Religion	0.41%	1
46	Physics	0.83%	2
47	Psychology	2.49%	6
48	Robotics Engineering	9.54%	23
51	Society, Technology, & Policy	0.41%	1
53	Sustainability Engineering	1.24%	3
56	Writing (Professional)	1.24%	3
	Total	100%	241

Q3 - Please select the master's degree(s) you are pursuing. (If Master in Q1 is selected)

Table 3. The graduate students major(s) and/or minor(s)

#	Answer	%	Count
1	Biomedical Engineering	13.33%	2
2	Chemical Engineering	6.67%	1
3	Computer Science	6.67%	1
4	Electrical & Computer Engineering	40.00%	6
5	Fire Protection Engineering	13.33%	2
6	Power Systems Engineering	6.67%	1
7	Robotics Engineering	13.33%	2
	Total	100%	15

Q4 - Please select the PhD degree(s) you are pursuing. (If PhD in Q1 is selected)

Table 4.

#	Answer	%	Count
1	Biomedical Engineering	7.69%	1
2	Electrical & Computer Engineering	23.08%	3
3	Learning Sciences & Technologies	15.38%	2
4	Mathematical Sciences	23.08%	3
5	Robotics Engineering	15.38%	2
6	Statistics	15.38%	2
	Total	100%	13

Q5 - How often have you checked out a physical book from the Gordon Library?

Table 5. How often have you checked out a physical book from the Gordon Library?

#	Answer	%	Count
1	Multiple times a week	0.53%	1
2	Once a week	4.76%	9
3	Once a term	8.47%	16
4	Once a year	25.40%	48
5	Never	60.85%	115
	Total	100%	189

Q6 - What kind of books did you check out? (If never in Q5 not checked)

Table 6. What kind of books did you check out?

#	Answer	%	Count
1	Arts	5.22%	7
2	Business & Economics	2.99%	4
3	Computer science	5.97%	8
4	Education	2.24%	3
5	Engineering	14.18%	19
6	English & Literature	13.43%	18
7	History	12.69%	17
8	Languages	2.24%	3
9	Mathematics	11.94%	16
10	Medicine & Health Sciences	1.49%	2
11	Natural Sciences (physics, chemistry, biology, geology, etc.)	3.73%	5
12	Philosophy & Religion	4.48%	6
13	Social Sciences	5.97%	8

14	Other	13.43%	18
	Total	100%	134

Q7 - When accessing a book from the Gordon Library, do you prefer a digital book or a print book?

Table 7. When accessing a book from the Gordon Library, do you prefer a digital book or a print book?

#	Answer	%	Count
1	Digital book	58.10%	104
2	Print book	41.90%	75
	Total	100%	179

Q8 - Would you rather have immediate access to a digital book or wait 24 hours for a print book? (If Print Book in Q7 is selected)

Table 8. Would you rather have immediate access to a digital book or wait 24 hours for a print book?

#	Answer	%	Count
1	Digital book	53.33%	40
2	Wait 24 hours	46.67%	35
	Total	100%	75

Q9 - Would you be willing to wait 48 hours for a print book? (If Wait 24 hours in Q8 is selected)

Table 9. Would you? be willing to wait 48 hours for a print book

#	Answer	%	Count
1	Yes	88.57%	31
2	No	11.43%	4
	Total	100%	35

Q10 - Should the Library remove a portion of their print books in favor of using the space differently?

Table 10. Should the Library remove a portion of their print books in favor of using the space differently?

#	Answer	%	Count
1	Yes	39.55%	70
2	No	60.45%	107
	Total	100%	177

Q11 - Why? (If yes in Q10 is selected)

See Appendix C for full written responses.

Q12 – Why not? (If no in Q10 is selected)

See Appendix C for full written responses.

Q13 - What books should stay? (If yes in Q10 is selected)**Table 11. What books should stay?**

#	Answer	%
1	Agricultural science	4.37%
2	Arts	4.76%
3	Business & Economics	5.56%
4	Communications	1.98%
5	Computer science	3.17%
6	Education	4.37%
7	Engineering	7.54%
8	English & Literature	8.33%
9	Environmental science	4.76%
10	History	7.94%
11	Languages	8.33%
12	Law	3.57%
13	Mathematics	7.54%
14	Medicine & Health Sciences	5.56%
15	Natural Sciences (physics, chemistry, biology, geology, etc.)	8.33%
16	Philosophy & Religion	5.56%
17	Social Sciences	4.37%
18	Other	2.38%
19	None	1.59%
	Total	100%

Q14 - What books should go? (If yes in Q10 is selected)**Table 12. What books should go?**

#	Answer	%
1	Agricultural science	7.22%
2	Arts	7.22%
3	Business & Economics	5.67%
4	Communications	8.76%
5	Computer science	9.28%
6	Education	7.22%
7	Engineering	5.15%

8	English & Literature	3.09%
9	Environmental science	3.09%
10	History	3.61%
11	Languages	4.64%
12	Law	8.76%
13	Mathematics	3.61%
14	Medicine & Health Sciences	5.15%
15	Natural Sciences (physics, chemistry, biology, geology, etc.)	4.64%
16	Philosophy & Religion	4.12%
17	Social Sciences	5.15%
18	Other	2.06%
19	None	1.55%
	Total	100%

Q15 - What subject area(s), if any, do you prefer to read as a physical book?

Table 13. What subject area(s), if any, do you prefer to read as a physical book?

#	Answer	%
1	Agricultural science	1.16%
2	Arts	5.32%
3	Business & Economics	1.62%
4	Communications	1.16%
5	Computer science	4.40%
6	Education	2.78%
7	Engineering	6.71%
8	English & Literature	13.66%
9	Environmental science	1.16%
10	History	10.19%
11	Languages	5.79%
12	Law	2.08%
13	Mathematics	9.95%
14	Medicine & Health Sciences	2.78%
15	Natural Sciences (physics, chemistry, biology, geology, etc.)	6.71%
16	Philosophy & Religion	7.18%
17	Social Sciences	6.48%
18	Other	6.48%
19	I always prefer digital books.	4.40%
	Total	100%

Q16 - Do you have a preference for browsing for books online versus in-person?

Table 14. Do you have a preference for browsing for books online versus in-person?

#	Answer	%
1	Preference for online browsing	28.38%
2	Preference for in-person browsing	46.62%
3	No preference	25.00%
	Total	100%

Q17 - Do you have a preference for searching for books online versus in-person?

