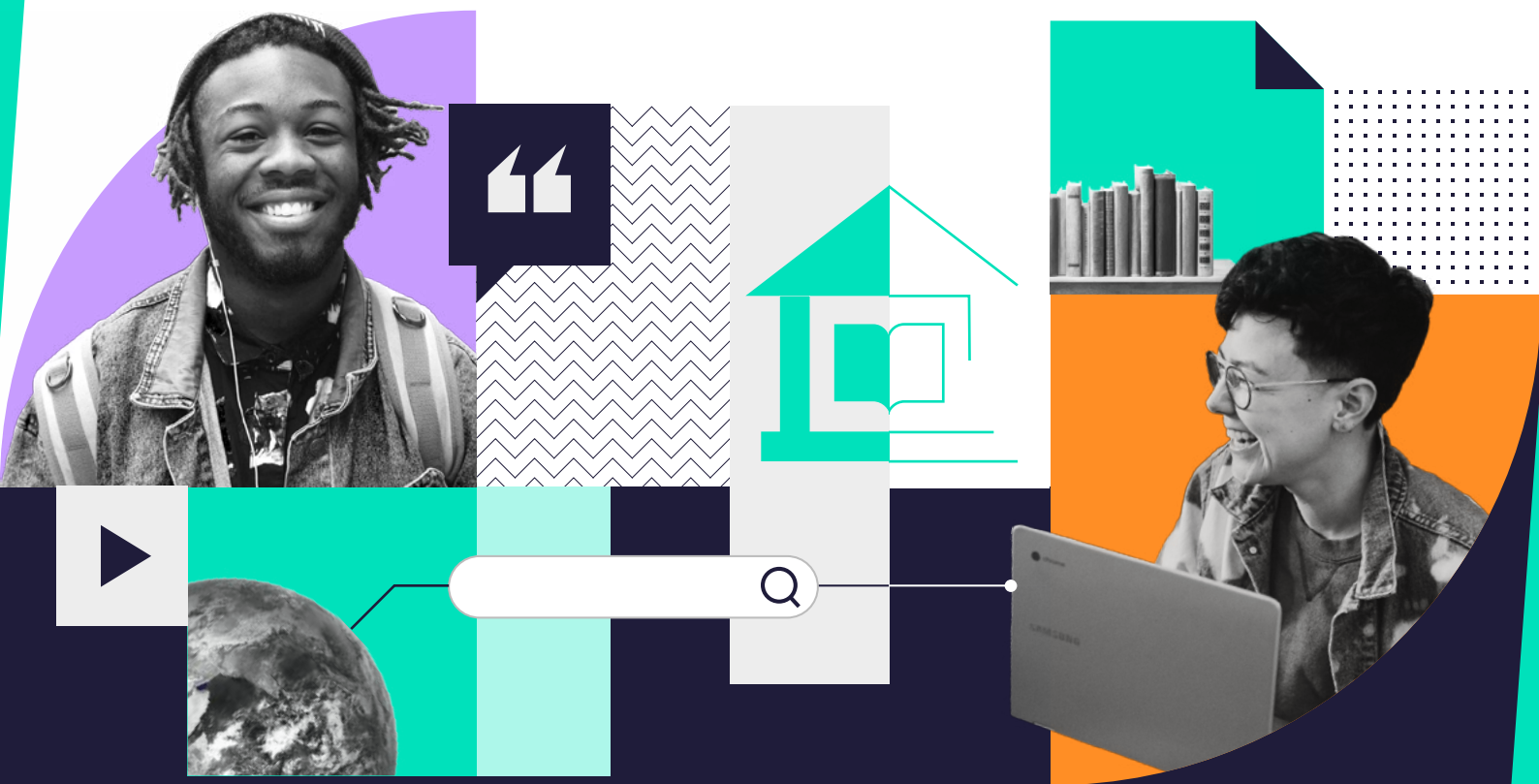


Librarian Futures⁰²



The Knowledge Gap Between Librarians and Students

Contrasting Librarian and Student
Perspectives on the Undergraduate
Workflow

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Foreword

Reimagining the Academic Library for the Student of Tomorrow

As the digital age continues to revolutionize the way we learn, it is essential that academic libraries keep pace with these changes. Yet, as the findings of our *Librarian Futures* report and subsequent research project show, there is still much work to be done to ensure that academic libraries meet the evolving needs of students in the 21st century.

The research project highlighted in this report is particularly noteworthy, having had significant contributions from students themselves. Who better to provide insight into the changing needs and expectations of students than those who are currently navigating the academic landscape? The findings of this project reveal a number of important trends and challenges facing academic libraries today, including the need for greater digital literacy and more tailored support for students.

One of the most significant findings of the report is the knowledge gap between what students need from their learning experience and what is offered to them through the library. Many students still rely on Google as their primary source for research, with relatively few using the library website or building. This suggests a need for academic libraries to not only improve their online presence but also to develop more effective strategies for engaging students and promoting the value of their resources and services.

Another key finding is the need for academic libraries to be more deeply involved in the student's learning journey. While most students are aware of extracurricular training opportunities, relatively few take advantage of these, and many fail to identify librarians

as providing help throughout their academic journey. This presents an opportunity for academic libraries to increase their visibility and build stronger relationships with students, by providing targeted support and resources that are directly relevant to their academic needs.

The report also highlights the importance of digital literacy, with significant differences between groups of students in their confidence in academic reading, digital skills, and course-related work. As technology continues to play an increasingly central role in education, it is imperative that academic libraries provide the necessary training and resources to help students develop these skills.

Ultimately, the findings of this report serve as a call to action for academic libraries to re-evaluate their role in the student experience and reimagine how they can best serve the needs of the student of tomorrow. It is clear that academic libraries must embrace new technologies and adapt to changing student expectations, while continuing to provide the essential services and resources that have been at the core of their mission for centuries.

As we look to the future, it is critical that academic libraries continue to evolve and innovate, developing new strategies for engaging students and supporting their learning journey. I hope that this report will serve as a catalyst for positive change, inspiring academic libraries to embrace new possibilities and work toward a more vibrant and dynamic future.

Matthew Hayes, PhD

MD, TECHNOLOGY FROM SAGE

Executive Summary

This new report will identify some of the challenges that face the academic library, highlight recommendations for institutions to improve the student experience, and provide insights into the library's evolving and essential role in student learning and success.

In 2021, our inaugural *Librarian Futures* report revealed areas of misalignment between the support and resources prioritized by the library compared to the areas most appreciated by patrons based on a large-scale survey of librarians and their patrons. This tallies with a 2019 Ithaka S+R survey that found only 35% of respondents strongly agreed that "my library has a well-developed strategy to meet changing user needs." While not present in all areas of library support, this identified knowledge gap is significant. For example, the *Librarian Futures* survey revealed that patrons visit Wikipedia just as much as they use their librarian; with the innovations now available to us, can librarian support not become as just as convenient as Wikipedia?

To build a more detailed picture, we commissioned a student-led research project in 2022, seeking to better understand student perspectives on the university experience, and more specifically, resource and reading lists for the classroom. This international research identified a number of key findings spanning organization, diversification, and communication that are pertinent to library audiences and directly related to the findings from Ithaka, *Librarian Futures*, and other sources on the librarian-patron relationship. Specifically, there is a knowledge gap between what students need from their learning experience in the classroom and what is offered to them through the library. However, the research project highlights key areas for the library to become more deeply involved in the student's learning journey. This report highlights key findings across the undergraduate workflow.



Discovery

- Most students will use Google while searching for resources, and a plurality of those students will use Google as their first port-of-call.
- Far fewer students will use either the library website or building while searching for resources, and fewer still will use them as their first port-of-call.
- Few students believe the library has no role in supporting their studies, though many simply see the library as a building and a collection.

Literacy

- There are significant differences between groups of students in their confidence in academic reading, digital skills, and course-related work.

Scaffolding

- Though most students are aware of extracurricular training opportunities, relatively few take advantage of these—with a quarter of students reporting they don't participate in any additional training of any kind.
- There are a number of stages of the undergraduate journey that large numbers of students report finding somewhat or very difficult and in which librarians may be able to intervene.

Engagement

- Students tend to identify as independent rather than collaborative learners.
- Broadly, students indicate they are satisfied with their academic experience.



Introduction

UNESCO reports there are approximately 235 million higher education students worldwide (UNESCO, 2022). There is, naturally, no single student demographic—students are a diverse group from varied backgrounds working across a range of disciplines, and each student is likely to have his or her own needs and requirements. It is the responsibility of all working in the higher education sector—academic staff, administrative staff, technology solutions providers, and librarians—to work to better understand the requirements of our students so that we can, in turn, better address them.

In our inaugural *Librarian Futures* report published in 2021, we identified a bidirectional knowledge gap: We found that patrons were not aware of the “full extent of librarian support available to them,” and we also determined that librarians were unaware of the emerging needs of their patrons and the new or enhanced areas of service provision these suggest.”

