

Librarian Futures ⁰³



The Librarian Skills Landscape

Insights from over 2,000 academic library professionals on actionable strategies for skills and career development

WINNER



 Technology
from Sage

Foreword	04
Executive summary	05
Introduction	07
Key Findings	08
01 Competencies of Current Librarians	10
02 The Future of Librarianship	12
03 Skilltype Data	14
04 Current Librarian Skill Sets	15
05 Librarian Futures	22
06 Director Desires	26
07 What Does Skilltype's Data Tell Us About the Skills Landscape?	29
08 Demographics	30

09 Librarian Perceptions of Skills	32
10 The Librarian's Voice	36
11 Meeting Patron Needs	40
12 Looking Ahead	44
13 Supporting Librarian Development	46
14 Dedicated Development Time	50
15 The Training Landscape	52
16 Learning About Upskilling Opportunities	54
Conclusion	56
Acknowledgments	58
Methodology	58
References	60

Foreword

I first met Tony and his Skilltype team in 2021 at the Charleston conference. Tony's enthusiasm for librarianship, and the new skills and responsibilities that would be called on in the years ahead, was infectious and inspiring. At the time I was MD of Lean Library and became determined to partner with Skilltype, to learn from them and to be part of their mission. We began with a training partnership in 2022. In 2023, as we brought Lean Library, Talis and Sciwheel together under the Technology from Sage brand, we deepened our commitment with an investment in Skilltype and the appointment of Sage Vice President, Martha Sedgwick, to the Skilltype board. This joint report celebrates this partnership with Skilltype and their commitment to the librarian community. It is their innovative work championing librarian skills and talent development which really shapes this report, and no one better to introduce you to its key findings and calls-to-action than their founder, Tony Zanders. Tony, the stage is yours...

Matthew Hayes, PhD

MANAGING DIRECTOR, TECHNOLOGY FROM SAGE

Since 2018, Skilltype has been working with libraries, iSchools, and training providers around the world to better understand the skills required to accomplish their goals as an organization using data. Contrary to popular belief, the COVID-19 pandemic has not changed what librarianship looks like at the fundamental level. The digital shift that began over a decade prior continues to transform the information ecosystem and the expectations of universities, faculty, and students have made a lasting impact on libraries and librarianship. Further, the rapidly evolving age and ethnicity demographics across our communities and the profession have contributed to the rethinking of the role of librarians. While many of the impactful, vital contributions that librarians make today as

partners in research, teaching, and learning or catalysts for open knowledge and curators of data were emergent a decade ago, the future remains bright and so much more is possible.

Technology from Sage, along with Skilltype, prioritize the development of information professionals equipped to meet the needs of today's library patrons. Partnering to produce the latest installment of the Librarian Futures series mutually serves our communities' interest by helping libraries prepare for a period of continued uncertainty. In turn, the report offers an outlook on the emerging skills required to fulfill a library's mission in a decade shaped by social, political, and technological change. Diverse perspectives from across the academic library community were solicited to ensure a representative set of insights for libraries of all shapes and professionals from all backgrounds. This is also the first time Skilltype's unique data about library skills has been deeply analyzed and shared with a wider audience.

We hope that information professionals and their teams gain new perspectives on the competencies they should be cultivating within their personal repertoires and their organizations. Our mission at Skilltype is to build the blueprint for the modern library, in a rapidly shifting landscape, helping it to become more durable, more diverse, and more data-driven. Librarians, and the new skills, competencies and responsibilities they will develop in the years ahead, are going to be pivotal to this. But it all starts with increased dialog, with understanding where we are and where we want to get to. I hope this report contributes to that dialog and inspires conversations in your library, amongst your peers, and within the wider library community.

Tony Zanders

MANAGING DIRECTOR, SKILLTYPE

Executive summary

In this report, we combine data from talent management platform Skilltype with survey data from 289 respondents in 47 countries to investigate the librarian skills landscape and identify potential differences in librarian and library director views of the future.

Current Librarian Skill Sets

- Library professionals are equipped with a vast array of skills that will prepare them for the future of librarianship.
- Although demand for certain skills may be augmented by emerging technologies, librarian skills and expertise are unlikely to be substituted by technology entirely.

Librarian Futures

- Librarian interests strongly reflect a recognition and enthusiasm for the move toward a service-oriented approach to librarianship.
- On the whole, librarians are far more interested in emerging trends and themes than in specific products.
- There is a strong commitment to an equitable experience for library patrons.

Director Desires

- Library leaders display a greater interest in specific products than do frontline staff.
- Student success is the skill most sought after by library leaders, and there is also strong interest in ensuring an equitable student experience.

Librarian Confidence

- Generally, librarians have high levels of confidence in their day-to-day abilities, but have more mixed feelings about their ability to advance their career.
- Librarians are also confident in their ability to handle emerging technologies, but many feel unprepared to answer questions from patrons on the subject of generative AI.

Communication in the Library

- Many librarians benefit from regular discussions about current and developing skill sets with a range of stakeholders, from senior management to students.
- However, a number of librarians are being left out of such conversations, and the impact is particularly pronounced for staff without postgraduate qualifications and for staff working in a hybrid fashion.

Advising Patrons

- Library professionals are generally confident in advising patrons on different steps across their workflow...
- ...but they show most uncertainty advising on “understanding data” and “using generative AI responsibly.”
- There are low levels of confidence in advising staff on both “implementing communities of practice” and “pedagogies for effective learning,” and so targeted upskilling here may solidly embed the library in learning and teaching.

Skills for the Future

- In the short term, digital literacy skills and critical thinking skills are seen as essential skills to develop, likely in response to the rapid rise of generative AI.
- Moving into the medium and long term, a number of librarians see skills in learning analytics being crucial to develop.

Support for Development

- Librarians generally feel support by senior managers, line managers, and their colleagues in regard to development and upskilling.
- A minority of librarians, however, feel that students recognize their effort to learn new skills, with possible implications for librarian motivation.

Opportunities for Upskilling

- Almost all librarians have had the opportunity to upskill within the past 12 months, and approximately 25% have the opportunity to engage in upskilling quarterly.
- Librarians are very mixed, however, on the resources available for upskilling, with a plurality disagreeing that their institution makes enough budget or time available for upskilling.

Upskilling Preferences

- There was no strong preference for either online or in-person training, but librarians clearly indicated that any training should be useful in their day-to-day role and should contribute toward a better service for patrons.
- Librarians by and large discover training via email and would prefer to continue to find upskilling opportunities this way.

Introduction

In the first installment in our *Librarian Futures* series of reports, we identified a knowledge gap affecting both librarians and library patrons. Library patrons are unaware of much of the support that is available to them through the library, instead seeing the academic library as little more than a building and the collection that lies within. Librarians, meanwhile, were not aware of the extent of emerging patron needs and consequently were not prepared to address those needs.

The second installment in the series sought to understand patron perspectives on the undergraduate workflow and collected data from hundreds of students across the United States, Canada, and the United Kingdom. Our data suggested that many students continue to experience difficulties across their workflow, reporting varying levels of confidence at every stage of the process. Despite this, few students turned to the library for support during their research journey, and librarians were rarely identified as staff that might help.

In this third installment, we look now at librarian skills. We have partnered with Skilltype, a talent management platform designed for libraries. Skilltype uses data to help librarians develop their skill sets, and to help library leaders understand the key skills among their staff, and areas where further development might be needed in order to realize the library's mission. By combining data provided by Skilltype with data obtained from a survey of academic librarians, along with a series of interviews with librarians, we present in this report an account of the key skills present within academic libraries now, and areas where further skills development opportunities will more closely align librarians and library leaders.

At Technology from Sage, we believe passionately that librarians are uniquely placed to help patrons navigate many of the challenges they face—from the difficulties caused by the cost-of-living crisis to using generative AI

responsibly in their work. As these issues continue to develop, and as new challenges emerge, it will be incumbent upon librarians to develop their skill set, and they must be supported to do so by their colleagues, their line managers, and their institution's leaders. We are hopeful that the data shared herein will be of use both for librarians on the frontline and for senior leadership as they consider their own development, and the development of their library colleagues, in future.

We believe passionately that librarians are uniquely placed to help patrons navigate many of the challenges they face—from the difficulties caused by the cost-of-living crisis to using generative AI responsibly in their work.

Key Findings

01 Competencies of Current Librarians

Before delving into the data acquired from Skilltype, we will consider the core competencies of the librarian currently and compare and contrast those with the envisioned competencies of the librarian of tomorrow. Although the focus of our data is on skills and not competencies (see Figure 1 for definition), the two are fundamentally linked. Understanding one will improve our understanding of the other and will better prepare us to discuss the current state of librarian skills, and how librarian skills and interests might prepare them for the future.

Fig. 1. Definitions of the Terms Competence and Skill Used for This Report.

The American Library Association (ALA) chronicles the core competencies of librarianship. These are intended to be applicable to all librarians and so are not discipline specific. Last updated in 2023, these competencies fall under nine broad themes:

- Gateway knowledge
- Information resources
- Lifelong learning and continuing education
- Management and administration
- Organization of recorded knowledge and information
- Reference and user services
- Research and evidence-based practice
- Social justice
- Technological knowledge and skills

A variety of skills are demanded of librarians to satisfy these competencies. Research skills are crucial for developing gateway knowledge, and communication skills are important for disseminating that knowledge. Librarians of course must have skills in collection management and development to fulfil their information resources competency. Research skills, listening skills, and skills such as reflective practice will be important for librarians seeking to demonstrate their lifelong learning and continuing education competency, while skills in leadership, people management, budgeting, networking, and communication are essential for management and administration.

This list is inexhaustive, and we acknowledge that the ALA's framework is just one of many available to those looking to define the core competencies of librarianship. Other frameworks, such as the Australian Library and Information Association (ALIA; 2014) framework, place information skills within the context of society more broadly and recognize additional skills beyond information. In addition, the needs of the university, and the needs of its faculty and students, are likely more pressing influences on the skills sought after in library professionals than external frameworks.

That said, what the ALA's framework does afford us is an idea of the vast array of skills demanded of librarians today. While such definitions are useful in developing our understanding of the expectations of librarians generally, what of the specific core competencies for librarians operating in an academic context? Do the skills expected of academic librarians differ significantly to those of other librarians?

The ALA addresses this within their document, stressing that the competencies they have outlined "reflect basic knowledge," and that "library professionals... [should be] life-long learners to acquire specialized and advanced knowledge beyond those specified..."

To better define these more specialized competencies necessary for academic librarianship, Saunders (2020) undertook a survey of over 2400 librarians. Although results indicated 10 fundamental competencies for academic librarianship, each of these were also identified as a core competency by librarians more generally, demonstrating that the expectations of the "academic librarian" were largely concordant with those of the "librarian" more broadly. Considering the wider context of the study, the author states that there were "only a very few domain-specific skills" identified by academic librarians, and thus suggests, therefore, that "specific skills and knowledge necessary might have more to do with one's role or job function within an academic library setting, rather than being dependent on the setting itself." Put simply, the expectations of "academic librarians" are largely similar to those of "librarians" generally,

with a need for specialized knowledge and skills being determined by role within the library.

What are the implications of this conclusion for the present research? Firstly, this has consequences for our interpretation of Skilltype data. Given that some competencies are expected to be reasonably ubiquitous among librarians, the skills and interests underlying them are likely to be well represented when considering Skilltype's data as a whole. However, we expect that skills and interests relating specifically to discrete roles (e.g., systems librarians, or academic liaison librarians) will consequently be less popular on the platform, although critically, these skills are no less important.

Regarding the survey we have conducted, respondents have been asked to identify the role they have within the academic library, and we have used this information to conduct a subgroup analysis on skills. We hope that in doing so, we can lend additional context to all the data we have herein gathered, and appreciate the skills possessed and aspired to by librarians across librarian roles.

Do the skills expected of academic librarians differ significantly to those of other librarians?



DEFINITIONS

Competence

Demonstrated ability to apply knowledge, skills, and attitudes to achieve observable sults ¹

Skill

Precise and definite abilities, either hard (...) or soft ²

¹ European e-Competence Framework

² Calarco et al., 2016

02 The Future of Librarianship

What do we want the role of the librarians and the curators to be here? Because if we don't define that, it will be defined for us.

JACKIE LORRAINE, ASSOCIATE UNIVERSITY LIBRARIAN, WASHINGTON UNIVERSITY IN ST. LOUIS

This series of reports is titled *Librarian Futures*, and so we must consider how we might expect key librarian skills to change over time. Although there are differing visions of the future of the academic library, and we cannot predict which is most likely to become reality, there is certainly agreement across the sector that the role of the academic library *will* evolve in the coming years.

There are a number of forces widely expected to drive change in the library over the next decade, including the growth in Open Access (and anticipated shift to the "inside-out collection"), a move from collection-centric services to patron-centric services, continued budgetary pressures, and, of course, the rise of AI.