Table 15. Do you have a preference for searching for books online versus in person?

#	Answer	%
1	Preference for online searching	80.54%
2	Preference for in-person searching	7.38%
3	No preference	12.08%
	Total	100%

Q18 - Which book format do you prefer in the following circumstances?

Table 16. Which book format do you prefer in the following circumstances?

#	Question	Print books	e-books	No preference	N/A
1	Doing research for a class or paper.	12.84%	71.62%	15.54%	0.00%
2	For narrative reading, such as several chapters of assigned reading.	60.14%	20.95%	18.24%	0.68%
3	When reading for pleasure.	89.19%	3.38%	6.76%	0.68%

Q19 - Are there any situations where you would prefer to use an e-book (airplanes, public transport, outside, etc.)?

See Appendix D for full written responses.

Q19 - Please share your thoughts on using digital books.

See Appendix E for full written responses.

Q21 - When conducting research, how often do you use the following sources?

Table 17. When conducting research, how often do you use the following sources?

#	Question	Never	Rarely	Sometimes	Often	Always
1	Print books	21.43%	44.29%	21.43%	10.00%	2.86%
2	Print journals	50.71%	35.71%	10.00%	2.86%	0.71%
3	e-journals	0.71%	2.86%	7.86%	43.57%	45.00%

4	e-books	2.14%	7.86%	25.71%	44.29%	20.00%
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Q22 - Please indicate the extent to which you agree or disagree with the following statements about print books and e-books (not including e-textbooks).

Table 18. Please indicate the extent to which you agree or disagree with the following statements about print books and e-books (not including e-textbooks).

#	Question	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	I have an easier time reading print books than e-books.	43.97%	24.82%	21.28%	7.80%	2.13%
2	E-books are more convenient to get than print books.	52.48%	36.88%	9.22%	1.42%	0.00%
3	If a print book is not available, an e-book is a good alternative.	45.39%	44.68%	7.09%	2.84%	0.00%
4	I'd rather use an e-book so that I don't have to visit the library.	13.48%	17.73%	26.95%	24.82%	17.02%
5	It's easier to find the information I'm looking for in an e-book.	39.72%	40.43%	12.06%	5.67%	2.13%

Q23 - How important is it to you that e-books from your Library allow you to print, download and share content without restrictions?

Table 19. How important is it to you that e-books from your Library allow you to print, download and share content without restrictions?

#	Answer	%
1	Extremely important	39.26%
2	Very important	17.78%
3	Moderately important	23.70%
4	Slightly important	12.59%
5	Not at all important	6.67%
	Total	100%

Q24 - To what extent do you agree or disagree with the following statements about your experience with printing and download restrictions on e-books from your library?

Table 20. To what extent do you agree or disagree with the following statements about your experience with printing and download restrictions on e-books from your library?

#	Question	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	I believe e-books from the library should have no restrictions.	37.31%	27.61%	26.87%	7.46%	0.75%
2	I only use e-books that allow me to print, download and share without limits.	9.70%	6.72%	31.34%	41.79%	10.45%
3	I prefer e-books that allow me to print, download and share content without limits but sometimes use those with restrictions anyway.	25.56%	39.10%	24.81%	7.52%	3.01%
4	I usually don't need/choose to print, save, or share e-book content.	24.63%	35.07%	16.42%	20.15%	3.73%
5	Rights restrictions make no difference in what I use for research.	18.66%	30.60%	28.36%	15.67%	6.72%
6	I believe it's fair that publishers restrict the use of e-books from the library.	6.72%	26.12%	28.36%	25.37%	13.43%
7	I was not aware there are restrictions on the use of e-books from the library.	11.94%	31.34%	11.94%	26.87%	17.91%

Q25 - How important is it that an e-book you're using in your research do the following?

Table 21. How important is it that an e-book you're using in your research do the following?

#	Question	Not at all important	Not too important	Somewhat important	Important	Extremely important
1	Allow you to bookmark a page, highlight text, or take notes to come back to later.	6.77%	23.31%	18.05%	25.56%	26.32%
2	Be readable on your phone and tablet.	9.02%	16.54%	21.80%	30.08%	22.56%
3	Resize text to fit your screen.	3.01%	4.51%	17.29%	41.35%	33.83%

4	Link to references at the end of a chapter.	1.50%	11.28%	30.83%	36.84%	19.55%
5	Allow you to download chapters.	4.51%	26.32%	24.81%	26.32%	18.05%
6	Allow you to download the entire e-book.	3.76%	22.56%	23.31%	25.56%	24.81%
7	Allow you to transfer parts of the e-book between devices.	12.88%	31.82%	21.97%	18.94%	14.39%
8	Have page numbers to use in citations	2.26%	6.02%	7.52%	38.35%	45.86%

Q26 - Has the number of e-books you have used for research changed over the past year?

Table 22. Has the number of e-books you have used for research changed over the past year?

#	Answer	%
1	More e-books.	62.22%
2	Fewer e-books	4.44%
3	No change	33.33%
	Total	100%

Appendix C: Should the Gordon Library remove a portion of their print books in favor of using the space differently?

Why? (If the answer is yes)

1. More study space is more helpful than physical book at this point, since most resources are commonly accessed online.
2. Could be a better study space for students
3. I think it could brighten up the library and leave more room to incorporate extra study spaces or other resources that cannot be accessed digitally.
4. I don't feel like the physical books are being used that often.
5. If library data demonstrates that the space is not being used by the student body, it could be helpful to adapt the space so that it is used. I used to spend at least five hours per day in the library. Thanks to COVID (not being able to eat in the library makes it hard to stay there for extended periods of time), I have not been in the library for longer than five minutes all year. We interact with the Internet differently now, and having digital resources available is far more accessible for the majority of students. Also, about the other questions- most of the genres that I mentioned were textbooks, I've only checked out physical books that were not textbooks for fiction (the shelf by the front desk), languages, and social science (languages and social science both required for class).
6. Most students don't check out physical books, and the library could add more study/collaborative space, which I think more students would get use out of
7. Many of the books in the sciences are dated which makes the source a less attractive option to use as a source

8. More study space would be nice
9. I think there is a lot of space dedicated to physical book storage, while the space could be used for something unique! Study space or other uses would be cool
10. Work/research space
11. I'm off campus now, but when I was on campus for my BS degree, I remember never been able to find a good place at the library during finals week. For academic use, I tend to search online more, which usually includes situations and I can copy and paste useful information. Although I would say that sitting next to shelves of books is calming.
12. Some of the books seem outdated and less used than others- might be beneficial to replace these areas with newer books or more study & group meeting space
13. When it gets busy during finals there are never seats so removing books and adding more seating could help. The online databases are so great that I have never felt the need to get a physical book
14. If physical books aren't as used then the space can be used better
15. More study space/tables on floor 3 would be nice
16. With a lot of outdated textbooks/editions it doesn't make sense to keep them if they also have newer versions
17. I think most people just view the online PDF versions of books now.
18. More study spaces
19. It really depends on how the space would be used. But especially with covid, so much has had to be online that I haven't really felt the need to check out physical books. If the space could be better utilized to help students, it could be beneficial.