In this report, we endeavour, through analysis of the results from a survey of almost 600 students, to examine this knowledge gap with an aim of developing our understanding of student needs and proposing actions that librarians can take to address such needs. We consider the needs of diverse groups of students and note the differences they report in their student experience. We do this with reference to previous research undertaken by Technology from Sage and also to contemporary literature surrounding topics like student satisfaction and the role of the academic library.

In our original report, we wholeheartedly endorsed the idea that the academic library is still relevant, and that the librarian will be more important than ever before as institutions try to keep pace in the digital era. Similarly, we are confident that the academic library, as an institution, is well-placed to address the knowledge gap we have identified, though we

also acknowledge that there is work yet to do to ensure that all students are well-met by the library's provision. We hope that the data shared in this report will be as informative for librarians as it has been for use at Technology from Sage, directly informing our product strategy and plans over the coming years. As we work to meet the future head-on, it's important that both libraries and library vendors do so equipped with as thorough an understanding of the needs of library patrons as possible.

It is the responsibility of all working in the higher education sector to work to better understand the requirements of our students.

Key Findings

01 Discovery

Where Do Students Find Resources?

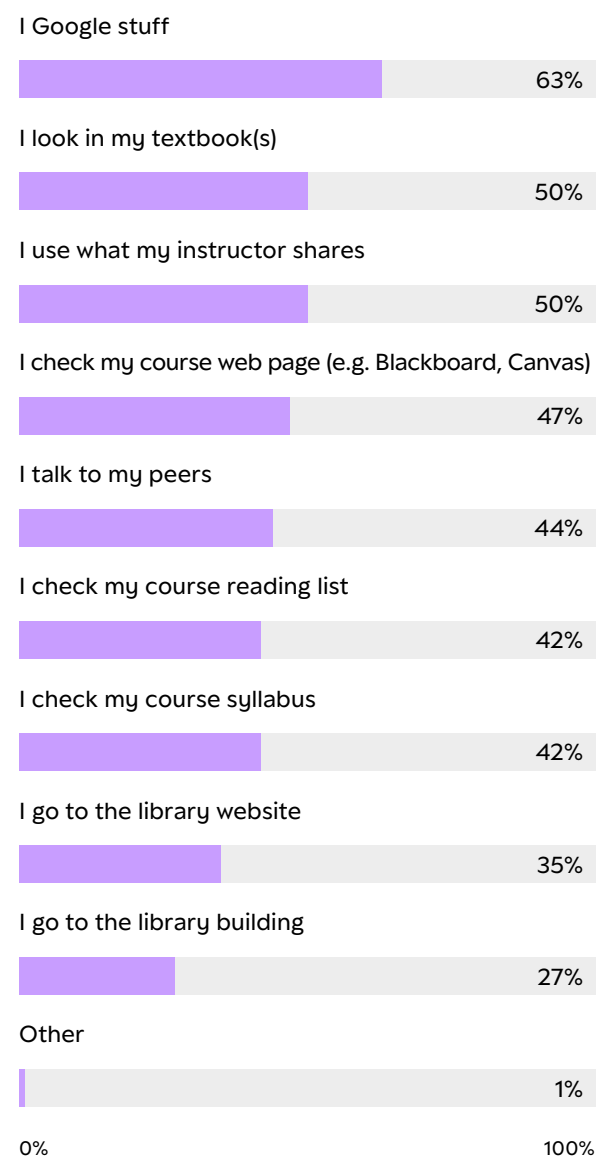
In our inaugural *Librarian Futures* report, we found that 74% of students are beginning their discovery process outside of the library. However, that report also underlined the enduring importance of the library, with 54% of students accessing the resources and services the library provides on a daily or weekly basis.

In the present survey, we asked students to identify each of the ways they find resources during the course of their studies, including for their assignments, to expand on our understanding of their discovery process (Figure 1). By far the most popular response was “I Google stuff,” with 63% of respondents answering this. We will consider the implications this has for libraries and why librarians may therefore wish to reach students within Google itself.

Full-time students reported finding resources using Google significantly more (67%) than part-time students did (37%). Similarly, more undergraduate students who identified as “less prepared” answered that they “Googled stuff” (72%) than those who identified as “more prepared” (57%). Less prepared students were also significantly more likely to look in textbooks, use resources shared by their instructor, check their course web page, and check the course syllabus.

This divergence between more-prepared and less-prepared students is interesting. It may indicate that less-prepared students take a more scattershot, less considered approach to finding resources for their studies. Similarly, it is interesting that the same divergence is seen between full-time and part-time students. Part-time students,

Fig. 1. Student Responses to the Question: How do you find resources for your assignments and studies?



by necessity, may need to take a more careful and considered approach to their studies and assignments, careful to make better use of their more limited time. Subgroup analysis does show that part-time students identify as being significantly more prepared than full-time students, which seems to support this hypothesis.

What is also interesting, and perhaps more so concerning, is that there was no significant difference between more prepared and less prepared students regarding who used the library website or building, nor between full-time and part-time students. This suggests a broader failure to identify the library as a starting point for study or research that cuts across student groups.

Why are students broadly bypassing the library in favor of other methods of research? Research undertaken by colleagues from Talis, in collaboration with a student from the University of Lincoln, revealed that students report difficulty in using the discovery services provided by their library (Sharman & East, 2022). Similarly, work done by OpenAthens in their recent *Library User Experience* report is informative when considering this point. When conducting their qualitative research, they found that students reported using alternative solutions to the library because they found them both easier and quicker to use (OpenAthens, 2023).

Librarians looking to increase usage among their patrons may therefore benefit from addressing this perception, considering whether their services are presented in straightforward, intuitive ways and focusing outreach efforts on new patrons as they are onboarded to the university—when habits are first built. Alternatively, librarians might consider ways to reach their patrons within services like Google Scholar.

Post-Covid we've noticed that students are less comfortable using an academic library, and harder to reach and engage with. This is sobering news for academic librarians, as we all work immensely hard in organizing and promoting our support to help all students achieve their potential. So for me it means we need to redouble our efforts, and find novel ways to reach students and open their eyes to the difference we can make.

IAN SNOWLEY, DEAN OF LEARNING SKILLS & UNIVERSITY LIBRARIAN, THE UNIVERSITY OF LINCOLN

Where Do Students Look First for Resources?

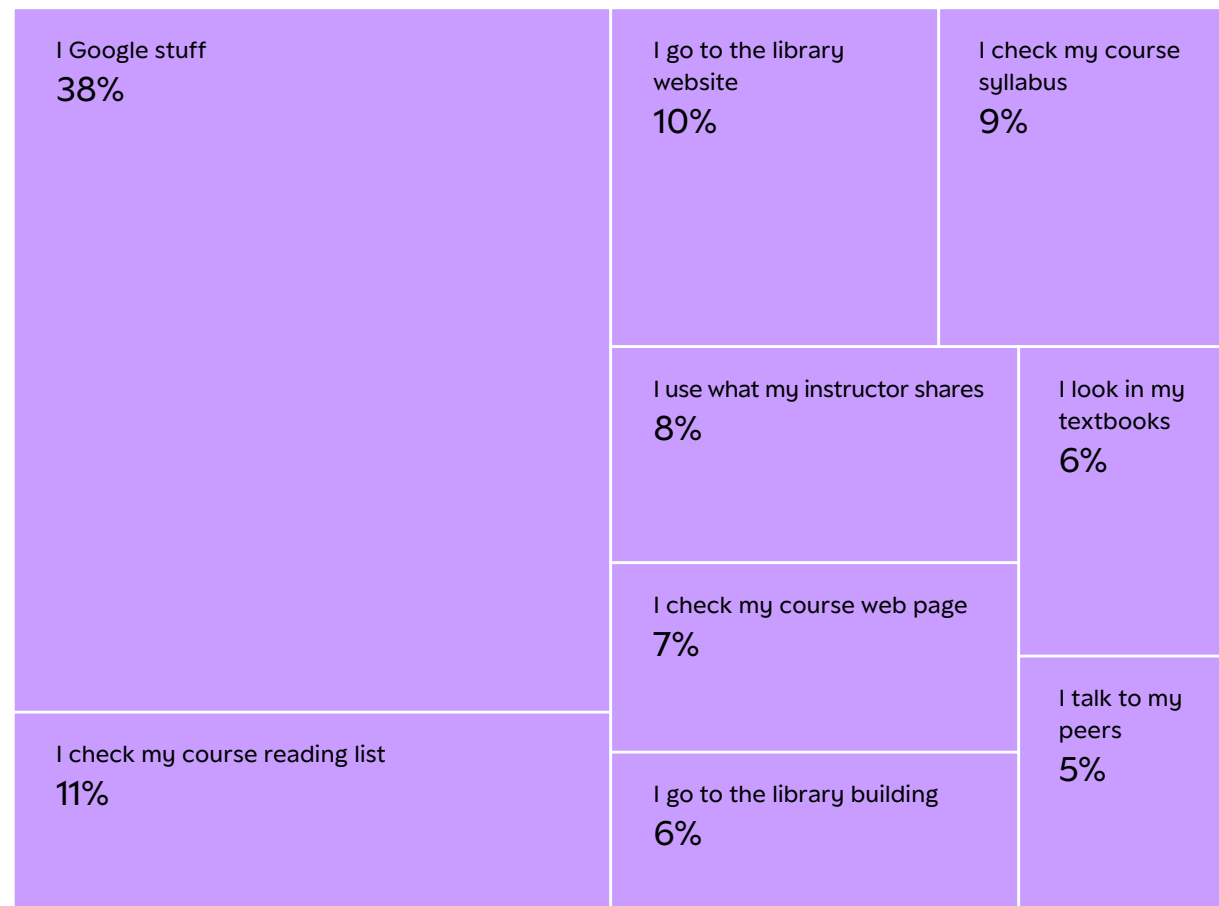
We also asked students to identify what they are most likely to do first when looking for resources (Figure 2). Unsurprisingly, “Google stuff” remained the most popular answer by far, with 38% of respondents choosing this. The next most popular result, with 11% of respondents choosing this, was “I check my course reading list,” followed by 10% of students indicating they would “go to the library website.”