Writing for *Bibliothek Forschung und Praxis*, Mumenthaler (2023) proposes a future in which cataloging and metadata are largely the responsibility of AI, and "liaison librarians

now make up the majority of the library staff," principally working to support researchers. Last year, prior to the emergence of ChatGPT, Cox (2022) suggested that AI might be tasked with "routine academic library work" such as the processing of bibliographic data. The latter also proposes several strategies for responding to AI in the academic library and highlights that whichever strategy the library adopts, librarians will be required to bring their skills to bear. And in their 2022–2025 strategy, Research Libraries UK details "the enhanced roles of libraries," highlighting the need for libraries to be "laboratories," "partners and pioneers," and "central to communities."

...there is certainly agreement across the sector that the role of the academic library will evolve in the coming years.

How can librarians make sure their effort to develop their skillset is recognised by students?

Put simply by 'being useful' to them – that means we need to attract students to our services, and make them aware of the help and support we can offer – but fundamentally, users recognise the value of the advice/information they are given – when it solves their problems. We get particularly strong feedback from our Maths & Stats Help (MASH) service, perhaps because of the challenging nature of the topic – but it's an area where students are quick to recognise the difference we can make. Obviously we need to make sure this is the case for all the support we provide. AI is emerging as another challenging area. For all the discussion of AI in the HE sector, most students seem to be reluctant to make use of it in their studies and assessments. By providing tailored support, librarians can help students understand how they can use AI ethically and responsibly – leveraging librarian skills to meet student needs and raising the profile of the library.

IAN SNOWLEY, DEAN OF LEARNING SKILLS AND UNIVERSITY LIBRARIAN

It is impossible to say for certain how the academic library will change, but we know it will. Throughout this report, we consider how it will change, how the skills librarians have will serve them through these changes, and how librarians might continue to develop their skill set to meet emerging challenges. Although change is sometimes unpredictable and often intimidating, we herein present an encouraging and exciting case for the academic library.



03 Skilltype Data

We have collaborated with Skilltype to access and review anonymized platform data.

Fig. 2. Definitions for the Terms Skills, Interests, and Products Used on the Skilltype Platform.

DEFINITIONS

For librarians using Skilltype, the following definitions are provided when selecting skills, interests, and products.

Skills

What are the skills you use each day? Skilltype recommends opportunities to leverage your experience and sharpen your skills.

Interests

What are you curious about? Skilltype recommends training based on this data.

To obtain a snapshot of the current librarian skills landscape, and the areas both frontline librarians and library leaders see the most pressing need for development, we have collaborated with Skilltype to access and review anonymized platform data describing the skills, interest, and product experience of library professionals and library organizations.

Skilltype is a talent management platform, designed for librarians and libraries. Skilltype allows librarians and information professionals to document their skills and interests (see Figure 2 for definition). Librarians can also indicate which tools, software, and databases they have experience with. Library leaders (university librarians, library directors, head librarians) are provided with an overview of the current skill set of their workforce, allowing them to identify which skills are well represented, the skills that are emerging as interests, and the skills the library should invest in to close any skill gaps.

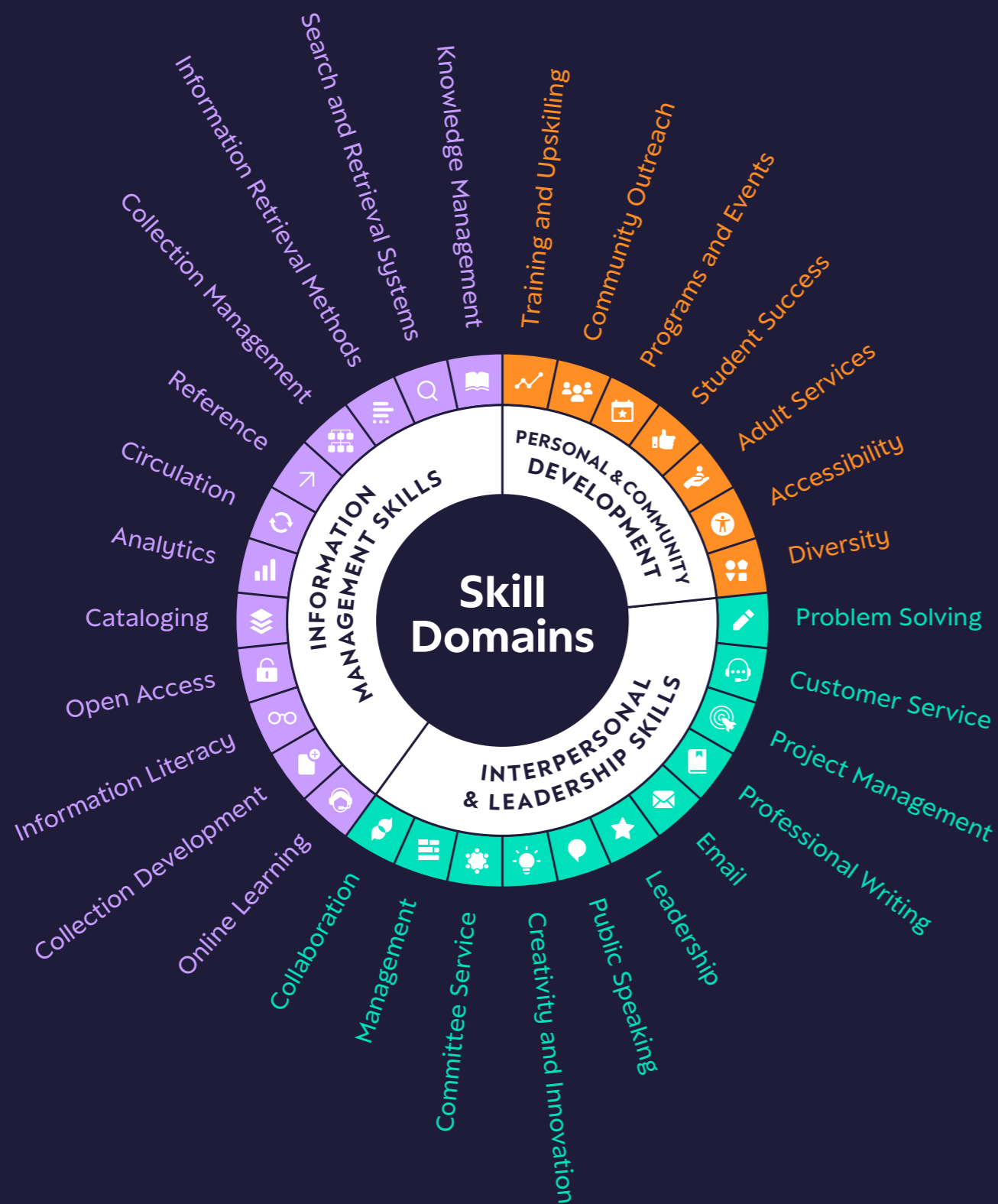
For the purposes of our research, we used Skilltype data as captured on August 2, 2023. The data provided applied to the preceding 12 months.

04 Current Librarian Skill Sets

Fig. 3. The Top 30 Most Selected Skills on the Skilltype Platform Displayed Alongside the Number of Library Professionals Who Have Selected Them.

Skilltype's data provides a snapshot of librarian skill sets at present. In the past year, librarians on the Skilltype platform have selected 460 different skills. In this section, we consider the most popular skills on the platform. Later in the report, we draw on Skilltype's data to contextualize our survey results. Displayed in Figure 3 are the 30 most selected skills on the platform.





There are two key takeaways from the data Skilltype has provided. Firstly, the data reflects that librarians possess an extraordinary array of skills, with expertise covering many disciplines represented across institutions. Secondly, as expected and discussed above, the most popular skills on the platform are largely those that are required to satisfy key librarian competencies as outlined by ALA: knowledge management, problem solving, search and retrieval systems, customer service, and information retrieval methods are the five most commonly selected skills. We see a variety of other skills that might fairly be described as traditional librarian skills (reference, circulation, collection management, collection development,

cataloging, etc.), as well as strong representation of skills that connect the community with information resources (problem solving, accessibility, project management, leadership, or collaboration).

Although the role of the academic librarian is likely to evolve with time, core skills such as these will remain key if libraries are to fulfill their mission, as affirmed by the ALA in their 2023 framework on the Core Competencies of Librarianship. It is therefore encouraging to see these skills so well represented among librarians presently. The diversity of skills represented also demonstrate that the academic librarian is resourceful and adaptable, which will ensure they are capable of meeting emerging challenges.

The top skill is change adaptation. Librarians will always need basic/advanced skills for competency in their area of disciplinary or functional expertise, be that research support, scholarly communications, collections analysis, data management, etc. But librarians must learn new skill sets so they can readily adapt to constant, sometimes disruptive change. Throughout my library career I've promoted the importance of developing a design thinking and user-experience mindset. With these two, you are already developing your practice as a problem finder. It's important to creatively solve problems, but effective solutions come from truly and deeply understanding the nature of the problem. That enables librarians to design and deliver experiences that exceed library customer expectations and leads them to be passionate for library resources and services. In this profession there is considerable focus on change management and how to lead that process. To my way of thinking, that's an outdated approach. Change is now rapid, constant, and unpredictable. Attempts to manage it will be slow and cumbersome. Current and future library practitioners need to adopt a change readiness mindset. Change ready librarians realize change is no longer a one-time, static event that needs to be managed. Change ready librarians are constantly alert to trends, patterns, and events that require ongoing and regular change and adaptation. I much prefer to promote the change ready mindset, over change management, as a necessary skill for librarians who can quickly harness change and leverage it for the optimal library experience.

STEVE BELL, ASSOCIATE UNIVERSITY LIBRARIAN, TEMPLE UNIVERSITY

Skilltype data also, however, reveals some cause for concern. Ithaka S+R, in their report, found that approximately one fifth of the library leaders surveyed expected to see a reduced need for staff in the fields of:

1. Cataloging
2. Metadata
3. Access services
4. Technical services

As already highlighted, cataloging and metadata especially are two areas that could be significantly disrupted by AI. Skills related to each of these fields are well represented among Skilltype data. Cataloging is itself a skill within the top 30 chosen, while metadata is a skill chosen by 117 users. Library leaders, however, are already experiencing difficulty in recruiting in cataloging and metadata roles (Hulbert, 2023), perhaps suggesting that library professionals newly entering the library are placing less importance on such skills. While further exploration could identify the application of technologies to automate and enhance cataloging through AI, this would likely require core cataloging knowledge from skilled librarians to be effectively translated into AI.

Skills like collection management and development and circulation are important for access and technical services staff (Warren et al., 2020), and are both seen in the top 30 too. As a consequence of reduced demand for staff in each of these areas, some librarians might see reduced demand for related skills in the near future.

Any such change, however, is unlikely to come immediately and almost certainly will require some oversight from librarians. We are not proposing that academic libraries are going to find themselves without any need for cataloging and metadata skills in the future, nor that the collection will manage and develop itself without input from librarians, especially given that both faculty (Blankstein, 2022) and students (Technology from Sage, 2023) continue to identify the collection as a crucial part of the library's offering. It is simply worth highlighting that expectations of librarians are subject to change, and it may be that librarians find they have to diversify their skill set or