20. I imagine that this is what is happening in libraries. It makes me sad but I think updating the space could be really good.
21. More meeting areas are always convenient, it can get packed at times. Also, resources like computers with school software and tech suites can be more convenient than some books.
22. People rarely check out hard cover books, I'm sure they could look in a database to see which ones are never/rarely rented out and get rid of those
23. People much more often use the library as a collaborative space.
24. The books are never used, I don't even know how to borrow the books from the library. Instead, tablets should be kept on each desk of the library, so that students can digitally access any book they need.
25. More studying spaces
26. The books pertaining to math and engineering often require much less physical reading and are used more as references to studies and lectures in most of the classes I have been in. Often, the equations and formulae in these books need to be described by professors anyways, so I personally rarely use physical books for this. For the other topics, reading in these classes tends to be much more extensive and it is much easier to read long sections or entire books in print.
27. Need more study spaces, I never see people using many of the books anyways. But there are always people looking for study spaces
28. I feel like a lot of things are transitioning to digital, and it could make it easier for students to access them.
29. At least before the pandemic, study spaces were always full

30. I know all colleges have so many books but if there's really old books that haven't been used in decades, I think it's okay to move those and use the space for something that would benefit students more.
31. I don't think the library is necessarily short on study space, I feel like I can usually find a space to work (unless I'm trying to book a tech suite). But a lot of those books never get used, and in some fields like ECE and CS there are books so old they aren't relevant anymore. I think it would be worthwhile for the library to instead free up some room, maybe for more tech suites or some other specific use space.
32. I would have answered I don't know or NA but that was not an option,
33. I think that other things such as technology might be used more than the physical books
34. Most of the books haven't been checked out in many years or are outdated
35. I think more space should be given to student/group work areas since we always seem to be short on that.
36. Books are a waste of space and downright outdated for modern topics
37. Some information can become outdated, especially in the sciences. Other information such as history, law, language, etc. is better to access in print in my opinion.
38. Increase the variety and number of books available
39. More study spaces
40. Maybe better accommodations for group work spaces
41. Physical books are becoming outdated
42. I don't think they need to get rid of any physical books but maybe put some low-demand books in storage to free up working space. I would guess few students are browsing the shelves and more are going in looking for one specific book. The library could implement

a reservation system where only librarians could access the books in storage and they had to be reserved ahead of time.

43. I feel like most students use the e-books anyways.

Why not? (If the answer is no)

1. There is already plenty of space in the library and removing print books do to something else with the space would just lead to more chaos in what is supposed to be a quiet environment
2. It's a library. It's where you go to get books. There is plenty of space there already and I feel like I'd rather have it more organized than to get rid of books.
3. It is a library-there should be books
4. Physicals books being able to access quickly is important
5. The space with physical books is good for studying and the books provide an experience that should be kept.
6. Having physical resources to use is important. Also, many people prefer other locations to meet and study at.
7. What is the point of the library if there are no books! Maybe I am a fashion, but I can tell nothing can replace a book, not an iPad or a computer or kindle. Books are essential in the library, but I think they need to be organized a bit, not removed!
8. Removing some of the shelves to reconfigure and use the space would likely mean less books in the library, and therefore less selection.
9. I believe that while the bookshelves might not be touched as much anymore, there's so much character with the layout of the Library and I don't know that it should be changed.
10. it would depend on what was proposed to replace it

11. where would those books go? who decides which books stay or go?
12. books are important. instead of moving away from them we should learn how to value them as students. Books are a cornerstone of academia
13. I actually feel like I'd like to see more print books, esp. in terms of fiction? Unless I just don't know where to look. There are a bunch of well-used study spaces and I think they're more than sufficient. I like that this Library has actual books that can be looked through and accessed.
14. They're a library- it's their job to hold books
15. As much as research requires online journal articles and books, I still find it easier to have the physical book for some purposes. It helps if I'm deep into researching a topic, have loads of tabs open, and need to quickly browse longer sources. Also (a personal bias) I find being in the stacks calming. It's been one of the most peaceful places on campus for me.
16. What would a library be without a large number of books?
17. The point of going to a library should be to pick up free books not closed behind a digital license.
18. Print books are important
19. It seems that there's already enough space in the Gordon Library for studying, and from where I am it doesn't get that crowded (although I may be biased because barely anybody's in the Library during COVID during the weekdays)
20. In an era where modern technology has us looking at screens all day, I'd rather not have to do that with textbooks too for the sake of my eyeballs.

21. Print books are an important resource, and the library already provides a lot of working space
22. I think that having the print books in the library is a good resource even if they don't get used as often as they should.
23. The fundamental purpose of a library is access to physical books. If the space was to be used "differently", I would first like to know what the use would be to specifically compare that usage to its current usage.
24. You go to the library to sit down, study, and read books. What else would you want to do there?
25. I feel like it is important to be able to access those books for students that need them. I could be wrong, maybe changing things would be better.
26. would not really be a library with less books in it
27. I like being able to hold books and getting rid of books can be censorship and getting rid of history. also, for the question about waiting for the print book vs instant digital, if it's a book I'm actually interested in I'll wait but if it's a book i need for a paper i would rather it digital because i just want to get the paper over with
28. it'd be sad the books look nice idk that'd be so depressing it's a library
29. Where are you going to put the books, you move?
30. I think it's important that the books still remain accessible if people ever do decide to use them. Also, I think it's useful when you're looking for something for research purposes to be able to find it yourself as you may find other books about the same topic in the same area that you did not know about. If the books were moved to a back room in the library

and the space was used differently it could work as long as the books are still available to students upon request.