That such a relative minority of students should identify the library as their first port-of-call when looking for resources may be a cause for concern for librarians—though possibly not a surprise. If the primary reasons for using Google are convenience and perceived efficacy,

does this mean emerging tools like ChatGPT will quickly rise to the top of the list, too? What does that mean for learning outcomes given Google manually curates its feed, particularly in Google Scholar, which ChatGPT does not?

Further analysis reveals that more prepared students are significantly more likely to use the library website first than less prepared students. As we will highlight throughout this report, this is a running theme throughout our data (and one that is unlikely to be a surprise). This may suggest a course of action for libraries to take in the future—by helping students better prepare for their studies, librarians may also ensure that students use the library as their initial point of contact more regularly.

Figure 2. Student Responses to the Question: **What are you most likely to do first when looking for resources?**



How Do Students Feel the Library Supports Their Studies?

Encouragingly, when asked how the library supports their studies, relatively few students (5% of respondents) reported that the library has no role in supporting their studies. More concerning, however, is that only 34% of students reported that librarians help them find resources, and only 24% reported that librarians taught them about resources.

Meanwhile, a comparatively large 60% of respondents indicated they see the library as “a place to complete assignments.” In addition, 50% of respondents see the library’s role in supporting studies as “providing access to academic resources,” and 46% say the library “provides access to textbooks.” In our *Librarians Futures* report, 75% of librarians indicated they agreed with the statement, “The mission of the library is not about buildings and collections, but who librarians serve” (Evans & Schonfeld, 2020). Meanwhile, our results here suggest that students more regularly identify the library principally as a location or a collection, in direct contradiction to this statement. These data are also consistent with our earlier *Librarian Futures* report, which found that only 6% of student patrons rated library teaching about research best practices as a “major” support.

It seems clear that there is a disconnect between the librarians’ perception of themselves and the library in general and the student perception. We do not herein present a solution to this problem, nor do we anticipate that a solution will be easily developed. We hope, however, that the data contained within this report will provide librarians with food for thought, will encourage them to consider how their students view their services, and will identify areas where librarians might direct their talents and resources to improve the student experience.

The mission of the library is not about buildings and collections, but who librarians serve.

EVANS & SCHONFELD, 2020



02 Literacy

Student Confidence

Having considered the ways in which students are discovering information, we now turn to how prepared students are to engage with the information once found. The data collected show that just over a quarter (27%) of students identify as “very confident” regarding reading academic literature. As might be expected, older and final year students identify as very confident significantly more than young and middle year students do (Figure 3).

These data suggest that most students feel they have room to develop their academic reading skills. As we will see later in this section, however, very few students identify librarians as people

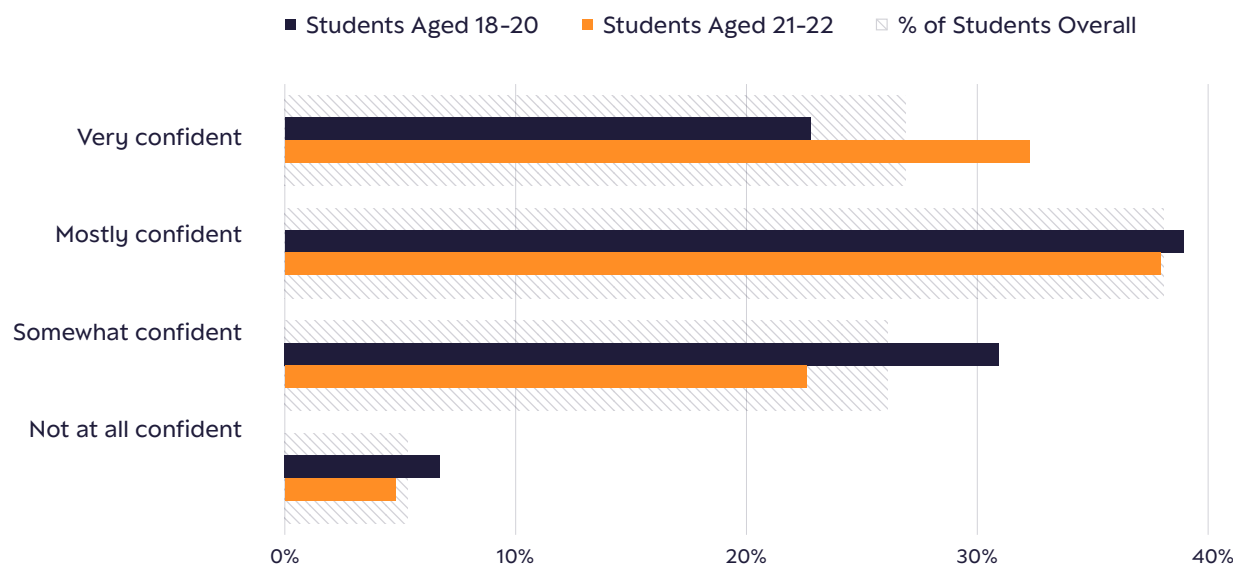
they would approach for help with academic reading. Librarians might therefore need to consider the support in academic reading they currently offer (or, if they feel they already offer adequate support, consider how they might better reach students to make sure they are aware of this support and take advantage of it. Again, later in this report, we provide some insights on the most effective ways of reaching students).

Older and final year students report that their skills in reading academic literature have grown by “a great deal” or “a lot” significantly more than younger and middle year students. This pattern, of older and final year students reporting greater confidence

Fig. 3. Student Responses to the Question¹:

How confident are you today in each of the following areas: reading academic literature?

¹ “N/A” answers, and null responses have been removed.



or more growth, is reflected fairly consistently throughout categories. It is also not especially surprising, given final year students will be expected to develop these skills to meet the requirements of their final year.

Our data also point to significant differences between first-generation students and non-first-generation (non-FG) students (Figure 4). Non-FG students reported they were “very confident” reading academic literature significantly more than first-generation students, who in turn identified as “somewhat confident,” significantly more than non-FG students. The results were much the same when looking at growth in academic reading skills, with non-FG students answering that their skills had grown by “a great deal” or “a lot” significantly more than first-generation students. As we will see throughout this report, the differences between non-FG and first-generation students are something of a running theme across categories. Our data suggest this is an area in need of attention, which may be of use to librarians considering who they target for future intervention.

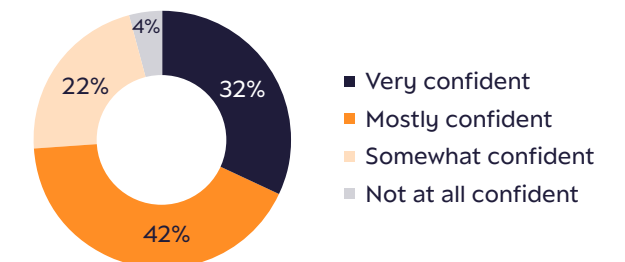
It is important to note that earlier research undertaken by colleagues from Talis in collaboration with academic staff from University College London, the University of Nottingham, and the University of Lincoln suggests that students tend to rate their own confidence in academic reading much higher than academic staff rate student confidence. The difference we identified was substantial—when asked to rate their confidence in reading for academic study, 41.8% of students rated their confidence positively while just 11.6% of staff rated student competency as positive. Conversely, 40.6% of staff surveyed rated student competency negatively, whereas only 6.8% of students reported their confidence negatively.

We highlight this discrepancy here as an acknowledgement that it is possible there is no significant difference in the quality of academic reading between groups, simply in the perception of the quality. Without further qualitative investigation, however, it is impossible to know for sure.