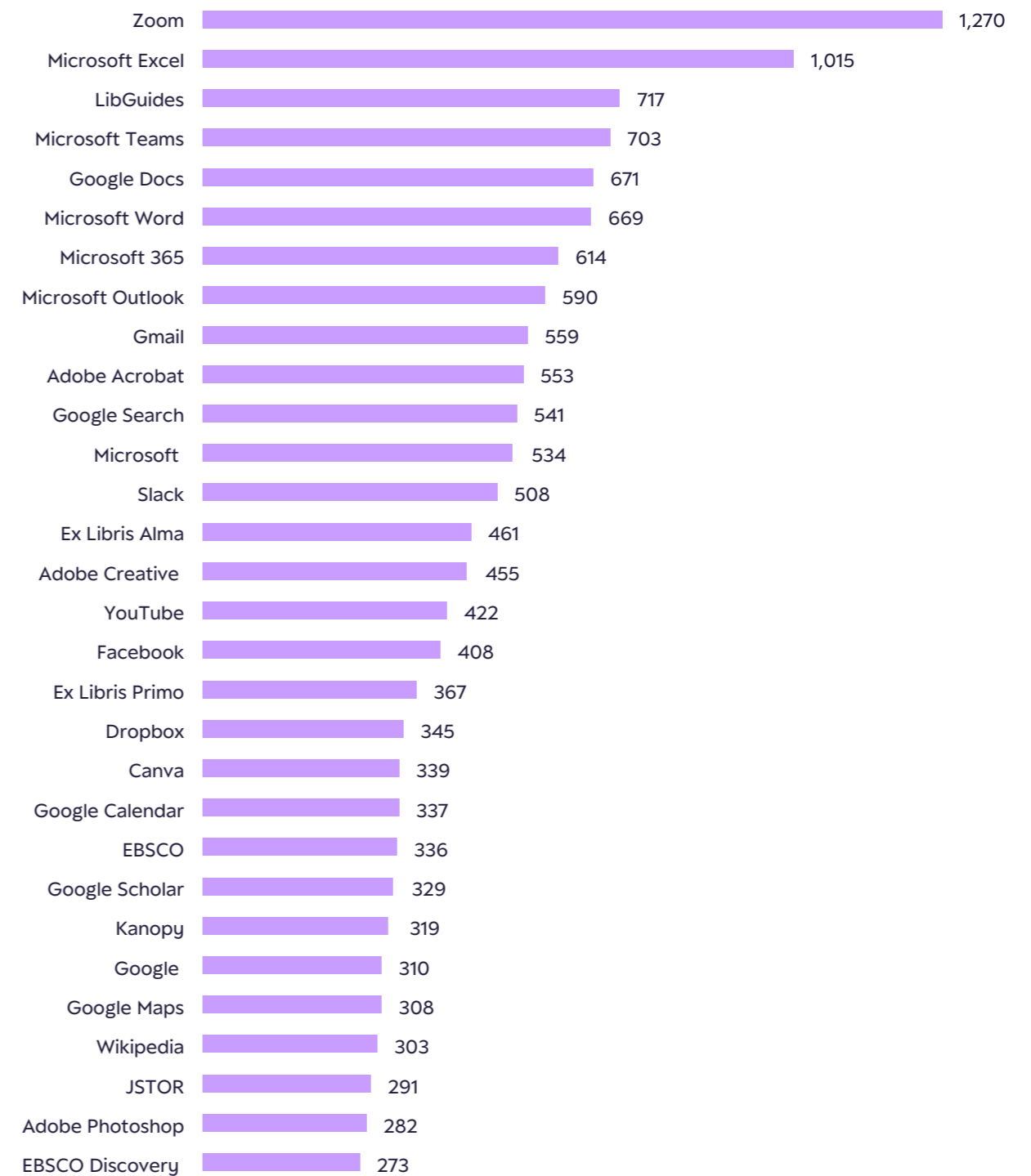
take on responsibilities that would have, in the past, belonged to different others in discrete roles.

Libraries are trusted with a significant budget each year to ensure the availability of diverse and appropriate collections. That responsibility to invest in the breadth of collections while also investing in new and open ways of scholarship is one we as librarians take very seriously as being central to our mission. In creating and curating collections, it is crucial that our library staff understand the wider context within education and scholarly communication and are able to leverage value from our university's investment in collections to make visible those collections and ensure all our users are able to use our collections to build their own learning and research. Our roles as partners in this endeavour is key to their success.

ANDREW BARKER, LIBRARY DIRECTOR,
UNIVERSITY OF LANCASTER

We turn now to consider the most popular products on the platform. Figure 4 below shows the 30 most popular products on the Skilltype platform.

Fig. 4. The Top 30 Most Selected Products on the Skilltype Platform Displayed Alongside the Number of Library Professionals Who Have Selected Them.



Immediately apparent is the relative dominance of relatively few companies. Microsoft, Google, and Adobe are each well represented across a range of products, demonstrating how ubiquitous many of them have become. In fact, of the top 30 products on the platform, half are from one of these three companies.

It is also noteworthy how many of these products center around community and collaboration. Zoom, Teams, Slack, Facebook, and Workspace are all shown to be very popular among the librarians on the Skilltype platform. As we shall see when we consider our survey data, a sizeable proportion of librarians work in a hybrid fashion today, and tools such as these support them to do so while remaining a part of the library community. In addition, being comfortable using these tools will also serve librarians well when reaching out to patrons.

Of particular interest is the relative paucity of library-specific tools. Of these 30 tools, arguably only seven could be classed as library-specific tools. When considering all 394 of the products listed on Skilltype, there are certainly vastly more library-focused products represented. The dominance of these more general applications, next to the more fractured marketplace for library-focused vendors, is interesting, perhaps illustrating the very different needs and requirements of different institutions. The strong presence of business communication software may also illustrate that modern business skills are playing a bigger role in library work, in addition to traditional information skills.

Finally, a relatively small number of library professionals have selected ChatGPT as a skill they possess in their Skilltype profiles. Given the discourse in higher education circles in the past year, this suggests the potential for a future skill gap in the library workforce. We speculate that many librarians most likely have at least become passingly familiar with ChatGPT as a product, so it is surprising not to see more representation on Skilltype. The reality is however that ChatGPT and generative AI is here to stay, presenting many challenges and affordances to the academic library. As a result, librarians would likely be well served by developing their skills so that AI fluency is part of their toolkit. The time

to learn and adopt ChatGPT within library roles is a potential area for future study. In the next section, we examine how many librarians have signaled an intention to do this on Skilltype.

Having examined the current state of librarian skills, we turn now to consider the future skills of librarians. In which areas do librarians believe it is important to develop?

As a result, librarians would likely be well served by developing their skills so that AI fluency is part of their toolkit.



05 Librarian Futures

Fig. 5. The Top 30 Most Selected Interests on the Skilltype Platform Displayed Alongside the Number of Librarians Who Have Selected Them.



I would say fundamental to work now and in the future is just an ability to learn how to learn and to continue to develop skills in technology and other domains. I think also, knowing how to manage projects effectively remains very important. Obviously, providing good customer service, whether your customer happens to be a student or a faculty member or a colleague, if you're working more behind the scenes. I think having a good understanding of user needs is important so that we can target our attention and resources to where we can have the most impact. And I would also say just having fluency working with information—finding, assessing, organizing, presenting—and being able to pass on those skills to others—that's core to what we do. And I think it's really important moving forward as well.

LISA SPIRO, ASSISTANT UNIVERSITY LIBRARIAN FOR DIGITAL SCHOLARSHIP AND ORGANIZATIONAL DEVELOPMENT, RICE UNIVERSITY

Interests selected by library professionals in their Skilltype profiles allows us an insight into the areas in which librarians believe it is necessary to develop and upskill (defined as "learning new skills or developing existing skills to expand your skill set, through additional training or professional development"). We have, therefore, reviewed Skilltype's aggregated interests data to better understand librarians' vision for the future of the academic library. It is important to clarify that, within Skilltype, skills and interests are not mutually exclusive—librarians can indicate both that something is a skill and an interest. Below (Figure 5), we provide a snapshot of the most common interests selected across the platform. Once again, later in this report, we consider additional data from Skilltype alongside survey data.

Encouragingly, "student success" is a popular interest among librarians (as we shall come to see, this is a popular aim for library leaders).

As has been well documented elsewhere, the academic library in general has long been engaged in a shift away from a collection-focused approach to a service-oriented one (Atkinson, 2020; Singley, 2023). Indeed, in this *Librarian Futures* series we have previously shown that the vast majority of librarians agree that the academic library is more than simply a building and associated collection. In this data, we see evidence of librarians recognizing and embracing this shift.

Although there is still interest in collections (indeed, “collection management” is one of the top three interests, whereas “cataloging,” “collection development,” and “acquisitions” also appear in the top 30), there is also significant interest in services. Encouragingly, “student success” is a popular interest among librarians (as we shall come to see, this is a popular aim for library leaders). Other library topics that are popular interests for librarians include “research data management,” “community outreach,” “customer service,” “mentoring and coaching,” and “project management,” each skills which connect the community to data, collections, and the library.

Also of note is that this data suggests a strong motivation to ensure the student experience is fair and equitable. It is encouraging to see that the most popular interest on the platform (again, besides Skilltype itself) is diversity. The global student population is extraordinarily diverse, and as our previous report highlighted, not all students are enjoying the same opportunities and outcomes (Technology from Sage, 2023):

1. Students whose parents attended university displayed higher levels of confidence across their research journey than first-generation students.
2. Students who identify as disabled reported greater levels of difficulty across their undergraduate journey.
3. Students who identify as disabled were less likely to attend the library in person than those who didn't.

As such, staff have a responsibility to ensure that their institutions are as inclusive as they possibly can be. An important component of this process is librarian education, and in recognizing the need to develop their understanding of diversity, librarians are demonstrating a commitment to more inclusive libraries. Additionally, among the most popular interests selected by librarians are open access, open educational resources, and open source, each of these means of guaranteeing financially fairer and more sustainable access for students, further demonstrating a strong commitment to inclusivity and equity of experience.

In Figure 5, there are several notable trends to draw attention to. The first is that librarians are in the main more interested in developing their skill set around emerging themes in librarianship and education, rather than around specific products offered by vendors. Of the top 10 most selected interests on Skilltype (excluding Skilltype itself), not one concerns a product offered by a vendor. Further, out of the top 30 interests laid out above, just five are products. This is broadly in line with trends observed elsewhere in the literature: Partridge et al. (2010) report that librarians they spoke to reject “specific technological tools” lest they prevent libraries from being able to change and adapt swiftly.

This is, in some ways, understandable. In reality, products can be transient, impermanent resources, existing only until a superior, cheaper, or more convenient (or indeed some combination of all three) alternative arrives. For this reason, it can make more sense to focus on the underlying issues those products look to solve, increasing awareness of the available solutions and making more informed decisions on which to adopt.

But what happens when products emerge that, in their way, define the conversation? Once again, a relevant and recent example for librarians is the now omnipresent ChatGPT. Since its launch at the end of 2022, ChatGPT has in many ways dominated in discussions about generative AI and the consequences of such technology for education. Although other large language models (LLMs) are available (Google's *Bard*, Anthropic's *Claude*), and there are other generative AI tools (OpenAI's DALL-E,

the Midjourney platform), none of them have made quite the impact that ChatGPT has.

Although our data is inclusive of the 12 months prior to August 2023, encompassing ChatGPT's entire lifespan, just 59 librarians have used ChatGPT (as discussed above) and only 67 librarians have indicated an interest in the chatbot in this time. Given the extent to which ChatGPT has dominated conference proceedings, learning and teaching events, webinars, indeed loomed large over higher education events for all of 2023, this is a somewhat extraordinary finding.

Why might library professionals not be interested in learning more about ChatGPT? It certainly does not appear that librarians have demonstrated a wider interest in generative artificial intelligence (AI) as a concept rather than ChatGPT as an individual product—as only 105 librarians have indicated an interest in the former. Whatever the reason, it is illustrative of the broader point raised above—and it could point to a need to emphasize the importance of expanding librarian knowledge of, and confidence in using, ChatGPT.

Likewise, given the diversity of ways that generative AI and LLMs are impacting offerings from publishers and vendors, librarians might find themselves left behind should they fail to stay cognizant of these. Each of the three main discovery databases used by researchers has recently incorporated conversational and personalized AI into their user experience: Web of Science from Clarivate, Scopus from Elsevier, and Dimensions from Digital Science. Given the usage of these databases by researchers, could they be the primary arena in which library patrons are encountering and using AI? If so, to provide the kind of support librarians aspire to, in questions such as ethics, accuracy, and quality, should self-development in ethics, quality, and accuracy with AI be supported by an immersive understanding of everyday AI applications?

It can make more sense to focus on the underlying issues those products look to solve, increasing awareness of the available solutions and making more informed decisions on which to adopt.



06 Director Desires

Fig. 6. The Top 30 Key Skills Most Frequently Selected by Directors Within Library Profiles on the Skilltype Platform Displayed Alongside the Number of Libraries That Have Selected Them.



How do the key skills identified by libraries and their directors tally with the views of frontline library professionals? In the 2022 library survey by Ithaka S+R, 35% of library directors surveyed reported that “lack of employee skills in certain key areas” was impeding change in their institution (Hulbert, 2023). By using the data provided by Skilltype, we can develop an understanding of the key skills leaders want to see in the library. Using Skilltype, library leaders can indicate the areas they are most keen for their staff to develop within each library’s organization profile. The thirty skills most selected by directors are shown in Figure 6 below.

Analysis of the key skills selected by library leaders show both areas of overlap and divergence between them and their frontline library colleagues, as seen in Table 1. A comparison of the most popular interests on Skilltype among library professionals and among library directors.

The most popular category for library leaders is student success, which is a top 10 interest identified by librarians. Crucially, Ithaka S+R also reports that this is the area most

LibGuides and Microsoft 365 are the second and third most identified interests by library leaders respectively, whereas Zoom places sixth.

identified by library leaders as being targeted for increased recruitment over the next 5 years (Hulbert, 2023). By developing their existing staff to better prepare them to support student success, leaders may be able to circumvent the costs associated with hiring new staff and better support retention of existing colleagues.

Diversity, equity, and inclusion (collected as a single interest) also appear in the top 10 interests for library directors, which concurs with the results observed above from frontline librarians. This shows that library leaders are taking seriously the priorities of their students and home institutions: In a survey

Table 1. A Comparison of the Most Popular Interests on Skilltype Among Library Professionals and Among Library Directors.