31. The library is for books, there are plenty of other places on campus to do stuff
32. I enjoy reading physical books. Being on my laptop and phone all day, i would rather spend my off time not looking at a digital screen.
33. I believe that access to print materials is important because it yields higher comprehension and allows for more organic discovery of materials.
34. What would it be in favor of? Is there a need?
35. A library is not a library without books. If books are to be removed, I'd prefer they were archived rather than being totally taken from the space, so that faculty and students can still access them.
36. It's nice to have some physical books. Maybe the Library should keep the most popular physical books if space needs to be cut down.
37. Having physical books is a great resource because they are less likely to be corrupted, accidentally deleted, etc.
38. I do not like to check out the print books, but I like to use them when I am in the library. I think that having plenty of print books in the library is important.
39. Books are special and I don't believe disposing of them would be good for the environment or the community.
40. I think that some students might prefer to have physical copies. While I wouldn't mind online copies, others might prefer to have the books.
41. I really enjoy print books and I'd be afraid that if *the* book place starts getting rid of print books then it's a slippery slope to all digital.

42. I think physical books are incredibly valuable and it doesn't feel right to remove them.
Would they be donated? How would the library choose which books to remove?
43. I think that physical books have value and should not be gotten rid of also if there are not physical copies of books then we may lose resources
44. I am an avid reader and I depend on the library for books to read. I would be more than upset if I heard that the library removed some of their books. I love reading and I use the library for my hobby of reading.
45. While I have a slight preference for online books this term because of COVID, overall, I prefer print books. Students already have spaces to study elsewhere, and part of the vibe of coming to the library is the comforting feeling of being surrounded by books.
46. It is a valuable resource for students who use physical books for their research. While I don't currently read print books it does out less strain on eyes and is quicker to read.
47. Although I may not prefer hard copies for research purposes, I'm sure a decent number of students still would benefit from the current print resources in the library.
48. What else would go in place of the books? The minimal saved space is not worth taking out all the books for people who actually use them
49. It's valuable to have physical books for a variety of reasons, and I can't think of a better use of the space
50. Sentimental value of the print books, I guess. Though if those books aren't textbooks and they are donated to a local library in Worcester or left out for students to take for free that would be an acceptable method of transferring the books to make more space in the library

51. I guess it would depend on how the space would be used, if was more useful than keeping the print books there. I leaned towards this option over yes, as I have used print books in the library not necessarily checking them out of the library.
52. I suppose if the books are very old or obsolete (ones that students would never check out) then the space could be better used, but otherwise I would disagree.
53. Better have the physical book
54. It's a personal preference of mine. I looked physically seeing all of the topics because it reminds me how much there is to know
55. The WPI library has a very large selection of books, and I would rather it not be reduced
56. Isn't the point of a library to have books available?
57. The idea of physical books is quaint
58. Even though I personally prefer digital books and learn better with them, everyone has a different learning style. There are so, so many people who prefer learning with physical books and I might be wrong, but I believe there are studies that indicate this is common. We're also a very well-equipped school; we really needn't use up library space when it might help someone in need of a good read.
59. It really depends on how often those print books are checked out.
60. The library is perfectly fine as a dedicated space for common access of lots of books and collected knowledge. Exploring it is just as rewarding as using it for specific research purposes.
61. I really like looking at / being around physical books for the library environment and also works as a sound barrier if people are being too loud. I wouldn't want the new space to be open concept for this reason.

62. Many people still prefer print books
63. While digital media has its advantages, I find it inconvenient to look at screens all day.
Also, for some reasons not clear to me, I grasp concepts better from a physical copy than reading from a digital copy.
64. I'm a book simp. For student space, the library only really gets full around final times.
First semester even then it's less popular, then second semester I think it really gets more usage.
65. While I cannot always wait for a print book to become available, I find them easier to use than e-books, so, when possible, I always prefer to use print books.
66. I like the books, please don't get rid of them, if you do have to get rid of them could you do a sidewalk sale for them so students can take them
67. I prefer digital when looking at technical books solely for Control+F'ing my way to exactly what i need. But there is still something to be said about a physical copy and how less easily distracted I and many others can be with the physical copies knowing that we can change what we are staring at with a click
68. Print better
69. Just because I don't use the print books doesn't mean no one else does. Print books are an important part of the library
70. In the era of Zoom University, the more time I can spend staring at something other than a screen, the better. Maybe once we go back to "normal," I'd support re-allocating the library's physical space. But as of now, I really prefer print books.
71. Books are wonderful and the space is decent as it is

72. Because some books are only available in print and removing them would remove access entirely.
73. I like to have access to more books. My opinion might change if there is a significant improvement in the area usage, but I don't think there could be a huge improvement without removing a fair amount of book space, and books are the main raison d'etre of the library.
74. some people (myself included) work better when looking at a physical book. the library is a great place for this, especially considering how much of learning has been moved to primarily online. it feels like a physical book is sometimes the only way i can work this way.
75. There's enough space around campus already, the books are nice.
76. You haven't given me enough information. What would the space be used for instead? Which books (textbooks, pleasure reading, academic reading) would be removed? Will removed books still be accessible somehow? I find it difficult to make a determination without knowing these details, since otherwise I don't feel strongly about print vs. digital.
77. I think a function of the library is to store books, even books may not be used.
78. Sometimes books on the shelves can be accessed by students just for browsing purposes. A big variety of books can potentially draw more attention from frequent library visitors.
79. I don't really have suggestions for how the library could use its space differently, but I'm sure if I heard any good ideas, I might change my mind on it
80. IDK what they would use it for, and It's good to have hard cover versions of the books as a backup

81. Print books are still superior to digital books in many ways so removing them would likely be a mistake.

Appendix D: Are there any situations where you would prefer to use an e-book (airplanes, public transport, outside, etc.)?