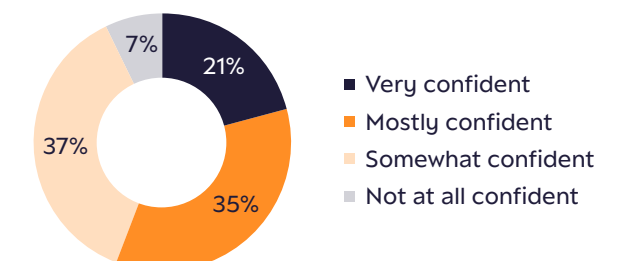
When asked to describe their digital skills, students reported broadly the same

Fig. 4. Breakdown of Confidence and Growth in the Ability to Read Academic Literature Among First-Generation and Non-FG Students.

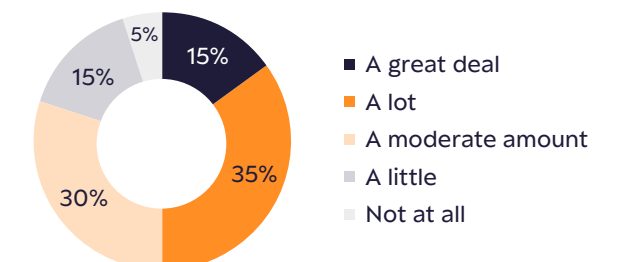
Reading Academic Literature: Non-FG Students



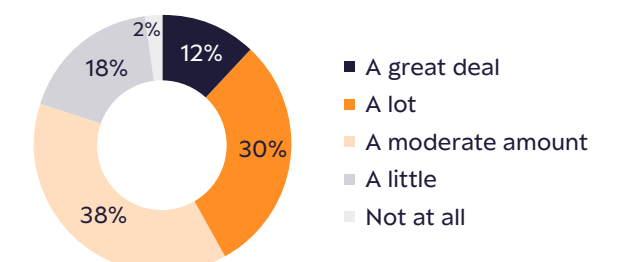
Reading Academic Literature: First-Generation Students



Growth in Reading Academic Literature: Non-FG Students



Growth in Reading Academic Literature: First-Generation Students



results. On the whole, students rated their digital skills highly, as we also observed in research undertaken with a student researcher (Sharman & East, 2022). With this current research, older and final year students were significantly more confident in their digital skills. Again, the same was true of non-FG students. Part-time students and more prepared students identified as significantly more confident in their digital skills than full-time and less-prepared students respectively. These results were mirrored when students were asked to describe how confident they felt when doing course-related work.

That older, final year students feel more confident across the board is perhaps to be expected. Also unsurprising is that, across categories, the same students report that their skills have grown by a great deal/a lot significantly more than younger and middle-year students. This may well be a simple case of these students having had more time to grow and develop, combined with the natural pressure to develop ahead of final year exams/projects.

What is concerning, however, is that first-generation and full-time students feel less confident in academic reading, digital skills, and completing course-related work as compared to non-FG and part-time students respectively. Compounding this problem is that first-generation students report a great deal/a lot of growth across various categories significantly less than non-FG students do, suggesting that the imbalance persists over time. Could more work be done to reach first-generation students early to improve their confidence/skills?

On the whole, students rated their digital skills highly, as we also observed in research undertaken with a student researcher.

SHARMAN & EAST, 2022



How might librarians help first-generation students?

In a 2019 book chapter, Graf proposes several strategies that academics libraries and librarians can adopt in order to better support their first-generation students.

- 01** The first strategy proposed is “listening, learning, and valuing”. Librarians are encouraged to undertake work to understand the specific challenges first-generation students at their institution face, which can then inform their future work.
- 02** Next, librarians are encouraged to “normalize help-seeking and diversify authority.” Graf suggests that librarians do not view themselves as the single point of help for students but instead recognize that students will go to their peers for help, and that by providing “strong information literacy education for all students” then students will be better able to support one another. Librarians are also encouraged to avoid “leading with expertise” and instead focus on earning the trust of their students.
- 03** The final strategy offered is to “promote alternative narratives.” Graf encourages librarians to “imagine the library as a site of alternative narratives in the service of broader inclusion by providing access to information, not just about dominant groups and the status quo but also the stories and experiences of marginalized groups and voices.”

Graf, A. J. (2019). “First-generation students and libraries: Beyond the deficit narrative.” In N.-Y. Tran & S. Higgins (Ed.), *Supporting today’s students in the library: Strategies for retaining and graduating international, transfer, first-generation, and re-entry students* (pp. 3-21). Chicago, IL: ACRL Press.

Many Students Do Not Report Librarians Help Them

Of further concern to librarians, students placed librarians in the minority when asked to identify who had helped them to grow with respect to the following categories:

- Identifying a good research question or assignment topic
- Preparing an effective search for relevant resources
- Working in a digital environment
- Finding good information
- Getting access to resources
- Reading academic literature
- Understanding data charts and tables
- Referencing and citing academic works
- Thinking critically about the subject
- Writing at a university level

Indeed, across all categories, students provided the answer "me," "my peers," and "my teachers" more than "librarians." "Getting access to resources" was the most popular category for librarians but with just 25% of students identifying librarians as having helped them.

Across a number of categories, however, part-time students identified librarians as providing help significantly more than full-time students, as did more prepared students. The possible reasons for this are worth reflecting on. Is it, as has been suggested already, that part-time students are more likely to take a considered approach to their studies, due to necessity? Or are librarians doing more outreach to part-time students, trying to help them make the most of their time? Is it some combination of these, or something else entirely? Though that lies beyond the scope of this current research, it is a point for future consideration.

Part-time students identified librarians as providing help significantly more than full-time students.

Student Preparedness for Higher Education

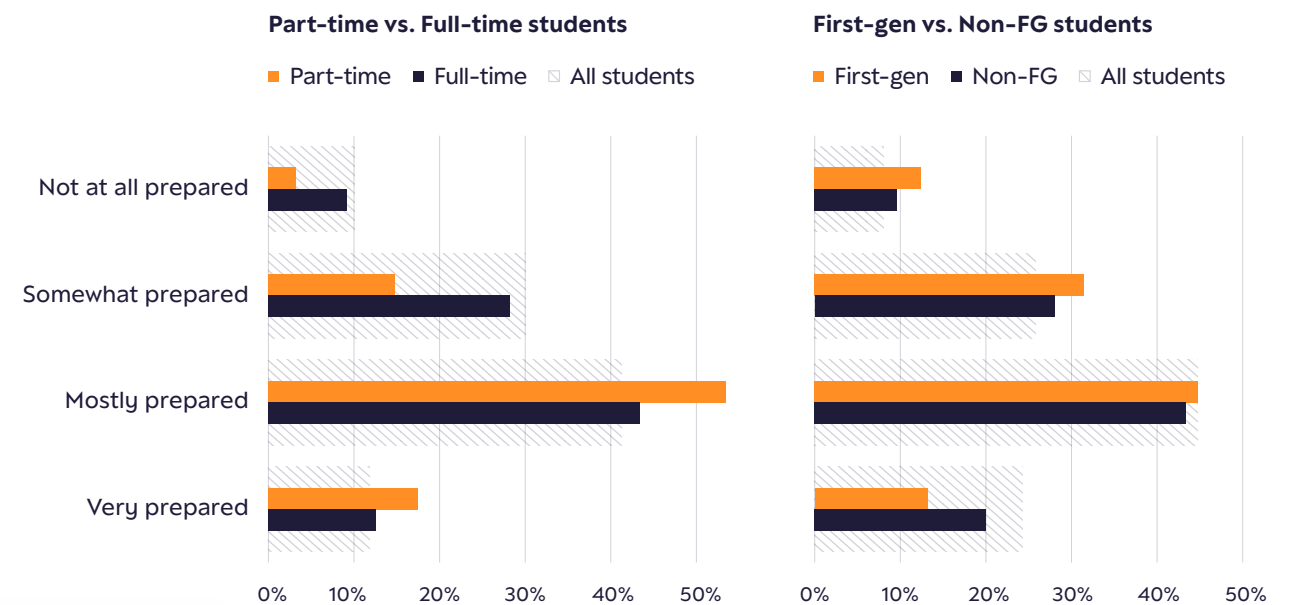
Here, we will also consider student preparedness for the transition to higher education. Relatively few students reported either that they were not prepared at all for the transition (9%) or very prepared (20%). Most identified either as being somewhat prepared (28%) or mostly prepared (43%). We see the differences between full-time and part-time students continue when we examine student readiness for the transition to higher education (Figure 5). When asked "How prepared were you to study as a first-time undergraduate student?" part-time students indicated they were generally more prepared

than full-time students. In addition, first-generation students were significantly more likely to identify as "not at all prepared" than non-FG students, who in turn were significantly more likely to identify as "very prepared."