	Library Professionals	Library Directors
1	Skilltype	• Student Success
2	Diversity	LibGuides
3	Collection Management	Microsoft 365
4	Analytics	Customer Service
5	Open Access	Interlibrary Loan (ILL)
6	• Student Success	Zoom
7	Open Educational Resources (OER)	Diversity, Equity, and Inclusion
8	Online Learning	Collection Development
9	Data Science	Cataloging
10	Digital Scholarship	Information Literacy

of 1000 students, “ensuring a welcoming and safe environment for students of diverse backgrounds,” “ensuring that high-quality resources (such as instructors, learning materials, and programs) are available for students of diverse backgrounds,” and “promoting access to all extracurricular activities to students of diverse backgrounds” were each identified as important by more than 90% of respondents (Hanover Research, 2022).

When Ithaka S+R asked library directors to identify the areas in which they were struggling to retain and recruit talent, “technology and programming” was identified as the principal problem area, with recruitment also proving difficult for “diversity, equity, inclusion, and accessibility,” “cataloging and metadata,” and “data management and research” (Hulbert, 2023). In Skilltype’s data, we do see some of the themes identified by Ithaka S+R represented, although “technology and programming” does not seem to present in the top 30 key skills selected by directors. It is possible that this is

a consequence of outsourcing or the intention to outsource, as Ithaka S+R’s data suggests that 10% of directors are considering this, whereas 12% report already outsourcing. It is also possible that library leaders have not yet identified the specific key skills (software development, R, Python, Java, PHP, UX) needed to realize their strategy as their strategies themselves are still in development. It is possible also that they are relying upon partnerships with campus IT or vendors to develop services in these areas.

However, library leaders seem to display greater interest in specific products than frontline librarians. LibGuides and Microsoft 365 are the second and third most identified interests by library leaders respectively, whereas Zoom places sixth. Given that library directors must account for departmental budgets, it logically follows that they would want staff to derive the maximum possible benefit from the software they spend a significant amount of their budget on, and so this finding makes a certain amount of sense.



07 What Does Skilltype’s Data Tell Us About the Skills Landscape?

The role and responsibilities of the library will change but, as demonstrated above, the academic librarian is equipped with a vast and diverse skill set that will prepare them well for the future. Their adaptability likewise guarantees their capacity to address emerging and unforeseen challenges. Lastly, it is positive that librarians’ current skill sets, and their interests for the future, broadly align with those desired by library leaders. Having library teams pull in the same

direction will give them the best chance for success when confronted with new challenges.

But what of librarian confidence in their own abilities? Do academic librarians see a bright future for the profession, or is there cause for concern? And while librarian skill sets will evolve, is there a clear path to do so? Are there sufficient resources available? To address these (and other) questions, we conducted a survey of academic librarians.

Survey

With the aim of giving librarians a voice in our report, we conducted an online survey, recruiting librarians working in academic libraries across the globe. In total, we received 289 responses to our survey.

Having library teams pull in the same direction will give them the best chance for success when confronted with new challenges.

08 Demographics

We asked several demographic questions to develop our understanding of the audience responding to our survey. Overwhelmingly, respondents are educated to a postgraduate level (83%), with most other respondents having an undergraduate education (16%). A small number of respondents indicated a technical or vocational education (1%), with one additional respondent possessing a secondary level of education (<1%).

Respondents are from around the world, with most participation from the United States (46%), the United Kingdom (16%), the European Union (11%) and Australia (5%). This reflects Sage’s presence in these countries. Table 2 in the Methodology section shows each of the countries represented in our results, and the respective number of responses.

The majority of respondents work mostly on campus (59%), although a sizeable proportion are hybrid workers (36%). Few respondents work mostly online (5%).

Most respondents have worked in an academic library setting for over 10 years (68%). 5 to 10 years was the next most popular answer (17%), followed by 2 to 5 years (9%). A small number of early career librarians (less than 2 years in an academic library, 7%) also responded to the survey.

We asked respondents to identify their role in the library. We received a broad range of responses to this question, as can be seen in Figure 7. More library heads or directors responded to our survey than librarians of any other single discipline. Notably, a substantial proportion of respondents chose “Other,” rather than any of the predefined descriptions provided. The word cloud shown in Figure 8 illustrates the frequency of the different descriptions provided by participants. A common theme observed across answers was a broad range of responsibilities pertaining to a variety of roles, meaning that none of the prescribed responses offered in our question fit comfortably.

Following on from this, we asked librarians how long they had worked in their current role. Responses to this question were diverse. A plurality of respondents (32%) have been in their role for more than 10 years. Over a quarter have been in post 2 to 5 years (27%), and many 5 to 10 years (21%). Fourteen percent of respondents had been in post for 1 to 2 years, and just 6% of respondents had been in post for less than a year.

A plurality of respondents (32%) have been in their role for more than 10 years.

Fig. 7. The Number of Responses Given for Each Available Response to the Question:

What is your role in the library?

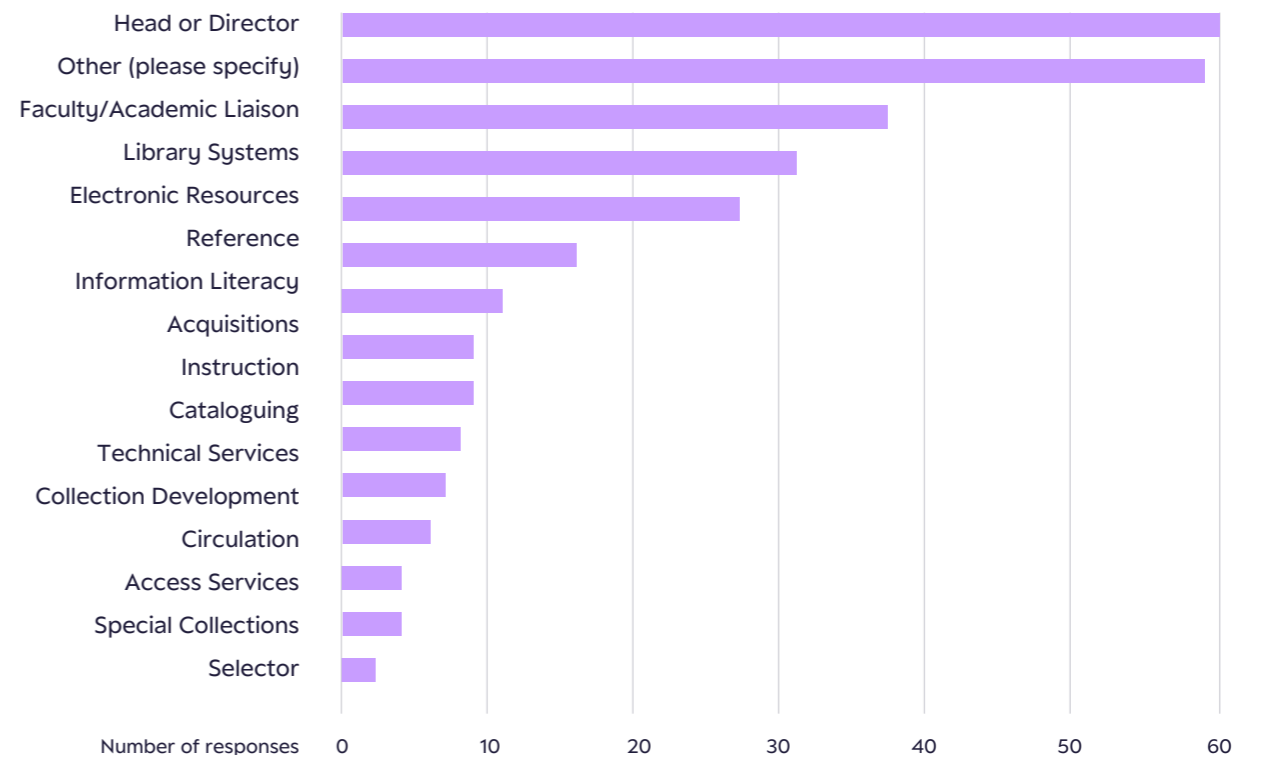


Fig. 8. A Word Cloud of the Most Common Responses to the Question:

What is your role in the library?



09 Librarian Perceptions of Skills

For an organization to be effective and able to deliver its intended outcomes, its workforce needs to be skilled, competent and confident. In addition, the nature of libraries, across all sectors, means that they are subject to continual change, especially in today's digital information environment.

APPLETON, 2018

To understand librarian perceptions of their current skill set, we asked survey respondents to indicate the extent to which they agreed with the following statements:

- I possess the capability to fulfil my day-to-day tasks.
- I regularly meet patrons' expectations.
- I regularly meet my manager's expectations.
- I feel confident regarding supporting student success within my institution.
- I feel confident regarding advancing my career.

Our results indicated that librarians overwhelmingly feel equipped to handle their day-to-day tasks, with 96% of respondents indicating they either agree or strongly agree with this statement. Most librarians too feel they can meet the expectations of their patrons (90% of respondents agree or strongly agree) and their manager (93% agree or strongly agree).

The subsequent two statements provoked a more mixed response from librarians. Respondents remain broadly positive about supporting student success, with 84% either agreeing or strongly agreeing. That said, the number of librarians who strongly agree is lower (32%) than seen for the previous three statements. A larger number of respondents also answered that they are neutral on this statement (12%), and just 3% answered in the negative.

In the context of data shared by Skilltype, this is an interesting finding. Student success is one of the most popular skills on the platform, and indeed, is the most popular skill among directors. While 84% of librarians are confident that they can support student success, just 32% indicating a strong agreement suggests that most librarians feel they have some room to grow here. Librarians may wish to discuss this with their line manager, to identify areas of the student success journey they can support effectively at the moment as well as continued opportunities for growth. Library leaders and line managers ought to consider this data in the context of their own aims for their institution and their teams and consider the upskilling they offer to staff in this area.

Librarians did report having mixed feelings in response to the statement "I feel confident regarding advancing my career." Combining "agree" (35%) and "strongly agree" (24%) responses, just 49% of librarians responded positively to this statement. More librarians were neutral on this issue (27%) than did strongly agree, and 12% of respondents disagreed with the statement.

Librarians then have a substantial confidence in their own abilities and in their capacity to contribute meaningfully to the university experience. It is a matter of some concern then that, despite this, many librarians lack confidence in advancing their career. This is a striking finding. Few people are likely to feel fulfilled at work when there is no clear path forward for them, and so it is crucial to ensure that pathways for potential development, recognition, and promotion are clear to staff. More concerning still is that this problem does not impact all librarians equally—on-campus workers generally reported feeling more confident in advancing their career than hybrid workers, possibly reflecting reduced opportunities for hybrid workers to have such conversations. This suggests that library leaders and line managers should consider these findings carefully and examine how clear the path of progression is at their own institution (e.g., holding conversations on career progression regularly as part of meetings with employees), and how they can make sure all colleagues benefit from such conversations.

Following this, we then asked survey respondents to indicate the extent to which they agreed with several statements concerning their preparedness for emerging challenges.

- I have the skills to meet the emerging technological changes facing the academic library.
- I have the skills to facilitate a shift to digital resources within my institution.
- I have the skills to answer patron questions on the use of generative AI in their studies.

Most librarians demonstrate confidence in their ability to meet emerging technological changes (57% agree, 16% strongly agree), although some are neutral on this question (17%), and a small number do not feel able to meet these challenges (8% disagree, 1% strongly disagree). The academic library is constantly changing, constantly evolving, constantly rising to meet new challenges, and so it is positive to see librarians broadly continuing to feel positive about their capacity to do this in future. Responses were even more positive about their ability to facilitate the shift to digital resources (53% agree, 25% strongly agree).

More concerning however is that many librarians feel unprepared to answer questions from patrons on the use of generative AI in their studies. A slight plurality of respondents feel unprepared (30% disagree, 7% strongly disagree) while a substantial number are neutral on the issue (28%). Between-groups analysis revealed that those educated to an undergraduate level were more likely to be neutral on the issue (46%) compared to those with a postgraduate qualification (25%), and that the latter group were more likely to answer "somewhat confident" (33%) than respondents with an undergraduate qualification (13%). Further analysis showed that library professionals who had joined the library within the past 2 years displayed higher levels of confidence in dealing with generative AI than did colleagues who had been in the library for longer. Without intervention to upskill those librarians who have been within the library longer, this gap is likely to only increase in future.

The academic library is constantly changing, constantly evolving, constantly rising to meet new challenges.

There are still several librarians who do feel that they are able to answer any such questions (27% agree, 8% strongly agree), but having such a wide range of responses shows that there is much work to be done in this area. On the Skilltype platform, just 43 librarians report that they are skilled regarding AI in general, and 105 indicate that this is an interest for future development. With regard to ChatGPT specifically, 59 librarians say that this is a skill, and a further 67 are interested. We also see low levels of interest in AI among library directors in Skilltype.