1. Are there any situations where you would prefer to use an e-book (airplanes, public transport, outside, etc.)?
2. When doing a research report, using control f on books is very helpful.
3. Sure
4. None of them, I think! When I am outside, I prefer taking a book, the same when I am traveling by Plane. When I use public transportation, I don't read.
5. When I'm not sure I will like a book, I love accessing e-books quickly to skim. It's much faster than obtaining a print copy to see if I'll like it.
6. Basically, anywhere that I need to transport the book to.
7. Not necessarily, I enjoy reading both so could adapt this based on the particular circumstance.
8. Research so i can use a finder tool in the browser
9. Most situations. I don't have to worry about losing or damaging a physical book. I always have my laptop with me, so I don't have to worry about forgetting it at home. It is easier to check it out again if the loan runs out.
10. Public
11. Airplane
12. if I'm traveling

13. Books can be heavy and hard to move, especially up and down the Worcester hills. Plus, for IQP and other big projects it's easier to have all your resources in one place (online)
14. All
15. When in transit, when travelling, when outside, when the book isn't mine but I'd like to annotate, when I need to search through the book easily
16. Airplanes, Publix transportation, public places that need to be traveled too
17. when lying in bed
18. If I need access to a book quickly and for academic purposes
19. Maybe if I didn't want to spend money on the physical book and the e-book was free.
20. No
21. Certain classes it's nice to have an e-book that you can instantly access chapters or certain keywords. This is working out pretty well with my CS textbook.
22. public transport
23. When I'm off-campus and really need a book from the library vs. buying it for \$\$\$\$ from amazon or try to get a pdf of it from some sketchy website.
24. Large textbooks, needing to travel, textbooks with interactive media in the online version
25. Yes, when I don't want to bring a physical book with me but I still have the device I can read the book on. I've read a couple of novels in E-book form when it was useful.
26. Not unless it's temporary, for an elective class for example, or a research paper where I go through many books at a time.
27. Anywhere where space is needed. In bed as well

28. When looking for a certain topic, using command F to find keywords I need and topics.
Also, when taking notes using the highlight effect on most books makes note-taking easier.
29. When I only need a small chunk of text/context from the book, and it's easier to search through the book digitally for that information.
30. When reading at night. I also like using a Paperwhite kindle when reading outside
31. When on the move
32. Public transport
33. Textbooks are easy to look up a certain word/phrase or when you're at home and not at school etc.
34. I prefer e-books for assignments and for textbooks or if I need to read something for a research paper.
35. textbooks so that there is less to carry
36. Basically, anytime I'm outside of a standard studying space (my apartment, Library, classroom, etc.) a print book is better
37. When doing research for a class I find an e-book easier to navigate.
38. just when doing assignments for classes, especially with online school, it is way better to take our eyes off the screen for an hour or two while doing said assignment.
39. textbooks for class because i have back issues if i have a bunch of books to read over travelling
40. traveling
41. airplanes

42. If it's a giant textbook and I'd rather command F to find things I'm looking for
43. Almost always
44. I prefer to always use e-books. I think they are especially helpful when studying or doing research because you can usually use controls like find to search for certain key words.
45. When a book seems inaccessible or in danger of being damaged, i.e., reading near water, or when I am not carrying a bag with room for a book.
46. Always except for pleasure (having a break from a screen is nice)
47. I would prefer to use an e-book to rapidly access many books so I do not have to repeatedly go back for more books and so returns are easier.
48. All the time
49. I prefer to use e-books for some personal reading when I not at home or sitting down to do work.
50. This question is poorly posed because it leads answers in a particular direction. I prefer reading print books in all cases, but read e-books often due to cost. I have a Nook e-ink reader and prefer that to a phone or computer unless doing academic research.
51. Airplanes and travel. Also, when I only need one or two chapters from the book.
52. Electronic copies are very useful for researching because you can more easily find relevant terms.
53. School work.
54. I prefer to use an e-book if I am working on an assignment that requires a significant number of sources. When I use e-books, it is easier to keep them organized.
55. I use e-books when I have assigned reading and need it in audio format.

56. Anywhere where I can't comfortably bring my laptop (ex. plane, outside, etc.) I would prefer a physical copy.
57. commuting, reading lots of different sources.
58. I use e-books for a lot of my research because it is easier to access the books.
59. If I was going back and forth from a bunch of places or going on vacation and needed more than one book, e-books would be easier for carrying.
60. If I wasn't planning to read, I prefer an e-book because I can just pull it up on my phone, so pretty much any time out and about.
61. Maybe if I only need to look at the book briefly.
62. when books are needed *in* class, I prefer e-books - less weight to carry.
63. When the book is large and I have to bring it to class every day or reference it often.
64. When I'm doing research for a paper or something since it's easier to find relevant information if I can search for it.
65. I prefer to use an e-book when I am skimming through a book to see if I'll like it. I also prefer to use an e-book when I need it for research during classes.
66. If I'm doing research or homework, e-books are preferable because the files are often searchable and/or contain links to other relevant book sections, making navigation easier.
67. When I don't want to carry a heavy or bulky book.
68. when i travel or if i am going to class. a lighter backpack is always better.
69. While traveling, textbooks in general.
70. Research in any location, as e-books are so much easier to cite and search for. I only do e-book related things at my computer in my apartment.

71. When working in conjunction with my laptop, I prefer an e-book.
72. The only instance I can think of is if I need to read chapters for a homework assignment on any mode of public transportation. I would prefer not to carry a heavy book around, but I don't often find myself in such a situation.
73. When I need to copy information into notes or assignments.
74. I don't have a situational preference except probably not outside.
75. Research projects, or quick text searches for relevant passages.
76. airplanes, public transport, late at night.
77. In dark settings, and when on-the-go, it is easier to use an e-book. The only places where a print book would be preferred are in bright environments and when reading for leisure.
78. I generally prefer e-books when I'm reading for pleasure and the book is more than 200 pages.
79. Airplanes, on public transportation, or daily outing so I wouldn't need to carry a heavy book.
80. Mostly when I need efficiency (research, assignments, homework, etc.), I prefer an e-book. I'm not only mildly dyslexic but just find Control + F for keywords much, much more elegant than skimming. Ironically enough, the examples listed--airplanes, public transport, outside--are all situations I'd explicitly prefer a physical book! I wouldn't want an expensive reader, tablet, or laptop stolen or broken while using them on the former two, and reading from a screen is an absolute pain when you're outside.
81. Not really.
82. Any time I am mobile or traveling, e-books are preferable.