Given that most students feel they could have been more prepared for the transition to higher education, it would be useful to investigate this further and determine specific areas in which they could have been better prepared. This might then inform future approaches the library could take to outreach, allowing the library to better meet the needs of incoming students.

Fig. 5. Preparedness for First-Time Study as an Undergraduate Among Full-Time and Part-Time Students, and First-Generation and Non-FG Students.

How prepared were you to study as a first-time undergraduate student?



03 Scaffolding

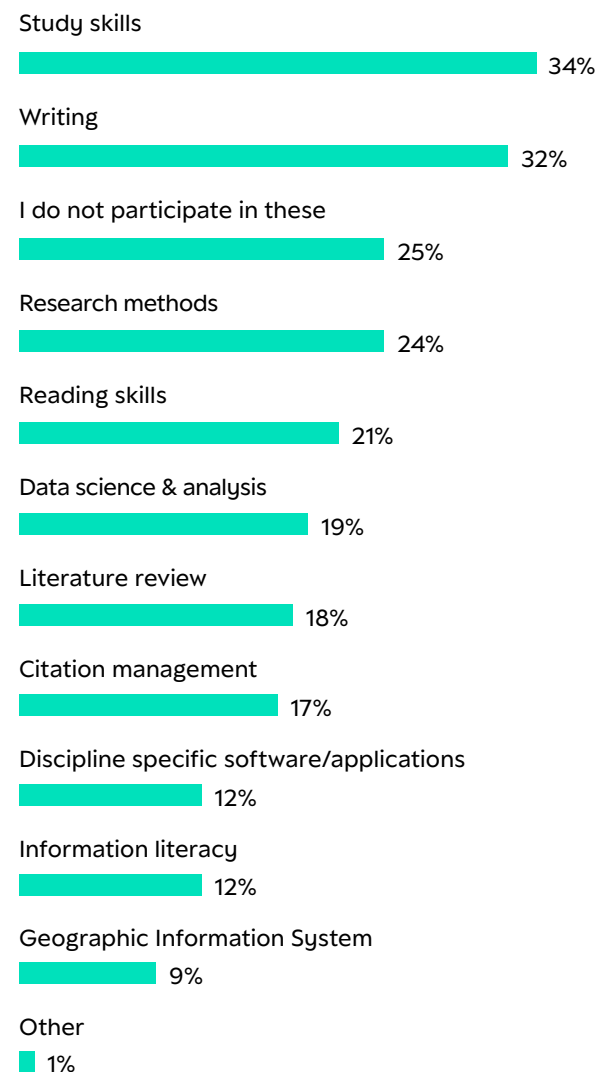
Do Students Make Use of Extracurricular Training?

Most students will likely receive training as a core part of their learning—academic staff will teach them how to read academic sources, how to write in an appropriate style, and how to use technology important for their studies. Students will however also have a vast range of additional support available to them, available not only through the library but also IT services and learning technologist teams. We asked students to identify any “extracurricular” training they have taken part in. Responses are displayed in Figure 6.

A quarter of students surveyed reported that they do not participate in additional training of any sort. Curiously, subgroup analysis reveals that full-time students reported that they did not participate in these sessions significantly more often than part-time students (28% to 6%). Do part-time students seek out additional training to make better use of their time? Are full-time students exposed to more training day-to-day owing to their contact hours being higher?

The most popular forms of additional training were study skills (34%) and writing (32%) training.

Fig. 6. Student Responses to the Question: **What kinds of additional training, workshops, or other support have you participated in at your college or university that’s offered outside of your courses?**



The most popular forms of additional training were study skills (34%) and writing (32%) training. Relatively few students reported attending training on citation management (18%) and information literacy (12%). This may be informative for librarians considering where to increase their provision of additional training, or alternatively, which additional training to advertise more.

Given these relatively small numbers of students attending such training, it may also be useful for librarians to understand how students

discover this additional training. Encouragingly, very few students (7%) are unaware there is additional training offered. The most popular methods of discovery were email communications (49%). Particularly powerful also were word of mouth from fellow students (47%) and teacher recommendations (44%). With this in mind, librarians should consider how they can leverage student and staff recommendations to drive uptake in their training sessions.

Information Literacy—More Important Now Than Ever?

Just 12% of the students we surveyed identified that they had taken part in training on information literacy. This is despite the fact that information literacy has arguably never been a more critical skill for students to develop.

In recent years, the necessity of being information literate has been thrown into sharp focus by the ubiquity of social media and the abundance of disinformation. With the emergence and extreme popularity of large-language models like ChatGPT, which generate convincing (though often unreliable) text, this challenge is set to become even more crucial.

ChatGPT can respond convincingly to prompts and questions it is given, though the information it returns is not necessarily accurate. Indeed, users have reported that ChatGPT has simply invented references. OpenAI, the company responsible for ChatGPT, clearly states the limitations before users can even enter their prompt: ChatGPT “may occasionally generate incorrect information” and “may occasionally produce harmful instructions or biased content.”

Given these obvious limitations, it’s clear that students must be equipped with information literacy skills to properly investigate and evaluate any given source. It’s also crucially important that libraries start to implement such measures soon, given the likelihood that ChatGPT, and technologies like it, are here to stay.

There are few institutions better placed to address the challenges posed by ChatGPT than the academic library. Librarians must take time to consider both the affordances and challenges of resources like ChatGPT, and develop strategies to communicate these clearly and effectively to students.

In recent years, the necessity of being information literate has been thrown into sharp focus by the ubiquity of social media and the abundance of disinformation.

Where Might Librarians Intervene in the Future?

Having examined the types of training that students attend, and the ways in which they are made aware of such training, we now turn to consider areas librarians might target in the future. Our data show that 77% of respondents were either “very” or “mostly confident” with finding good information and getting access to resources. As seen elsewhere, later-years students identified as “very confident” significantly more than early-years students did. While this is to be expected, given the time later-years students will have had to develop their abilities, librarians may find these data informative when deciding who among their patrons to target with interventions. Similarly, as we have seen elsewhere, non-FG students were significantly more confident than first-generation students—another area that may require attention.

Similar trends are seen when examining the responses relating to growth across these areas. Later-years students reported more growth than early-years students, which again is probably to be expected, but could earlier intervention with early-years students balance these results? Again, first-generation students also reported significantly less growth than non-FG students. That these differences are observed consistently across categories must surely be a cause for concern among library staff.

Librarians were not often identified by students as individuals who helped across categories. With regard to “finding good information” and “getting access to resources,” 16% and 25% respectively identified librarians as helping. What is more concerning is that these questions were not framed to encourage students to identify one singular group that helped but rather anyone who helped. This means that 75% of students surveyed did not see librarians as helping get access to resources at all. Could librarians do more in this regard? Alternatively, might librarians be able to take steps to ensure they are more readily apparent to students as sources of guidance? Or is it more a case of students not being aware that librarians are helping them, even while they make use of such resources?

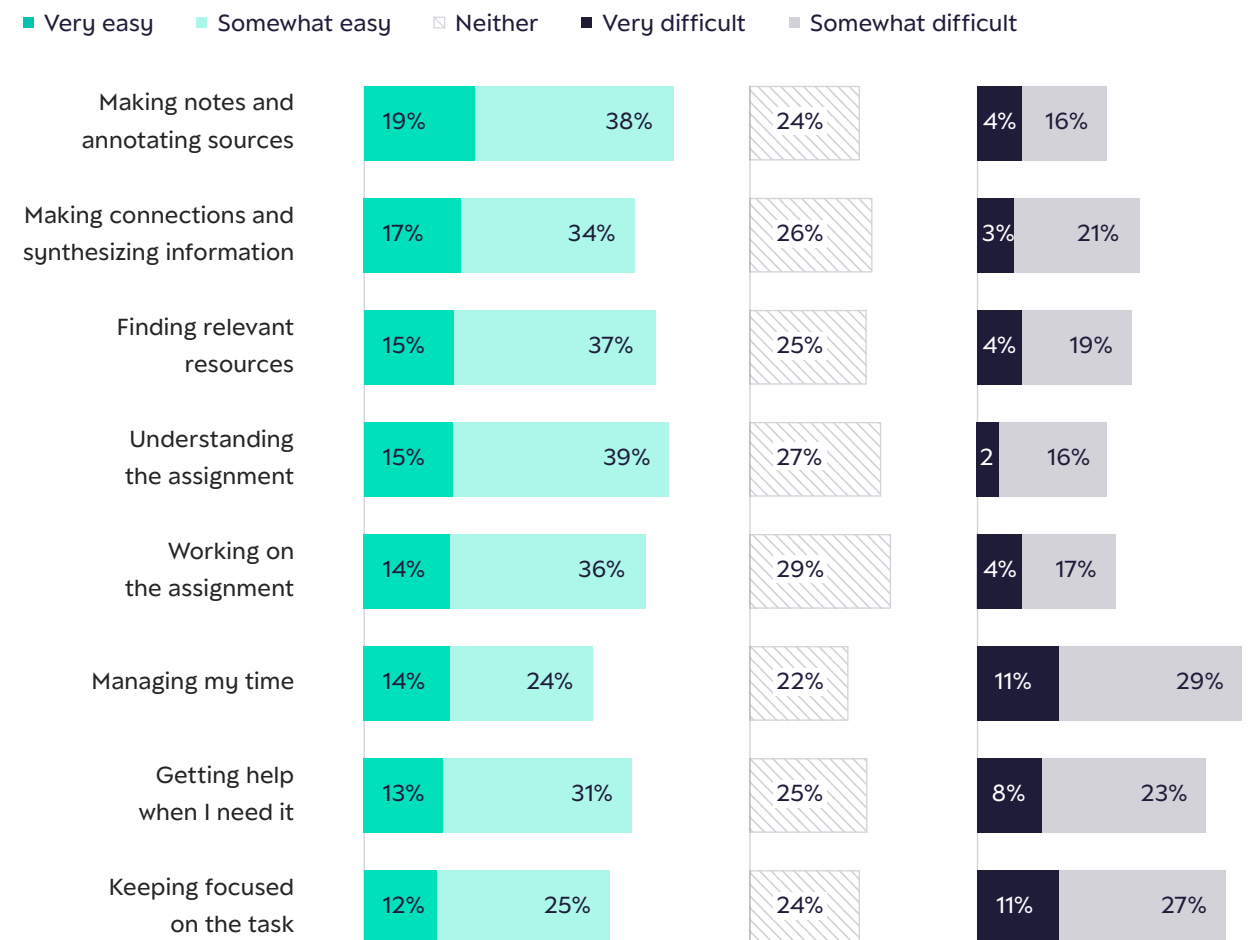
It is also informative to consider the responses given when students were asked to identify how easy or difficult they found certain aspects of preparing assignments.