Given the disruption that AI is already having in the academic library and will certainly continue to have¹, frontline librarians and library leaders alike should take steps now to upskill in this area. Libraries have been pioneers in the early use of the forerunners to this latest generation of AI,

such as in their use of machine learning for special collections discovery, resource digitization and many more. These are great foundations to build on. Librarians hoping to develop their knowledge and skills surrounding AI will find there are a variety of resources and communities to engage with on this subject, many of them free to access. Librarians who lack confidence in this area may benefit from establishing or joining a group or team focusing on the challenge of generative AI within their institution. Further, library leaders and line managers should make clear how they expect their teams to prepare for the impact of AI in their libraries and highlight useful resources. As we shall see below, our data does suggest that librarians appreciate the necessity for developing their skill sets around digital literacy and critical thinking. These will be critical skills for engaging with AI in future.

¹ Examples include increased support required for faculty managing plagiarism, a growing divide between those with access to generative AI, and those without, and many more. See <https://www.timeshighereducation.com/depth/five-ways-ai-has-already-changed-higher-education>

We have a task force that's exploring the role of AI in the library that's working right now, and I expect that they'll deliver their results early in 2024. So I don't want to make any definitive statements. I see some promise in using AI to make materials more accessible through transcription and description of images and so forth. I've been intrigued by chatbots. I can see AI being used to support deeper research inquiries and help synthesize information.

I also think libraries have an important role to play in just making people aware of the challenges and risks and concerns around AI and good citation practices. The way that ChatGPT hallucinates citations and how to avoid plagiarism—all that stuff, I think falls squarely in the domain of libraries. And we have a responsibility for helping students use AI effectively and making faculty aware of these pitfalls and best practices as well.

LISA SPIRO, ASSISTANT UNIVERSITY LIBRARIAN FOR DIGITAL SCHOLARSHIP AND ORGANIZATIONAL DEVELOPMENT, RICE UNIVERSITY

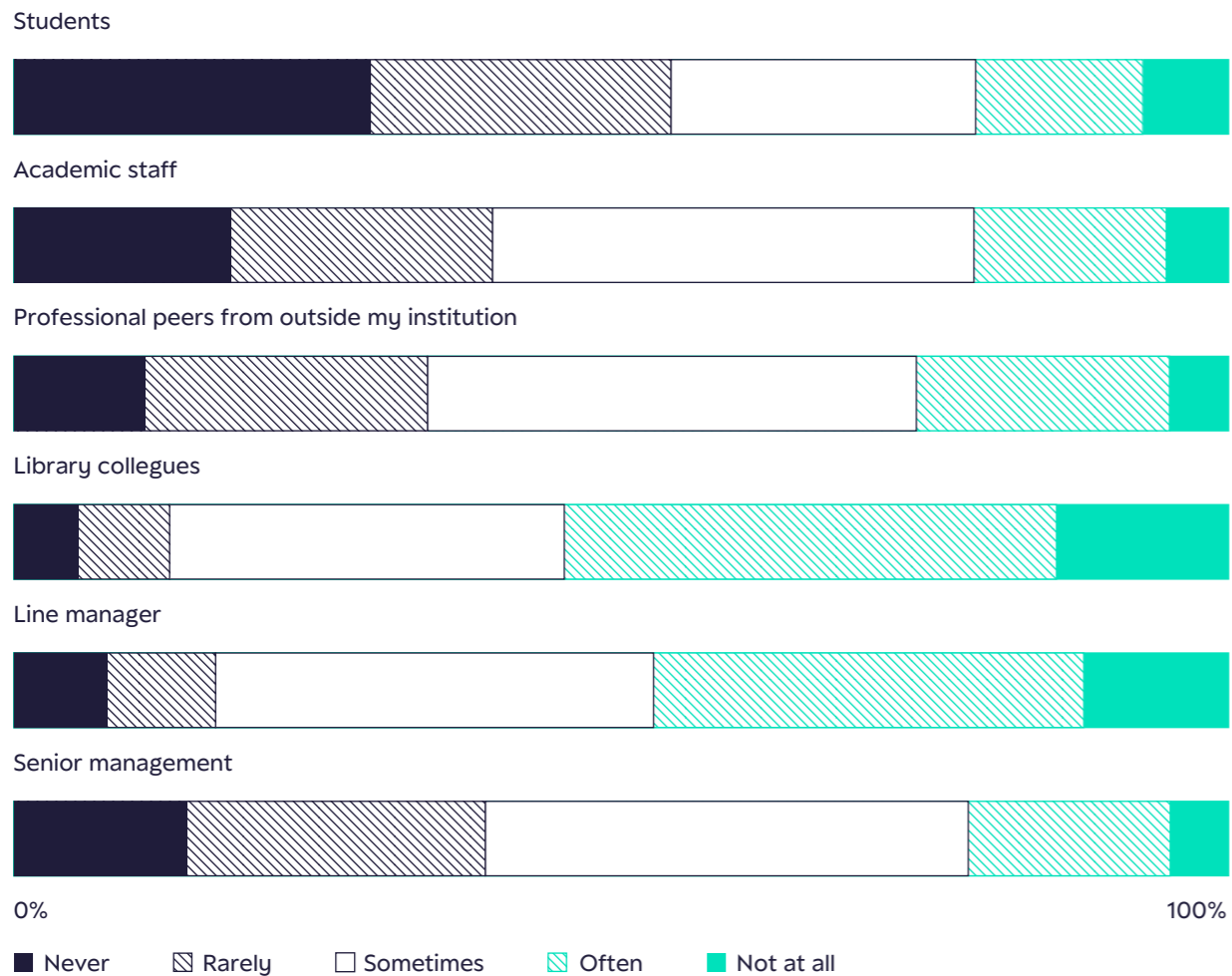


10 The Librarian's Voice

Having considered librarian responses concerning their current and anticipated skills, we turn now to the data we have collected on the librarian's voice in developing those skills. We asked librarians how often they discussed their current skill set, and how often they discussed *developing* their skill set, with the following people: Senior management, Line manager, Library colleagues, Professional peers from outside my institution, Academic staff, Students.

As can be seen from Figure 9, responses to this question were varied across every category and, broadly, most librarians engaged with each of these groups of stakeholders with some regularity. This is positive—in our previous report, we identified that many students think of the academic library principally as a collection and a building and are not necessarily aware of the vast range of services provided therein. Having a dialogue about current skills within the library with patrons is an

Fig. 9. A Graph Displaying Responses to the Question: **How often do you speak to the following people about your current skill set?**



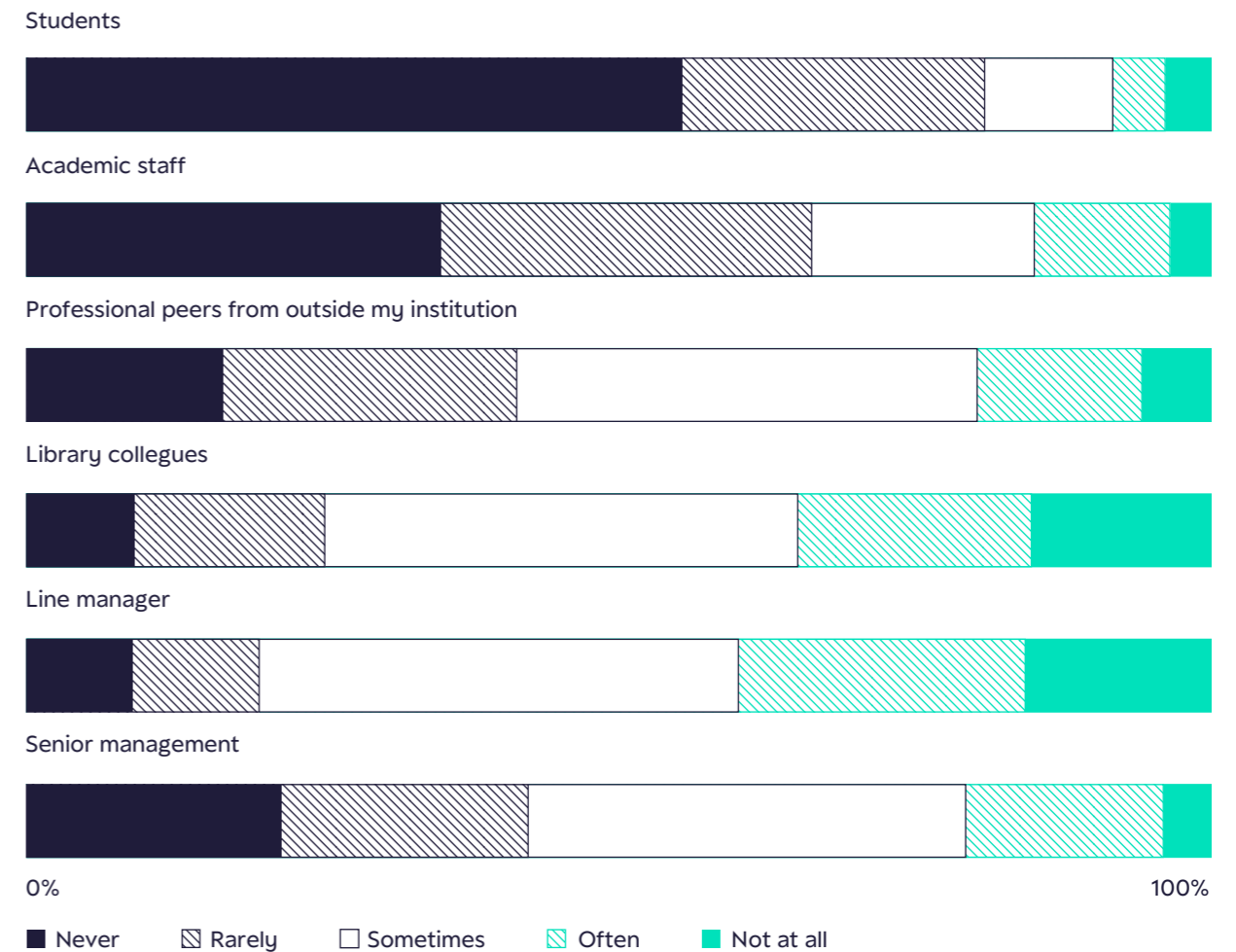
excellent way to raise the profile of these library services and make it more likely that students will make use of them. Similarly, engaging with library colleagues, line managers, and library management is crucial to ensure the library can continue to meet patron expectations. It is heartening to see that these conversations are happening, and we encourage librarians to keep having them.

Figure 9 also reveals however that a substantial number of librarians are being left out of these conversations, which could potentially have long-term deleterious effects on the service the library provides. Further analysis revealed that there is a particular difference for library professionals educated to an undergraduate level and to a postgraduate level. Professionals

without a postgraduate degree were found to be less likely to discuss their skill set with senior management. This may be because professionals without postgraduate qualifications are more likely to work in a front-line or entry-level capacity, and so will have reduced opportunities for such face time with senior management.

Regardless, library leaders must make efforts to engage with all staff, to hear their concerns, and to take action to address any such issues. Line managers should be similarly prepared to have conversations about skill sets with their direct reports. Our subgroup analysis showed that librarians who have been in post for less than a year are more likely to have spoken to their line manager about development within

Fig. 10. A Graph Displaying Responses to the Question: **How often do you speak to the following people about developing your current skill set?**



the past month than those who had been in post for 2 years or longer. In some cases, it is possible that the reason librarians have been in the same post for so long is because they are not having these conversations with their manager. Some line managers may need to develop new capabilities to understand and effectively cultivate the skills of staff. Library colleagues should work collaboratively to ensure everyone is given a platform to discuss their skills and make sure no one is left out of such conversations.

Figure 10 above shows responses to the question “How often do you speak to the following people about developing your skill set?”

Results again were highly varied. We found that over half of librarians never speak about developing their skill set with students, increasing to over 75% when including “rarely” answers. In some respects, this is unsurprising, as conversations around development more naturally fit into the line manager—direct-report relationship. But if the mission of the library is truly about “who librarians serve” (Evans & Schonfeld, 2020), librarians would be well served by engaging students to inform the skills they focus on developing.

Encouragingly, we found that over 75% of librarians surveyed discuss their development with line managers with some regularity, and over 50% have such conversations with senior management. Without buy-in from managers, librarians are likely to find skills development extremely difficult, if not impossible. Developing one’s skill set requires significant investment of time, funds, and resources, which is likely to be impossible with managerial support. Seeing the

majority of librarians have such conversations is therefore positive. To build on this answer, we sought to understand with greater clarity when librarians had last talked about their personal development with their line manager, and so we asked respondents to select from a number of options. Around 31% of librarians had last discussed development within the last month, rising to 56% in the last 3 months. Around 72% had discussed within the last 6 months, and 18% had last discussed more than 6 months ago. Approximately 10% of librarians had never discussed their own development with their line manager.