83. everywhere, because I almost always have either my phone or my computer to do e-book reading.
84. If i have an assignment that is due the next day and I need access to a book i would be leaning towards using an e-book since the likelihood of having access to it is way higher than a physical copy. Otherwise, I really prefer physical books since there are a lot less distractions.
85. For classes; when need to search through book for specific words, phrases, or topics.
86. When I don't need to read the entire chapter and am searching for just a small section.
87. Quick reference of a concept. E.g., while writing a report/scientific paper.
88. Sometimes in bed, less effort and can use one hand to hold phone to read e-book. Out of dorm/house prefer e-book since don't have to carry the book around or risk losing it.
89. I prefer to use an e-book only on extended travel when carrying several print books is impractical.
90. When remote from campus.
91. At night when I can't have my own light, mainly
92. Basically, all situations.
93. On airplanes and while using public transportation. But on campus, I definitely prefer print books.
94. I always prefer print books when reading for pleasure. If it's for school, I don't really care, and actually e-books are more convenient because of ctrl+f to find specific topics for review.
95. Airplanes, public transportation, outside.

96. all situations except reading for pleasure.
97. huge bulky textbooks are generally better off as e-books.
98. When it's easier to access than a physical book.
99. For academic books I always prefer e-books, I save the pdf and annotate.
100. I typically only prefer e-books when quick access is needed.
101. Airplanes.
102. Reading papers. Or audiobooks when not in the library.
103. All the time.
104. Online school, when required for a class.
105. Anywhere that it might be more convenient to have on my phone like the examples mentioned above, airplanes, public transport, on long distance trips.
106. When I need the book now, like class assigned reading, because it's usually cheaper than buying off of Amazon.

Appendix E: Please share your thoughts on using digital books.

1. I like digital books for research and projects as they can easily be searched within. They are also good for using in conjunction with physical books as online reading services can read the book out loud as you follow along with the physical book which helps a lot for people with disabilities.
2. I use digital books only for papers, datasheets, taking notes, manuals, mostly things that consume time. The common format I use is PDF, easy and practical. The E-books format doesn't like (too slow and the search command takes too much time).
3. I love the ability to search (control-F) in an e-book, which you can't do in a print copy. This is especially helpful when using books to write papers or complete homework. Interactive e-books are cool, but sometimes unnecessarily complicated; however, pdfs can be difficult as well.
4. For homework it is more convenient in terms of having to carry around less books and it takes up less desk space as I work. They are more accessible.
5. I have found that sometimes it can be less appealing to read a book digitally, but it has worked fine for textbooks for classes. Interactive digital books are cool and pdf are fine because I have gotten so accustomed to using them. But, in terms of reading for pleasure, there is something about holding a physical copy that I enjoy. Maybe it allows me to feel more like I am in the story myself.
6. I think e-books are more accessible for homework. They are easier to search for a specific concept, I am more likely to be able to access them wherever I go (see my answer from earlier), and many allow for accommodations like zooming in for highlighting.
7. I like them but when it comes to equations it is easier on paper.

8. I don't love digital books as they take forever to load on my computer. I prefer pdfs of books or the physical book itself.
9. not a fan of digital books. while they are convenient i rather keep such important content off a screen, I feel I retain the information better that way
10. I use digital books mostly for research assignments. I prefer this because it's easier to skim, I can ctrl+f to search, and if the sources have references easily access those as well.
11. Much more accessible, easy to search.
12. I prefer physical books but will use any digital book if it means I can get the content quicker or if it's less money.
13. I think digital books are convenient, and are often easier to access. When I'm pressed for time or space I use digital e-books, and for textbooks as well (financially wiser and space efficient). I've read e-books via library software, kindle, play books (epub), etc., as well as pdfs and homework software. I prefer print books because I prefer to interact with and/or annotate text when working, and because I enjoy separating leisure reading as an experience from the myriad other functions, I can use a computer or laptop for. A print book helps me dedicate my time and savor it.
14. It's more convenient for travel but harder to use properly as a textbook.
15. like that you can control f and find what topic you are looking for.
16. Digital books are fantastic in terms of searchability and portability. That said, I prefer physical books for my own purposes because I find it easier to work through them and I can rely on them even in circumstances where internet/power outlets are not guaranteed.
17. I prefer a physical book but digital books are more convenient.

18. I prefer digital books for textbooks but only if they have a read-aloud function. I also like interactive digital books.
19. Digital books have certain advantages that print books never will have. However digital books take up computer space and can be easier to lose in my opinion.
20. I like digital books when I only want to read a small section of a book.
21. pdf is fine for the most part, especially if it has an outline and page links. kindle and some databases are also fine. interactive books are great if they work well, but they usually do not, or not on every machine, in my experience. If by homework software you mean something like Pearson, I personally do not like it because the software doesn't usually have great user experience.
22. For research I prefer digital books since it's much easier for me to search online for material rather than going physically to the library. I also tend to prefer digital textbooks now as it's more of a hassle to have a big bulky textbook and need to flip through trying to find the right page. However, I do still prefer physical books when I'm reading for fun.
23. E-books are great when you have a tablet or a phone big enough to read from - plus, they're super portable since they are just like other file types. DRM from Amazon & other similar companies are a disgusting practice that I despise with every fiber of my being. I have a book of cooking recipes that I own as a digital copy from Amazon and I'm not allowed to copy and paste from it to put into my recipe manager. When it comes to PDF vs EPUB, I prefer the EPUB format since it's more recognized as the de-facto standard for E-books.
24. Digital books definitely have convenient shortcuts in the interface which may enhance the learning/reading experience, as well as organization. But again, it's especially helpful

today to take some time away from the screen as much as possible for the sake of our eyes. In the long run, I'd like to have print books instead of digital ones.

25. Digital E-readers can sometimes be cumbersome, and well formatted pdfs can often be superior, so long as they are not solely images of the text. Digital books offer leagues more convenience, especially when they take the form of massive and expensive textbooks. Particularly large books however, if not well digitally formatted, can be a pain to navigate
26. Based on the interactive book, I like the features they offer besides the book itself: summaries, equation sheets, study questions.
27. They're useful and accessible, but I personally have a much more difficult time focusing when using e-books compared to physical books.
28. I like digital books as long as they are easy to navigate (they have a table of contents that's linked) and have the ability for you to highlight them and make notes virtually.
29. They're convenient as you can access them anywhere.
30. I used PDFs all four years and enjoyed them, didn't really read from them though.
31. I like using PDFs or any online version of a book because using an online version it is easier to find information in the book using computer shortcuts such as ctrl+F.
32. more environmentally friendly and less to carry.
33. They are convenient for coursework most of the time, but for long haul reading digital isn't great. Being able to search for equations or other specific pieces of content is nice.
34. I'm fine with digital books outside of reading for pleasure. I think there are benefits to online books and resources, I just tend to prefer to hold a book in my hand when enjoying it for its story.