A slim majority of students (52%) reported that they found “finding relevant resources” easy, with the remainder being neutral on the issue or finding it difficult. To have split the students surveyed almost down the middle in such a way is interesting, and subgroup analysis reveals many of the same differences we have already flagged elsewhere. First-generation students were significantly more likely to find this difficult, while more prepared students were naturally more likely to find it easy.

Students identified “managing time” and “keeping focused on task” as the two areas where they had the most difficulty in general, though again, more prepared students reported that they found it easy significantly more than less prepared.

Students who identify as disabled reported significantly greater levels of difficulty across categories. On this note, consider the trends we have observed thus far among students who identify as less prepared for undergraduate study, first-generation students, and disabled students. As we have noted throughout this report, across many categories these students report less confidence, less growth, and greater difficulty in various aspects of assignments. This ought to prompt serious consideration of how libraries and library vendors can work together to ensure equity of outcome, as far as possible, for all students. By their nature, any such issues will be complex, interwoven, and not easily rectified. They will also almost certainly differ among institutions. Work to understand and correct such issues is crucial.

Fig. 7. Student Responses to the Question: **How easy or difficult do you find the following aspects of preparing assignments?**



75% of students surveyed did not see librarians as helping get access to resources at all.

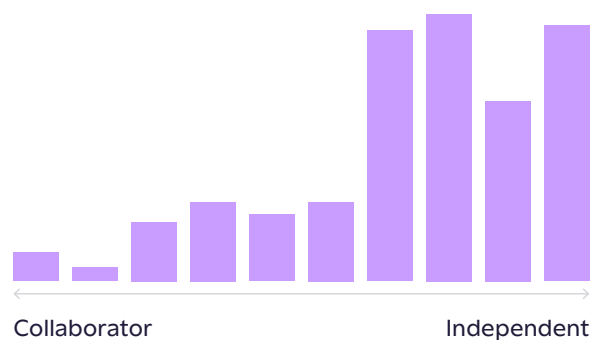
04 Engagement

How Do Students Identify, and How Might This Affect Engagement?

We asked students to describe their approach to learning by identifying where they exist across a number of spectra. When asked to place themselves on the spectrum from collaborative to independent learners, students overwhelmingly identified as independent learners.

These results are in accordance with data gathered by Talis and a student researcher as part of a separate investigation into student perspectives on online reading lists (Sharman & East, 2022). While undertaking that research, we found that 57% of students identified as preferring independent learning (Chandler et al, 2022). This is a troubling discovery. Collaboration between students is an essential component of higher education—the beneficial effects of collaboration on learning are well documented

Fig. 8. Student Responses to the Question: Which best describes your approach to learning?



(Laal & Ghodsi, 2012). Why then do most students see themselves as independent learners? When considering the potential reasons for this, it might be tempting to look to the COVID-19 pandemic as a cause. For many students, this would have been an extended period of isolation, relatively cut off from their tutors and peers, and could have led to more independent habits. Our data, however, do not reflect any significant difference between respondents who began their studies mostly online, mostly in person, or an equal mix of both.

Might it be that students are simply not provided the opportunities to collaborate often enough, and as a consequence, do not settle into a collaborative norm or develop collaborative habits? When we asked students to identify the types of applications or programs they intended to use to help plan or prepare their assignments, just 10% identified collaboration software. A slightly larger 13% of students intended to use annotation tools, which allow discussion and interaction to take place in the margins of a resource.

Libraries are well-placed to facilitate the rollout of collaborative tools such as these. The library already dedicates extraordinary amounts of resource into building out the collection to better serve patrons—by providing access to tools that help patrons better engage with the collection (and resources beyond), libraries can serve their patrons more effectively.

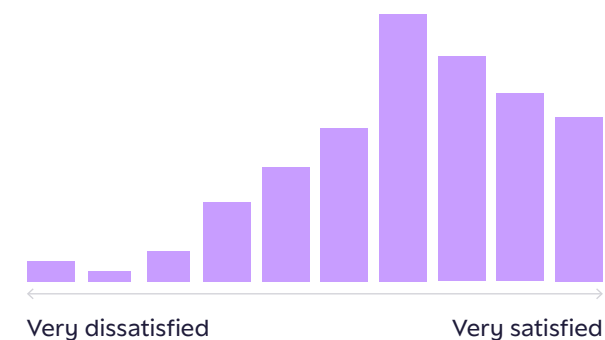
It is also worth considering whether students are collaborating more often than they realize. Though we found that most students identify as independent learners, when asked to

Students were largely satisfied with the experience, regardless of the starting mode of their studies.

identify who had helped them grow most across a number of areas, “peers” was the third most popular choice across all categories—ahead of librarians in all instances. The proportion of students identifying their peers as having helped was relatively low across the board, but it remains interesting to consider whether students may in fact be more collaborative than they give themselves credit for.

Having noted that there were no significant differences in collaboration between students who started mostly online and those who started mostly in-person, it is informative to further examine whether there are differences in student satisfaction. In previous research undertaken alongside a student from the University of Lincoln, it was shown that most students reported

Fig. 9. Responses to the Question: Which Best Describes Your Level of Satisfaction With Your Academic Experience?



to being satisfied with their course (Sharman & East, 2022). It might be tempting to assume that students who started their studies online would be overall less satisfied with the academic experience, though our data do not suggest that. Students were largely satisfied with the experience, regardless of the starting mode of their studies. Indeed, we found that mostly online students reported *higher* overall satisfaction (though crucially the difference was not significant).

Consistent with our observations elsewhere throughout this report, there were significant differences in satisfaction between more and less prepared students (with more prepared students significantly more satisfied) and between first-generation and non-FG students (with non-FG students being more satisfied). To reiterate what has previously been stated: It should be a cause for concern that there is such disparity, and librarians should be involved in broader conversations throughout institutions to consider how to address this.



READ MORE

Can Social Annotation Really Make a Difference?