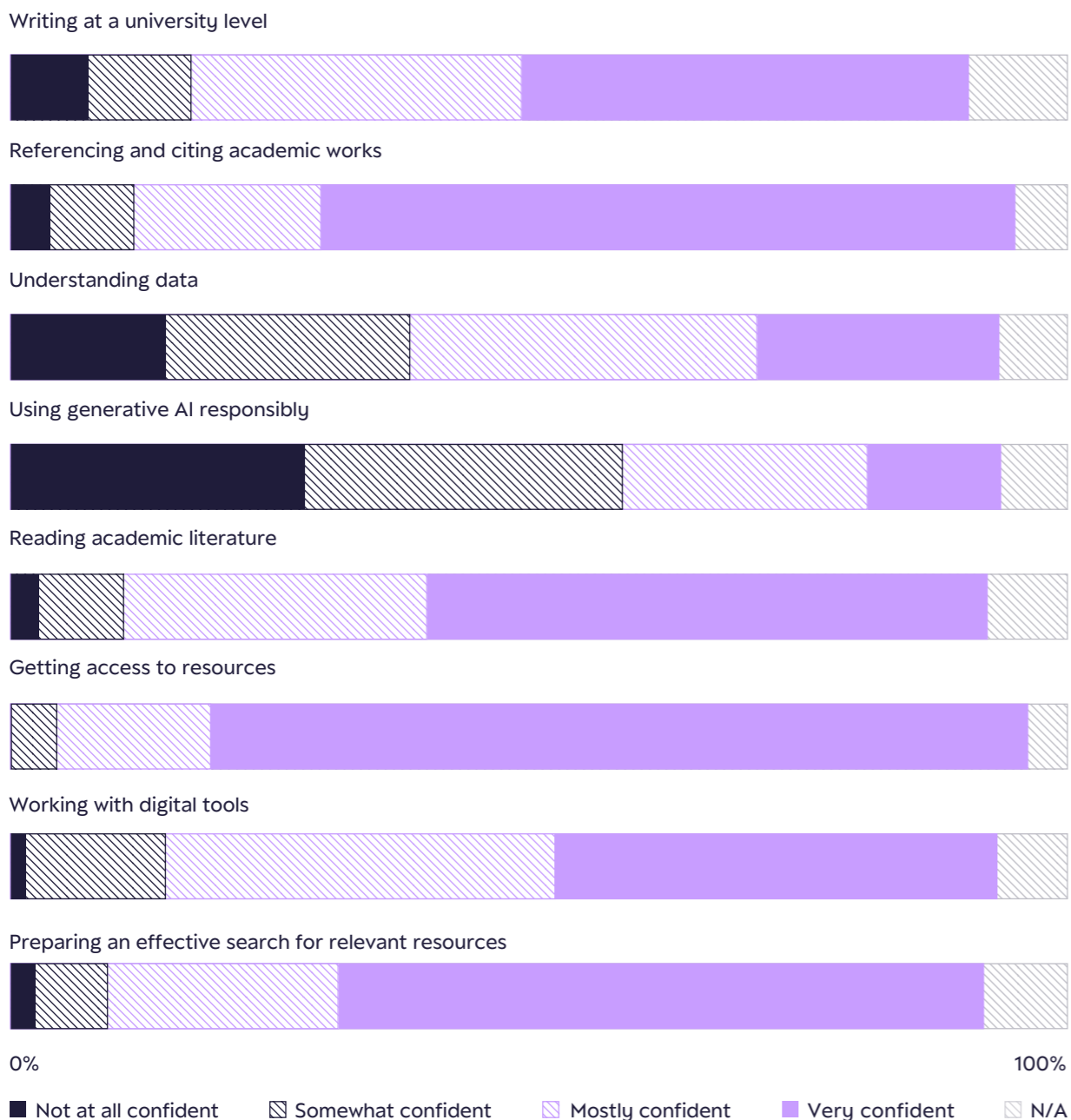
While it is of course positive to see the majority of librarians regularly discussing development with their line manager, and to see most having last discussed their development recently, this does not diminish the significant number of librarians who are not benefiting from such discussions. Once again, this problem is more pronounced for hybrid workers (and possibly those working predominantly online, although we lack the data to conclude this in the present report), with in-person workers seemingly having more opportunities to speak with all groups. Investing in the development of staff is investing in the academic library and its patrons. Managers looking to support their direct reports ought to make efforts to understand the emerging needs of patrons and the interests of their colleagues, and should make space for the discussion of skills development. Librarians looking to support themselves and colleagues may find it useful to explore and discuss ways they can advocate for their own development in discussions with line managers and library leaders.

Managers looking to support their direct reports ought to make efforts to understand the emerging needs of patrons and the interests of their colleagues, and should make space for the discussion of skills development.



11 Meeting Patron Needs

Fig. 11. A Graph Displaying Librarians Responses to the Question: **How Confident Would You Feel Advising Students on the Following Subjects?**



In Part II of our *Librarian Futures* series, we asked students to rate their confidence across a number of tasks they undertake when completing assignments. We found, across all of these, a range of levels of confidence. We also determined that there were significant between-groups differences in confidence (e.g., between full-time and part-time students, or between those students who identify as disabled and those who do not).

We went further and asked students to identify who helps them across each of these tasks. Although elsewhere in our report only a very small number of students had said they see no role for the librarian in their workflow, across these tasks librarians were identified as the fourth most popular person to approach for help. Across all categories, students responded “Me,” “My Peers,” and “My Teachers” more often than librarians.

Having determined this, we wished to understand how confident librarians would feel advising students on the same (and other related) tasks. We asked staff to tell us how confident they would feel advising students on the following:

- Preparing an effective search for relevant resources
- Working with digital tools
- Getting access to resources
- Reading academic literature
- Using generative AI responsibly
- Understanding data charts and tables
- Referencing and citing academic works
- Writing at a university level

Librarians generally reported high levels of confidence across each of these categories (Figure 11), with the highest levels of confidence reported for tasks associated with more traditional librarianship. In analyzing Skilltype’s data, the skills associated with tasks like “getting access to resources,” “referencing and citing academic works,” and “preparing an effective search for relevant resources” are well represented among librarians currently.

The areas where we seem to see most uncertainty in advising students are in “understanding data,” where 13% of librarians are not at all confident and 25% are only somewhat

confident, and “using generative AI responsibly,” where over 50% of respondents report low levels of confidence. We have already touched upon the low numbers of librarians identifying AI as a skill in Skilltype, and although skills related to data are generally more popular (145 librarians are skilled in research data management, 141 in data science, and 126 in data analysis), they are still relatively niche areas. We shall consider this further when we examine the skills development staff consider essential in the coming years.

Interestingly, subgroup analysis once again revealed differences in confidence advising students between groups. Although respondents with postgraduate backgrounds were generally more confident across the board, their confidence in “understanding data” was the notable exception. We did note, too, that confidence in this area seemed to be highest among respondents who had joined the academic library within the past year. It is possible that this is a consequence of more recent experience with data analysis, but owing to a relatively small number of respondents within the first year of their library career our capacity to draw any conclusion in this regard is limited.

Interestingly, subgroup analysis once again revealed differences in confidence advising students between groups.

We also asked librarians to tell us how confident they would feel advising academic staff on the following:

- Preparing a useful reading list
- Working with digital tools
- Getting access to resources
- Pedagogies for effective learning
- Using generative AI responsibly
- Implementing communities of practice

Results were broadly similar across all categories, with low levels of confidence relating to generative AI once again. Below we find that librarians report “digital literacy” as the skill most important to develop in the short term, which very likely is in response to the rapid rise of generative AI. Developing such skills will better equip librarians to answer such questions from staff and students alike, so it is essential that upskilling on this is offered.

Regarding “implementing communities of practice” and “pedagogies for effective learning,” low levels of confidence were also reported among librarians. Examining Skilltype’s data once again, we are provided with a mixed picture. “Online learning” is one of the top 30 skills selected on the platform, whereas related skills such as “instruction and teaching” are relatively

rarely chosen as a skill. Upskilling concerning different modalities of teaching, implementing new pedagogies, or indeed fostering communities of practice would increase confidence among librarians in this area. Librarians looking to develop their skills in this area may find it useful to work collaboratively with colleagues in academic development as well as learning technology.

Below we shall see several librarians identify “pedagogy knowledge” as an essential skill to develop. Training and upskilling around pedagogy would empower librarians looking to contribute to their institution’s learning and teaching strategy, and would strengthen relationships between libraries, academic development teams, learning technologists, and academic staff, leading to a more consistent and impactful student experience.

Lastly, it is notable that, although librarians report generally high levels of confidence in supporting patrons, students do not approach them for support often. Librarians may be well served by taking steps to cultivate skills necessary for understanding the needs of patrons, so as to offer more tailored support. In addition, skills such as marketing, design thinking, and user experience may help the library be more present in the patron workflow and ensure that patrons make use of their services.

Training and upskilling around pedagogy would empower librarians looking to contribute to their institution’s learning and teaching strategy.



12 Looking Ahead

Much of what we have thus far discussed concerns emerging challenges, and although we have attempted to define some of those challenges, we believe it is important to understand what librarians themselves see as key skills to develop to meet those challenges. We asked respondents to identify which skills are essential for librarians to develop in the short (next 1–2 years), medium (next 2–5 years), and long (next 5+ years) term. Respondents chose from the following options:

- Digital literacy skills
- Marketing strategies
- Critical thinking abilities
- Pedagogy knowledge
- Student outreach
- Academic outreach
- Learning analytic insights
- Other (please specify)
- Don't know

In the short term, librarians identified digital literacy skills as an essential skill to develop, with 90% of librarians agreeing. Support for these skills remained high in the medium (65%) and long (62%) term. Likewise, critical thinking skills were widely identified as crucial skills (65%). As previously stated, this is likely as a consequence of the sudden ubiquity of generative AI, and the implications of this for the higher education sector. It is encouraging to see librarians recognizing the significance of the challenge generative AI poses, as well as possibly the scope of the affordances it presents, and acknowledging the need for upskilling to best address these.

In the short term, a number of other skills were identified as essential by over half of respondents. Data skills, student outreach, and academic outreach were all chosen by more than 50% of participants. Recognizing the need for increased development of data skills is positive, as above we recognized this as an

area many librarians would lack confidence in helping students. This is likewise reflected in Skilltype's data on librarian interests, with data science being one of the most popular interests on the platform (462 librarians interested).

As discussed above and in our previous report, librarians were not often identified by students as having helped them at any stage of their research journey, but developing student and academic outreach skills should be an effective way to address this. Improved communication with students and academics will empower librarians to be more present in the patron workflow, and to better fulfil the mission of the academic library. To an extent, we see this represented in Skilltype's data also, with another popular interest being "community outreach."

While our data does show that many librarians continue to think that skills such as digital literacy, critical thinking, and student and academic outreach will remain important in the medium and long term, it does also reflect that many librarians think their skills will develop in other ways over time. In the medium (63%) and long (58%) term, the majority of librarians think that skills in learning analytics will be important to develop. Such skills will facilitate the delivery of a more targeted, more personalized service. However, the pitfalls of such analytics are also well-documented, and so it is

In the short term, librarians identified digital literacy skills as an essential skill to develop, with 90% of librarians agreeing.

encouraging to see librarians recognize the need for upskilling this area, which will better enable them to make use of such analytics responsibly and ethically. Encouragingly, analytics is one of the most popular interests on Skilltype.

A substantial number of librarians also believe that skills related to pedagogy will be important to develop in the medium (50%) and long (48%) term. As mentioned above, the development of such skills would strengthen the library's crucial position in the learning and teaching strategy of their institution and would contribute to a more cohesive learning journey for patrons.

It is worth noting that many of these skills go hand in hand, and none are mutually exclusive. Pedagogy knowledge and skills will be augmented by better student and staff outreach, allowing more patrons to benefit. In turn, learning analytics and data skills might feed into the evaluation of any such pedagogic interventions, allowing librarians to refine their practice. As such, we suggest that developed skills across any of the categories identified above will serve librarians and the academic library well.

Pedagogy knowledge and skills will be augmented by better student and staff outreach, allowing more patrons to benefit.

To what extent then do these results concord with the interests of library leaders? Information literacy is one of the top skills selected within library profiles on Skilltype, suggesting that they too appreciate the necessity to embed this skill within the library to address the challenges posed by AI. Likewise, we find community outreach well represented among director's interests, as is "instruction and teaching," once again suggesting that directors see an increased need for the library to contribute to pedagogical practice within higher education institutions. We also see a strong interest in analytics among library directors. Such concordance is encouraging, suggesting frontline librarians and library leadership are broadly moving in step.



13 Supporting Librarian Development

Each individual has their own time to dedicate to professional development, and our staff development budget ensures staff can attend a conference, event, or webinar each year. We have seen a downturn in people traveling to conferences since the pandemic, but there has also been an increase in participation in virtual programs and events. Each year we also host an annual staff development event for the entire Libraries staff, and the themes and topics for those sessions vary year by year. For the Libraries as a whole, our mission includes being a learning organization, so that's part of the values that we try to share with staff. At the University level, Drexel offers training opportunities for all faculty and staff, and the annual performance process is also focused on learning and growth, which reinforces the Libraries' mission and the focus on individuals' learning and development...