35. I love digital books especially pdf's because those are easily able to be downloaded and there is no worry to have to run and check out the book before someone else does.
36. they can be good for accessibility purposes and if the book would benefit from an animation demonstrating something. my opinion is based on me and others i know having medical issues that make books difficult. i have chronic back pain, so carrying around heavy textbooks makes my back worse. my roommate and i both benefit from being able to do text to speech to stay focused because of adhd and autism. my mom prefers e-books because she is able to increase the font size and contrast so she can read in the dark and without reading glasses to reduce eyestrain. i have used digital textbooks for a while because of my back pain, but being able to have the interactive/animated diagrams sometimes helps with my understanding of concepts, especially in biology and chemistry.
37. Convenient for schoolwork.
38. They're okay, I use kindle on my iPad and computer, I get screen fatigue and its way harder to focus for the most part on longer texts, but is convenient for articles and shorter readings/ textbooks that i need quick and easy access to.
39. they're good for a lot of reasons but i can't focus as well from a screen.
40. I think I'm only okay with using digital books if they're textbooks for school. When reading for pleasure or even for English classes that require fiction, I prefer print books.
41. easier to transport easier to search through for terms.
42. I like them. I think the interactive ones better but the not interactive ones are fine as well.
43. Digital books have their benefits. I will always prefer a physical book; however, I do appreciate the versatile nature of an e-book.

44. Digital books of all kinds (fiction, non-fiction, academic, etc.)
45. Digital books are better for when I am not reading in a chronological order and am searching for specific pieces of information, such as on homework assignments.
46. interactive and easy to find things.
47. I like digital books due to ease of access and shareability, but I prefer physical media for most reading. (regarding .epubs and .pdfs)
48. digital books are fine. If everything is online, after a long day it hurts your eyes to still look at screens, so the contrast between both digital and paper is also nice. Digital books aren't weighty and are easy to use. I mostly use pdf books or an e-book reader when it comes to digital texts. Easier to use paper books outside because of lighting.
49. Interactive books are a terrible experience except for when they are the best way to present archived/scanned texts. I like PDFs because I can save them for later reference in Caliber easily. Homework software is an exclusively poor use of time and money and I will prefer if it remained totally unused.
50. I like digital books because I can ctrl+f for keywords. I can also put notes and highlight passes in e-books. I also like those e-books let you highlight a word and the word gets immediately defined.
51. digital books are preferable for academic purposes because of ease of annotation and finding relevant sections/terms.
52. Pdfs don't break my back.
53. I do not really like when digital books have interactive elements that go with the homework. I think that they can become unhelpful and make the software not work as well.

54. I prefer pdf because it is one of the few formats that permits audio (with the use of Microsoft edge) without purchasing additional licenses or software.
55. I've used interactive books at WPI during my freshman year and the little audio blurbs and videos are very helpful to learning these fundamentals. Pdfs are my favorite for classwork reading, homework assignment reference, and studying.
56. I use pdfs for reading history sources and textbooks and I like how they are searchable for key words or phrases. Also, nice to know you always have access to them on your computer.
57. When reading digital books, I have used both pdf and software that allow me to annotate the books. I like software that allow me to annotate, and I find it helpful to be able to mark up the text.
58. Using digital books, especially textbooks, for schoolwork are better because everything is in one place and is easier to carry, and it is also easier to search for something specific. If I am reading books for fun or pleasure though, I would rather have a physical book. It's a nice change from staring at a screen all day long.
59. They are useful and convenient but I find it much harder to engage with the reading in a digital book.
60. I use digital books for education purposes, because they often have videos and extra questions embedded in them. It's also easy to jump to different sections and command+f a specific term.
61. I use pdf textbooks a lot because they are cheaper and more portable which is convenient.
62. It's helpful for research but if I have to read something I prefer physical copies.

63. I've tried using digital books, and they have never been as effective as using a print book.
- This has applied when reading for pleasure, or reading a textbook for class. But they have been effective when I need to search for something specific in a textbook.
64. Digital books can get great for the reasons listed above. However, the quality of e-books can vary MASSIVELY. Pdf scans, while nice in theory are unsearchable, and are quite often low resolution or full of shadows and scanning affects. Other ways of scanning in print books also often contain errors, words get transferred in incorrectly and special characters don't get picked up right. Additionally, while I do prefer e-books for some applications, as someone with bad vision the screens can be very hard to look at for long periods of time, and books with pictures and diagrams don't work on e-ink readers.
65. I prefer digital books for doing research for school, however, physical books are preferred for independent reading.
66. They provide easy access.
67. It's more portable. I can just use my phone or laptop to read and find books.
68. I prefer print over digital in general. It's tangible and simpler. Not depended on power/battery/WIFI, etc...
69. Homework software usually sucks so I prefer a physical book.
70. I like digital books when i don't have to read from the book that often.
71. I have used plenty of PDF books and I find these best when there's a clickable table-of-contents and a good search-within-book tool. I'm also using an interactive e-book textbook right now for a class and my biggest qualm is how difficult the website is to navigate. I've found this to be true with other textbooks of this format too.

72. My opinion is based on homework assignments and reading pdfs, and I enjoy using digital books for school work because I can ctrl-f, instantly skip to pages, and not pay as much money and have to store a massive textbook.
73. They're convenient, especially as we are always on laptops nowadays, it's easier to access a lot of the times. If I have to order an e-book, delivery is instantaneous.
74. I always prefer physical copies of books. I have had to purchase access to online textbooks before, and the only useful thing about them is being able to have hyperlinks. However, I feel like being able to flip between pages, put papers in them, mark pages, and not having to look at a screen vastly outweigh the benefits of online reading.
75. Hurt my eyes.
76. Digital books are convenient for accessing facts quickly, but I find them harder to concentrate on because of the computer screen. If I want to spend time reading full sections to learn hentai topics, a book is much less distracting.
77. I prefer to use an e-book when I don't have to read too large of a section of text or don't have to jump around to different sections a lot. However, if I'm searching for a specific topic or word then an e-book pdf that I'm able to use word search in is preferable to the physical book.
78. Digital Books are only good for ctrl-f searching.
79. having a library of e-books would be better than telling students to download them from off kilter websites.
80. Digital books are easiest to access in pdf format. Homework software, web versions, and interactive programs are more tedious to use, and often require loading. Using the built-in

pdf reader on Mac OS is my preferred pdf viewer because it is easy, intuitive, and natural to interact with using a trackpad.