Social annotation is an evidence-based active learning approach, that has been demonstrated to have a number of beneficial effects on student learning. Literature suggests that social annotation can have beneficial effects on:

- Knowledge construction (Morales et al, 2022)
- Student collaboration (Kalir, 2020)
- Reading comprehension (Chen & Chen, 2014)

As mentioned previously, students were asked to place themselves on a number of spectra. The questions given (and upper/lower limits of each spectrum) were the following:

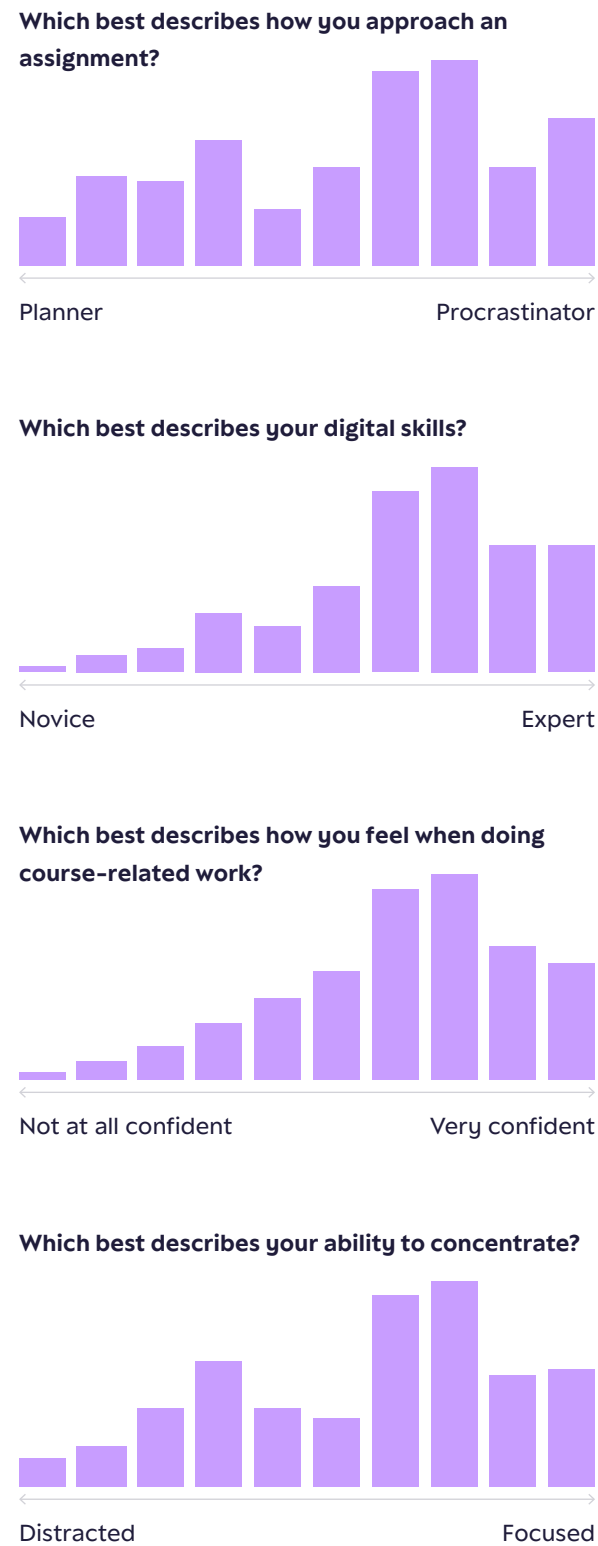
- Which best describes how you approach an assignment? (Planner—Procrastinator)
- Which best describes your digital skills? (Novice—Expert)
- Which best describes how you feel when doing course-related work? (Not at all confident—Very confident)
- Which best describes your ability to concentrate? (Distracted—Focused)

The answers given are displayed in Figure 10.

It is evident that each of these categories can have implications for student engagement with course materials, course tutors, and their classmates. A digital novice, for example, might be less able to engage meaningfully with online or hybrid learning. Student confidence could impact their willingness to engage in discussion. Procrastinators will likely not be able to make full use of the resources provided to them. Student engagement is closely related to student satisfaction (Howson & Matos, 2021), and so by addressing each of these issues students will be more likely to be satisfied with their experience. Librarians again should be a part of the wider conversation on how to reach students who are likely to be less engaged and target interventions to them. This, in turn, ought to boost student satisfaction.

This is not, of course, to say that the burden for any of these interventions should lie solely within the library. However, librarians, with their diverse backgrounds and wealth of expertise, ought to be involved in the process of shaping these interventions and rolling them out.

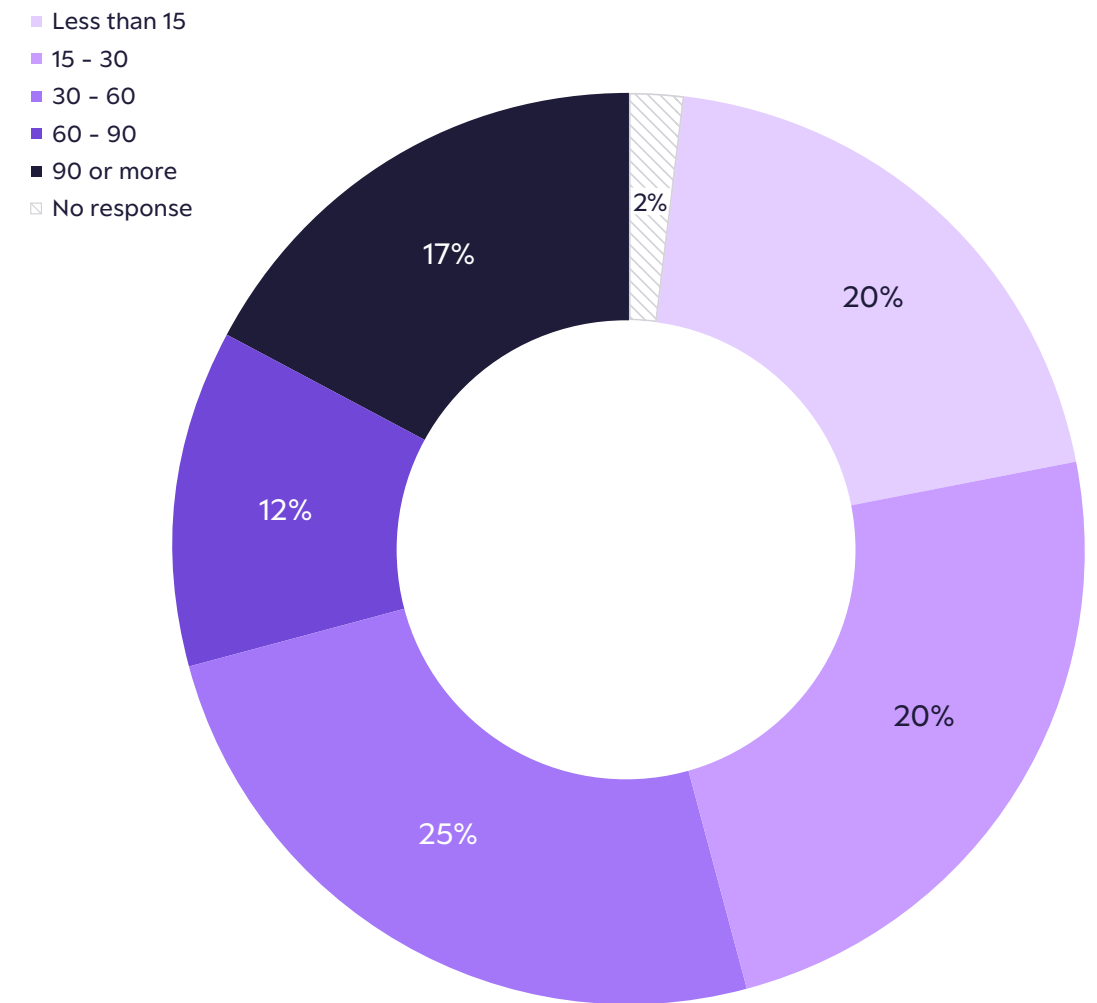
Fig. 10. Series of Graphs Showing Where Students Placed Themselves Across Various Spectra.



How Long Do Students Spend Searching for Resources?

Fig. 11. Student Responses to the Question:

For a typical assignment, how long will you continue searching for a relevant resource until you move on to something else?



Having considered factors that can affect engagement, we shall briefly consider how engaged students are when searching for resources. We asked students “For a typical assignment, how long will you continue searching for a relevant resource until you move on to something else?” The results are shown in Figure 11.