...We want to make these opportunities as visible as possible to staff—to make sure they know that these opportunities are available—so we have created a staff intranet that includes a focus on learning and growth and staff development opportunities.

ANN YURCABA, EXECUTIVE DIRECTOR,
DREXEL UNIVERSITY LIBRARIES

Given that frontline librarians and library leaders seem to have broadly similar visions of the skills that will be required in the future, and we have revealed areas where librarians may benefit from upskilling, we turn next to collect data

on how librarians currently develop their skills. The data we have collected can help librarians and library leaders make informed decisions around the future of their skills development.

We wished to determine firstly whether librarians currently feel well supported in undertaking upskilling. We therefore asked librarians to indicate the extent to which they agreed with the following statements:

- My university provides ample opportunity for me to develop my skill set.
- Senior management at my university support me in developing my skill set.
- My line manager supports me in developing my skill set.
- My colleagues support me in developing my skill set.
- I feel that my effort to learn new skills is recognized by senior management.
- I feel that my effort to learn new skills is recognized by my line manager.
- I feel that my effort to learn new skills is recognized by my colleagues.
- I feel that my effort to learn new skills is recognized by students.

Responses to these statements were once again strikingly mixed. Over half of respondents agreed or strongly agreed that they were given ample opportunity to develop their skill set by the university (56%), and over half felt well supported to do so by senior management (62%), line managers (80%), and colleagues (72%). Again, the majority of respondents agreed or strongly agreed that their effort to learn new skills was recognized by their line manager (73%) and colleagues (66%), however less than half (46%) said the same of senior management.

Results were not uniformly positive, however. We found that, across almost all categories, there were substantial numbers of respondents who neither agreed nor disagreed, suggesting that for many, the subject of their development elicits little support or recognition.

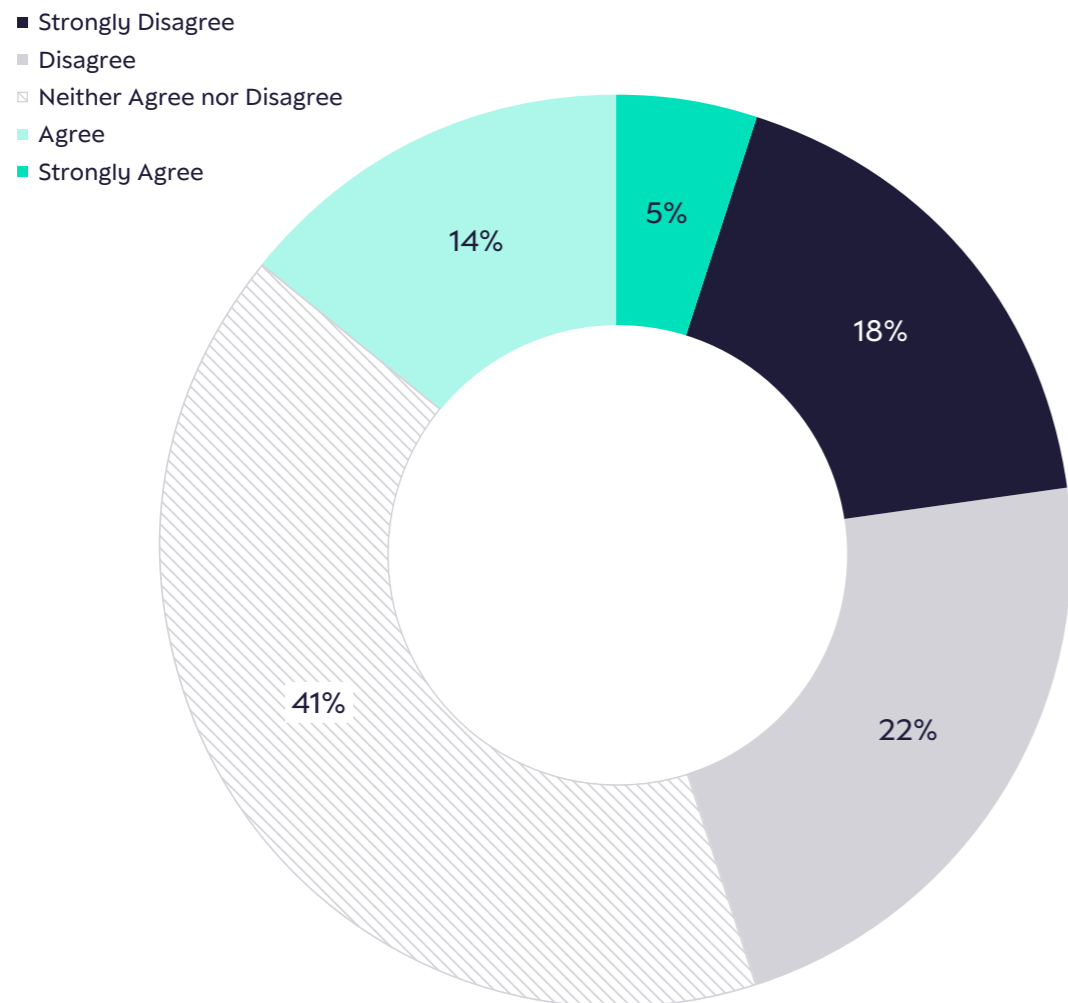
There were also non-negligible numbers of negative responses to several of the statements provided.

Skilltype data demonstrates that many librarians are keen to develop in a number of different directions, with topics like "leadership development" (growing as a leader), "professional development" (building a career), and "staff development" (cultivating the skills of others) garnering substantial interest in the platform. Without the support of management and colleagues, librarians are likely to find it difficult, if not impossible, to give development, training, or upskilling the time and attention it deserves. There are myriad implications for the librarian should this be the case: for their ability to meet the needs of patrons, for their career progress, for their sense of fulfilment and job satisfaction. The academic library would also suffer consequently.

Skilltype data suggests that development is a popular topic among library leadership too, but our survey data suggests that there is more work to be done to create an environment in which librarians feel supported to upskill. Our hope is that the data presented above will be useful for senior and line managers looking to understand where librarians wish to develop their skills, and that they can consequently work to provide such a supportive environment.

Again, the majority of respondents agreed or strongly agreed that their effort to learn new skills was recognized by their line manager.

Fig. 12. A Pie Chart Showing Librarian Perceptions of Student Recognition of Their Effort to Learn New Skills:
I Feel That My Effort to Learn New Skills Is Recognized by Students



The most concerning result from this question is in response to the statement “I feel that my effort to learn new skills is recognized by students” (Figure 12).

Just 19% of respondents felt that students recognize their efforts to learn new skills. A plurality (41%) of librarians were neutral on the topic, while a relatively huge 40% of librarians actively disagreed with the statement. It is difficult to propose solutions to this issue, owing first to the complexity of changing student attitudes in and off itself, but also that any solutions proposed as part of this report would necessarily be putting the onus on librarians to advocate for themselves to students. However, we are hopeful that a commitment to

contributing to student success, as observed in Skilltype’s data, combined with developing skills in student outreach (which librarians identified as crucial above) will lead to renewed and increased student appreciation of the academic librarian, and that this in turn might make librarians feel that their effort is recognized. Library leaders should also consider the information presented in this section carefully. Managers should consider the long-term consequences of colleagues feeling unsupported and unappreciated and implement strategies to remedy any such situation. We commend the many libraries that have created student advisory boards to both solicit feedback and communicate activity (such as the University of Michigan).

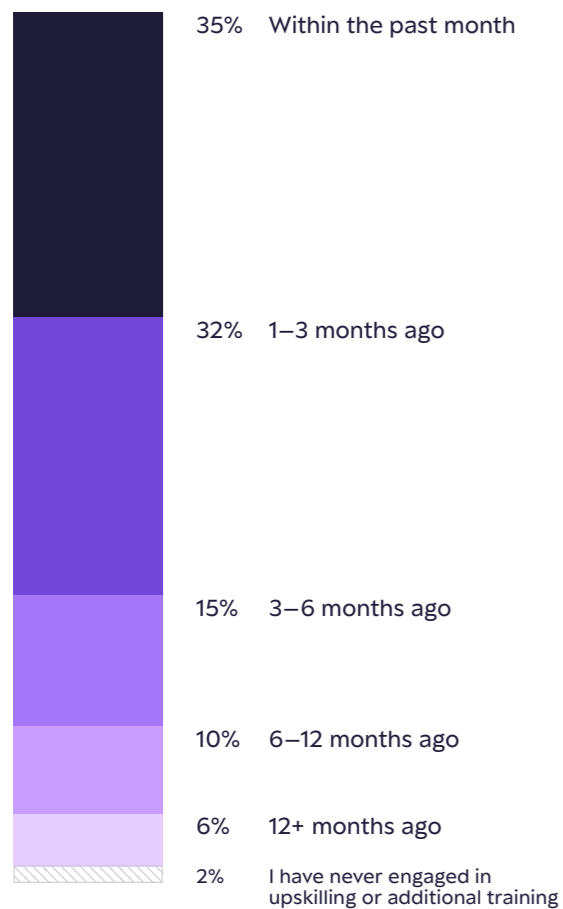
One thing we’ve implemented here, to ensure that we have students engaged in what we’re doing, is our student advisory group. We are getting students engaged in the work of libraries and understanding how we operate and getting their input. They have been introduced to Skilltype and some have set up profiles. Additionally, we’re creating internships and other engagement activities to help students have a good experience. We are also working to ensure that we have a more diverse staff, so that our students can then engage with people that look like them or come from similar backgrounds. I think representation matters. We want to ensure that we are also creating spaces that speak to the different backgrounds and interests, i.e. learning spaces, maker spaces, whatever is important to the academic community and whatever the students are interested in, making sure that our library spaces are aligned with those as well.

JACKIE LORRAINE, ASSOCIATE UNIVERSITY LIBRARIAN,
 WASHINGTON UNIVERSITY IN ST. LOUIS

14 Dedicated Development Time

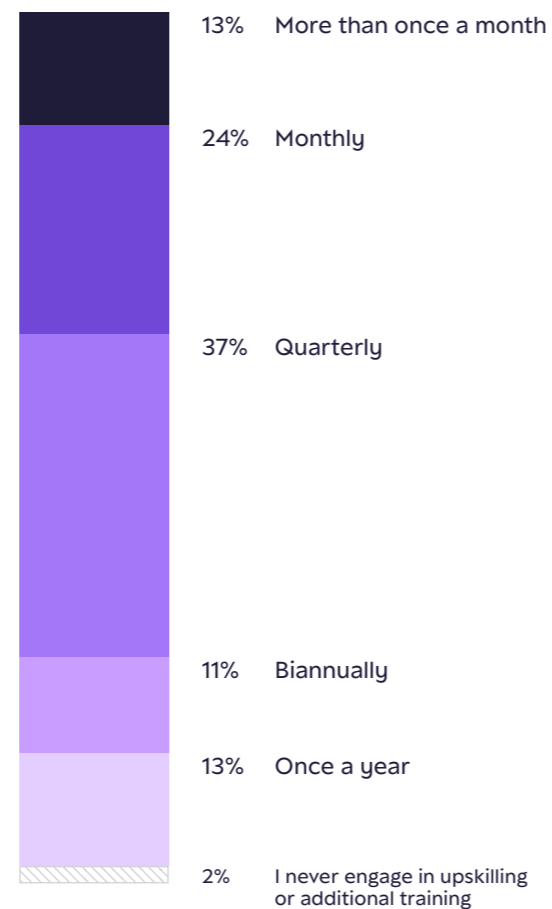
Deepening current skills or developing a new skill set can take a significant amount of time, yet that time is an investment in both the librarian and the library. Librarians looking to upskill or reskill should be afforded the time they need to do so. We asked respondents when they had last engaged in upskilling or additional training, asking them to choose from one of the following:

Fig. 13. Librarian Responses to the Question: **When did you last engage in upskilling or additional training?**



Almost all respondents had engaged with upskilling at some point in the preceding 12 months, and the majority had done so within the preceding 3 months. We then wanted to establish how regular an occurrence training and upskilling is.

Fig. 14. Librarian Responses to the Question: **How often do you engage in upskilling or additional training?**



Results were again broadly positive, with 74% of respondents reporting that they engaged in upskilling, on average, at least once every 3 months. Very few respondents reported either that they never have or never do engage in upskilling (although it is concerning that *any* librarians report this).

With the frequency of additional training ascertained, we then asked librarians questions designed to understand what barriers, if any, lie in the way of their upskilling. To this end, we asked librarians to what extent they agreed with the following statements:

- If I want to learn a new skill, there is a clear path for me to do this at my institution.
- My institution has ample training resources available to me to develop my skill set.
- There is sufficient budget available within my institution to develop my skill set.
- I have enough time to develop my skill set.