81. (PDF) e-books are much harder to flip through to find what you need, especially textbooks. Often for homework I have to flip back and forth between multiple pages and that's much easier to do when I can just put bookmarks in Pdf.
82. Digital books are mainly useful for speed and other conveniences. Links to chapters are great. Taking screenshots of important parts is great. Using Control + F to find exactly what you want (and every instance of it!) is great.
83. Usually only use digital for homework assignments (pdf for textbooks).
84. I just find it easier to read and stay focused with a print book so I always prefer them.
85. I end up using PDF books a lot for classwork to avoid buying physical books, and physical books take up a lot of space on dorm desks, but it's nice to be able to flip to the page you need and have that open next to you. I think e-books, especially on eReaders, are great for general reading.
86. They're very helpful so you don't have to carry around any books and can just have them on my personal laptop. But they can be difficult to read on a screen for really long extended periods of time.
87. I think that I use digital books when i don't have access to physical books and usually the library only has 1 or 2 copies of textbooks that I need for a class and that wouldn't be as reliable as having an online copy that you can access whenever.
88. Very convenient. Opinion based on experience using PDF digital books.
89. They are good when the whole class needs to read a book.

90. Digital books are good for pointed search. That is, when I know what I'm looking for. For exploration and learning, I prefer physical books because they incentivize me to read some relevant concepts while exploring.
91. I like digital books for HW since easy-to-use ctrl+F for searching and having multiple pages open at once. My opinion is based off of using PDFs for HW assignments. The homework software/textbook experience is usually annoying because the company UIs are usually clunky and take up too much space in the header or bottom of the screen, which detracts from reading experience.
92. My eyes tire easily when looking at screens, particularly when all of my non-reading work is on screens too, so I find it easy to strain my eyes from reading digital books.
93. Digital books are useful when doing research because you can search for key words.
94. For most/all digital formats, they are convenient when you only need a few sections from the entire book as you can search for keywords to find what you need. However, it can be quite distracting for longer reading, such as reading full chapters, knowing you can look at something else with a single click.
95. It's just a lot easier (and covid safe) to use e-books. I'll definitely take print books if I can't find an e-book, but it's just easier if I can find one. I'll probably be less adamant about e-books next year once the pandemic has subsided.
96. I don't annotate print books or e-books. I just like being able to hold a physical book while reading it; it helps my engagement with the text. Also, as I said before...the less time spent staring at screens outside of Zoom class, the better.
97. For school, ctrl+f is handy. For pleasure, I much prefer the physical sensation of connecting with a book and not just staring at a screen and scrolling.

98. I only like digital books if they cost significantly less than print books, and this only applies to textbooks. In almost all cases, I prefer print books. I like digital books if I am not using it frequently (e.g., just reading a small section to use in a research paper).
99. Textbooks in mathematics and other STEM areas are not so comfortably read in an e-book device. The only reasonable e-book option is a PDF on a computer, and that's a very cumbersome way to browse through a book, considering that for such books you have to constantly jump from different chapters and sections. So, this sort of books is much better used and enjoyed in a physical format. I think this is different for history books, literature, and philosophy in which there is a more linear approach to reading them, in such cases an EPUB or MOBI file to be read in an e-book reader is the easiest option.
100. Digital books are advantageous as long as the students are not having to pay ridiculous sums of money to access them. E books with features such as read-along or the search bar help to make studying a more concise and organized experience.
101. digital books are great when I'm cross-referencing multiple things, so i only need a couple of sections from multiple books. bonus points if the digital book can be copy and pasted - pdfs which are just photos of pages are the bane of my existence. additionally, digital books work well with online homework software, where the program can instantly pull up the relevant pages of the book to show the student.
102. I find them harder to read and they hurt my eyes.
103. Digital books are great for note taking while reading.
104. I like to use pdf versions of course textbooks. They are easier to navigate and search in. They also take less physical space (those 800-page textbooks are cumbersome!).

105. E-books are awkward to navigate, hard to annotate, and unsatisfying to read. The biggest offender is navigation: it's hard to rapidly flip between two sections, or quickly scan through to find a particular passage.
106. I don't mind using e docs for homework but when reading I much prefer having a physical book in hand.
107. You can save many digital books into one device for browsing and researching.
108. Digital books don't give the same feeling of turning pages as the printed ones do. Reading a paper copy can be less distracting for me.
109. I like using them because they aren't heavy and don't take up physical space. I use PDFs usually.
110. Having textbooks available online is great.
111. I think they are super useful and efficient especially nowadays and are a great alternative. I usually use vital source or other interactive books that allow you to highlight and take notes which is one of the selling features for me since you can't do that with print books.
112. PDFs are good, the homework software can be finicky, like not letting you copy above a certain number of words.

Appendix F: Exempt Approval Letter

WORCESTER POLYTECHNIC INSTITUTE

100 INSTITUTE ROAD, WORCESTER MA 01609 USA

Institutional Review Board

FWA #00015024 - HHS #00007374

Notification of IRB Approval

Date: 06-Apr-2021

PI: Taylor, Steven S

Protocol Number: IRB-21-0546

Protocol Title: What is an Academic Library in the 21st Century?

Approved Study Personnel: Brousseau, Elizabeth~Le, Cam Tu~Ostapowicz-Critz,
Lori~Taylor, Steven S~

Effective Date: 06-Apr-2021

Exemption Category: 2

Sponsor*:

The WPI Institutional Review Board (IRB) has reviewed the materials submitted with regard to the above-mentioned protocol. We have determined that this research is exempt from further IRB review under 45 CFR § 46.104 (d). For a detailed description of the categories of exempt research, please refer to the [IRB website](#).

The study is approved indefinitely unless terminated sooner (in writing) by yourself or the WPI IRB. Amendments or changes to the research that might alter this specific approval must be submitted to the WPI IRB for review and may require a full IRB application in order for the research to continue. You are also required to report any adverse events with regard to your study subjects or their data.

Changes to the research which might affect its exempt status must be submitted to the WPI IRB for review and approval before such changes are put into practice. A full IRB application may be required in order for the research to continue.

Please contact the IRB at irb@wpi.edu if you have any questions.