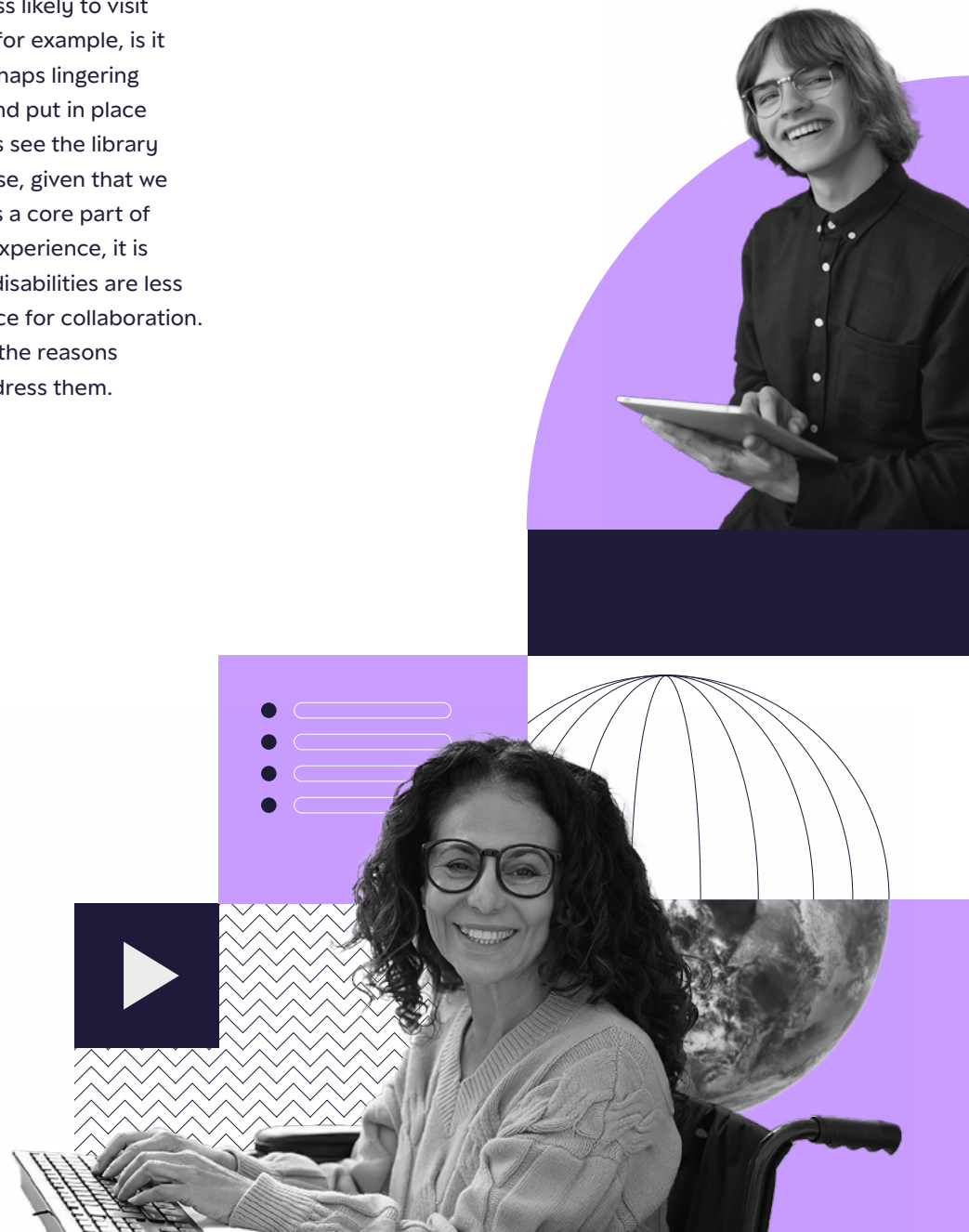
As can be seen, there is a roughly even split between those who will spend less than 15 minutes looking for a resource, those who would spend

15–30 minutes looking for a resource, and those who would spend 30–60 minutes looking for a resource. Librarians are better placed than anyone to support students in their search for relevant resources, though as earlier mentioned, only 25% of students reported receiving help from librarians for accessing resources, and just 16% said librarians had helped them find good information. Librarians should therefore consider better ways to reach and assist their patrons.

Considerations for Students With Disabilities

Finally in this section, we will consider the needs of students who identified as having a disability in our survey. Students with a disability were significantly more likely to spend 15 minutes or less looking for a resource than students without a disability. There may be a variety of reasons for this, though it underscores the importance of academics reaching students within their workflow and providing them with relevant, high-quality information.

Students without disabilities reported that they are significantly more likely to go to the library building to find resources and are also significantly more likely to see the library as a place to collaborate with other students. Librarians must do more to understand why students with a disability are less likely to visit the library than those without (for example, is it related to access issues, or perhaps lingering concerns around COVID-19?) and put in place measures to ensure all students see the library as a place they can visit. Likewise, given that we have discussed collaboration as a core part of the higher education learning experience, it is concerning that students with disabilities are less likely to see the library as a place for collaboration. Librarians must again consider the reasons for this and make efforts to address them.



Recently some of the students who do paid work in the library alongside their studies, reported how much they have learned working for us, that they just hadn't been aware of as students, and how much it helped their studies. That shows we can make a difference, but only if students realise how approachable and knowledgeable their university library staff are. We also know that the task is doubly hard when it comes to students who need additional support such as students with a disability or those from overseas, who most likely have had a different academic experience before arriving in the UK. For these students there is a real imperative to find ways to engage effectively with them. My view has long been that we must embed our support in the curriculum and work alongside academics to deliver our support integrated with their teaching—that way students should see how crucial and helpful we are.

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Conclusion

As we were when concluding our inaugural *Librarian Futures* report, we are conscious of our possible biases as a library service provider. The information presented herein signals clear challenges for the sector in the present and into the near future. However, we are certain that libraries and librarians are more than ready to meet these challenges.

Students Are Aware of the Library but Do Not Think of the Library in the Same Terms Staff Do

A very small minority of students report that the library has “no role” in supporting their studies. But the majority of students are likely to see the library as a building and a collection, placing them at odds with the librarians’ perceptions of themselves.

Our data reveal that most students begin their search for relevant content outside the library; that most students do not identify librarians as having helped them grow as students; and that most students do not see librarians as having taught them about resources or having helped them find resources.

These data might prompt some introspection among librarians. We are confident that these perceptions are not accurate reflections of the offerings of the academic library. This may be an opportunity, however, for librarians to reflect on how they are reaching students currently, and how they might develop this in future. Do libraries try to change student behaviour, try and convince students to begin their search within the library itself, try and encourage them to visit the library and talk directly with librarians? Or do we accept that student habits are hard to change but embrace technology that allows libraries to reach patrons within their established workflows?

Students Require More Support Across a Number of Stages of the Undergraduate Journey

We asked people how confident they were in various stages of the research process. We also asked people how difficult they found certain parts of preparing assignments. Though we observed differences across categories and across groups, there were no categories where 100% of students reported very high levels of confidence, nor were there any categories that 100% of students reported finding it to be very easy. There is, and always will be, more work to do to reach as many students as possible. Though the responsibility for this does not lie with the library alone, the library can play an important part in reaching these students moving forward nonetheless.

There Are Significant Differences in Confidence and Growth Between Student Groups

The data presented herein suggest troubling patterns among certain student groups. As observed throughout, younger students, first-generation students, and students who identify as having a disability report lower levels of confidence and growth across various stages of their undergraduate journey. This will make for uncomfortable reading, but it should also serve as a catalyst for change. We are confident that librarians, by considering their current provision for students and taking the opportunity to refocus their output, can play an important role in reaching these students.

For our part, Technology from Sage is ready to work with library staff to address these challenges head-on. As we look to the future with the academic library as our North Star, we anticipate working closely with librarians to further understand their needs and continue to provide products and services that allow librarians to break down barriers to knowledge.

Reviewing “*Librarian Futures Part 2*”, I am particularly taken with how it identifies that many students see the library as simply a place and a collection—this chimes in strongly with my own sense that to many we remain, “the box in the corner,” that repository of books and students which to many is our traditional role. It is a perception that we at Lancaster are working hard to move us on from, with our vision to reposition our role to work as partners in areas of education, research and engagement, going beyond just a service. We are seeing success in that approach, and these findings from Sage will spur us on to go further.

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Acknowledgements

We would like to thank the students who responded to our survey, as without their time and input we would not have been able to produce this paper. We would also like to thank Samantha Sharman, who undertook the research we present herein.

We are grateful too to Ian Snowley (Dean of Learning Skills & University Librarian, The University of Lincoln) and Andrew Barker (Director of Library Services & Learning Development, Lancaster University) for their contributions to this report.

Methodology

Academic Needs Research

Key Data Points:

1. The online survey was completed by 599 students between August 12, 2022 and August 22, 2022.
2. Participants were recruited and compensated by Dynata, our panel list vendor.
3. To qualify for the online survey, students must:
 - a. *study in the U.S. (n=198), UK (n=200), or Canada (n=201),
 - b. be 18 years or older, and
 - c. have advanced beyond their first year of undergraduate studies.

For further information on the methodology or data of this report, please contact info@technologyfromsage.com.

Survey Detail

1. The survey was administered online, via Typeform platform.
2. Responses were collected April 14, 2021 to May 22, 2021.
3. Participation was voluntary.
4. Participant recruitment used one primary channel, Web promotion, as was solely promoted within Talis platforms.

Student Perspectives on Reading Lists Research

Key Data Points:

1. The online survey of approximately 237 students was completed between April 29th and May 13th, 2022.
2. Three focus group sessions with 11 students total were held between May 9th and May 11th, 2022.

Focus Group Detail

1. Participants were recruited through their survey responses and through advertising the sessions via social media.
2. Participants signed up to the focus groups through a Microsoft form, and 246 responded with their availability for the sessions.
3. The sample was balanced across disciplines studied and type of institution studied at. Participants were based within the United Kingdom.
4. Each session was an hour long, with one each held on May 9th, May 10th, and May 11th.
5. Participants received a £10 Amazon voucher for participating in the session.

Web Promotion

1. Participants for the survey were recruited via Talis Aspire and Talis Elevate platforms through website banner ads and research information adverts.
2. To qualify, respondents had to self-identify as a student.

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