Across each of these categories, results were very mixed. While 43% of respondents agreed that there was a clear path to learning new skills at their institution, 28% disagreed, and 29% had no strong feelings either way. On the matter of having ample training resources, negative (35%) and positive (34%) responses were roughly tied, with the remainder of responses being neutral.

Forty-six percent of respondents disagreed that their library has sufficient budget available, while just 31% agreed. This is an especially concerning result in the context of the wider librarian development landscape, as in the 2022 Ithaka S+R librarian survey, just 13% of the library directors surveyed identified “employee travel and personal development” as an area to which they would allocate a 10% increase in budget, whereas 20% pointed to this as an area in which they would decrease the budget by 10%. This suggests that librarians who already feel that there is not enough money allocated to training are unlikely to see any positive movement in this regard. Respondents gave roughly the same response to the issue of time, with 33% agreeing that they have enough time to develop their skill set, and 47% disagreeing. It is also

worth noting that librarian training is coupled within travel budgets, which has increased the impact of COVID on librarian training budgets.

With a plurality of librarians feeling that they lack appropriate training resources, budget, and time, it may seem at first glance that the outlook is bleak for librarians. But we must not ignore that, although in the minority, there *are* librarians who feel that they do have enough resources, that they do have the money, that they do have the time. This is rich ground for further research—to identify exemplars in librarian development and upskilling within the sector, and possibly even to work collaboratively to produce detailed, standardized guidance that institutions struggling in this area can implement.

With a plurality of librarians feeling that they lack appropriate training resources, budget, and time, it may seem at first glance that the outlook is bleak for librarians.

15 The Training Landscape

Having developed an understanding of the upskilling and development habits of librarians, and the factors affecting this, we now turn to consider the form that training takes for them, and the utility of that training. We asked librarians “What was the subject of the most recent training you engaged in?” and provided a free text field for responses. The word cloud below (Figure 15) shows a selection of the responses given.

AI appears often on the list, and in numerous guises (“AI,” “artificial intelligence,” and “generative AI” all appear in the word cloud). Data also appears often, and again in more than one name. It is positive to see both represented here given that librarians identified that these were both areas in which it was critical to undertake further training in future. It would be informative to determine (although unfortunately it lies outside the scope of this present research) whether there is a correlation between those who have undertaken such training and those who would be confident advising staff and students on these subjects.

Next, we wanted to understand how staff are being trained, and so asked them to identify if that training was “online only,” “in-person only,” or a “hybrid (mix of online and in-person).” The vast majority of respondents (71%) was online only, with in-person only being second most popular (18%). The remainder of respondents had a hybrid learning experience.

We then asked participants to indicate the extent to which they agreed with the following statements:

- The most recent training I engaged in was delivered in the best possible format.
- The most recent training I engaged in has been useful in my day-to-day role.
- The most recent training I engaged in has helped me better serve patrons.
- I was satisfied with the most recent training I engaged in.

Fig. 15. A Word Cloud Illustrating the Frequency of Librarian Responses to the Question

What was the subject of the most recent training you engaged in?



Most librarians (77%) were satisfied with their most recent training, with most (68%) also feeling that their training was delivered in the optimum format. This seems to largely validate the online learning experience as one that librarians are satisfied with. Most librarians (71%) also agree that their most recent training has helped them daily and agree (66%) that the training has helped them provide their services to patrons.

While responses are broadly positive (with fewer than 10% of librarians disagreeing across all categories), there were some signs of ambivalence among respondents too. Over a quarter of people responded neutrally to the matter of format and helping patrons, while 22% of respondents neither agreed or disagreed that the training was useful in their day-to-day role, and 18% were neither satisfied nor unsatisfied with their training. Library leaders should be mindful that several librarians do not appear to be enthusiastic about the training they receive and should make efforts to bring address this. Offering training in multiple formats should be considered, as should aligning any training with librarians’ own development goals or institutional learning and teaching goals, to make the utility of any such training clearer.

To aid library leaders in strategizing for the future of upskilling in their institution, we then asked participants to indicate the extent to which they agreed with the following statements:

- The next training I engage in should be delivered in person.
- The next training I engage in should be delivered online.
- The next training I engage in should be useful in my day-to-day role.
- The next training I engage in should help me better serve patrons.

Once again, librarians were largely neutral on the issue of format, with over half of participants neither agreeing nor disagreeing with either in-person or online delivery. Librarians were clear however that any training they undertake should be useful in their day-to-day role (89% either agreed or strongly agreed) and should contribute toward better patron service (83%). These responses demonstrate that librarians desire training that is both useful and impactful. Again, this information should be useful for library leaders planning their training provision.

Most librarians (77%) were satisfied with their most recent training, with most (68%) also feeling that their training was delivered in the optimum format.

16 Learning About Upskilling Opportunities

With a fresh understanding of the kinds of upskilling librarians have viewed favorably, and having considered the sorts of upskilling librarians would like to see in future, we finally wanted to provide training providers, as well as library leaders or line managers, with actionable insights into how best to reach their staff with information of upcoming training opportunities. To this end, we asked both how staff had discovered the most recent training they engaged in, and what the most helpful way to find out about training in future would be. Participants were able to select from the following options:

- Email
- Social media
- Online advertisement
- Physical advertisement (poster, leaflet)
- University website
- Colleague recommendation
- Other (please specify)

Just over half of respondents had discovered their most recent training via email. Interestingly, the next most popular choice was "other," with respondents specifying their different ways of discovery. Some respondents described using online platforms such as Coursera or LinkedIn to discover new learning, while others spoke of having to undertake mandatory training. The next most popular answer, although with only 15% of respondents selecting it, was via a recommendation from a colleague.

Very few respondents discovered training through social media, the university website, or online advertisements, and not one respondent discovered training via physical

advertisement. This information will be useful for those engaged in the delivery of upskilling to librarians, and indeed may help avoid unnecessarily wasting time and money producing and disseminating such advertisements.

Our final question will also be of interest to those groups. Seventy-one percent of respondents suggested that, in future, email would be the preferred method of discovery. The next most popular answer, at just 8%, was via colleague recommendation, and then social media at 6%. All other answers were chosen by 5% or fewer of participants.

This information will be useful for those engaged in the delivery of upskilling to librarians, and indeed may help avoid unnecessarily wasting time and money producing and disseminating such advertisements.



Conclusion

If our results show one thing, it is that the future of the academic library is bright. Broadly speaking, the interests and ambitions of library professionals and library leaders are aligned. Librarians have confidence in their abilities to fulfil the day-to-day functions of their role, and largely have a great deal of confidence regarding emerging technological challenges. Most librarians are also engaging in regular training and upskilling, and having conversations with a broad range of stakeholders throughout the academic library. There are, however, challenges to be conscious of.

Generative AI Still Represents an Unknown for Many

Since the debut of ChatGPT late in 2022, it has often felt as if there has been little else to discuss in the world of academia. Although the ways in which it will impact the higher education experience are not yet fully understood, it is evident that everyone—student, academic, librarian—will be impacted by it.

Our results reflect a certain amount of uncertainty among librarians when dealing with generative AI. Frontline librarians may find it useful to reflect on which aspects of their day-to-day practice might be augmented, transformed, or in some cases replaced by AI, and the opportunities this will present. As we have hopefully made clear above, we do not anticipate that the library of the future is one staffed by AI. Rather, we imagine that librarians will use AI as a tool in their workflow, to simplify, expedite, or deepen their practice. Considering which tasks might benefit from the introduction of AI, and considering where this might free up time to dedicate to other activities, might be a good way for librarians to prepare themselves for the future.

Library leaders too might benefit from considering where AI might play a role in their institution. We encourage leaders exploring the use of AI to communicate their intentions to staff and to make clear whether AI will play a role in their upskilling or recruitment strategy at present or in future.

Student Outreach Is a Priority

We found that a great many librarians feel that their efforts to develop their skill set go unappreciated by students, and we recognize the potential for this to have an impact on librarians. Librarians and library leaders alike show a commitment to student success, and part of this will come down to students being aware of the range of services available to them through the library. Skills in community outreach, student outreach, marketing, and user experience will likely all contribute to this—upskilling in this area has the potential to transform the way patrons view and use the library, and consequently change librarian perceptions of student attitudes.

Opportunities for Upskilling Must Be Consistent

As is made clear above, not all staff are benefitting from regular discussions with their line managers, or with senior management, which has clear implications for their ability to signal their desire and intent to develop their skill set. Likewise, some staff are being left behind with regard to upskilling—with over 10% of library professionals surveyed only upskilling once per year. To compound matters, we saw very mixed results as to whether librarians feel there is enough time or money available to them for upskilling.

This data will be of particular interest to library leaders and line managers, who might be prompted to reflect on their own conversations with staff and the training available at their own institution. Leaders must advocate for their colleagues, to ensure the library is as prepared as possible to meet upcoming challenges.

Frontline librarians will surely read Hannah Rutledge's contribution on strategies for advocating for their own personal development with great interest also. We encourage frontline librarians to ensure their own development is made a priority in conversations they have with their line manager and to work collaboratively with colleagues to ensure all benefit from the same opportunities.

Acknowledgments

Our first thanks are to the librarians who responded to our survey. Without their time and insight, it would not have been possible to produce this paper. At Technology from Sage the academic library is our North Star and academic librarians are at the heart of everything we do—and so their engagement with this research means that much more.

We would like to extend our thanks also to the entire Skilltype team, whose partnership and support on this report has been invaluable. Again, without their collaboration we would not have been able to write this report. Special thanks go to Tony Zanders, who was so receptive to the idea of working together and instrumental in making it happen, and Christine Quirion, who has played an active role in every part of this process and who has made this collaboration so seamless and enjoyable.

We are grateful too to Roger Schonfeld and Mark McBride of Ithaka S+R, for their insight and guidance as we were preparing to write this report and circulate our survey. Our thanks also to the organisers of the Charleston Library Conference, for their kind collaboration as we prepared to launch this report at the 2023 conference.

Lastly, several academic librarians have been kind enough to lend their voices to this report and openly provide their thoughts and insights. We are very grateful to Jackie Lorraine, Ian Snowley, Steven Bell, Andrew Barker, Lisa Spiro, Ann Yurcaba for their contributions.

Methodology

Key data points

1. Survey of 289 librarians
2. Interviews with librarians
3. Anonymized user data provided by Skilltype

Survey detail

1. Survey administered globally online, via Survey Monkey platform.
2. Responses collected August 7 to September 8, 2023.
3. Participation was voluntary.
4. Participant recruitment used 2 primary channels:
 - a. Sage in-house contact list
 - b. Technology from Sage in-house contact list
 - c. Skilltype contact list

Table 2 shows each of the countries represented in our results, and the respective number of responses. Countries with no respondents represented have been removed from the table.

Sage in-house contact list

1. List was derived from Sage's in-house list of academic librarians, reflecting Sage's global market.
2. Participants were recruited via email.
3. To qualify, respondents had to self-identify as a college or university librarian, faculty librarian, or other library staff.
4. Sage contact list, N = 4819

Skilltype contact list

1. Recruitment was managed by Skilltype from Skilltype's in-house list of academic library leaders and marketing contacts.
2. Participants were recruited via email and through an announcement link on the Skilltype platform during the survey period.
3. Contact list, N = 988

Interviews with librarians

1. Library professionals and leaders were invited to provide comment by Skilltype and Technology from Sage staff.
2. Comment could be provided in-person, via online meeting, or via email.

Anonymized user data provided by Skilltype

Anonymized, aggregate data from the Skilltype platform was made available for analysis within the *Librarian Futures III* study to identify trends within the information industry. The anonymized data represents the key skills and interests selected within the Skilltype

profiles of 2,327 library professionals associated with 72 library organizations with activity on the Skilltype platform between April 1, 2022 to August 1, 2023.

Table 2. **The Countries Respondents Were From, and the Number of Respondents From Each.**

Country	Number of Respondents	Country	Number of Respondents
United States of America	133	Austria	1
United Kingdom	45	Sri Lanka	1
Australia	16	United Republic of Tanzania	1
Canada	9	Iran (Islamic Republic of)	1
Netherlands	7	Finland	1
India	6	Colombia	1
Nigeria	5	France	1
South Africa	5	Norway	1
Uganda	4	Lebanon	1
Sweden	4	Ghana	1
Jamaica	3	Barbados	1
Italy	3	Kenya	1
Switzerland	3	Togo	1
Mexico	3	Bahamas	1
Spain	2	Turkey	1
Vietnam	2	Russian Federation	1
Trinidad and Tobago	2	Germany	1
Ireland	2	Slovakia	1
Czech Republic	2	China	1
Brazil	2	Latvia	1
Egypt	2	Zimbabwe	1
Malaysia	2	Portugal	1
New Zealand	2	Romania	1
Philippines	2		

References

1. American Library Association (ALA). (2023). *ALA's core competences of librarianship*. https://www.ala.org/educationcareers/sites/ala.org/educationcareers/files/content/2022%20ALA%20Core%20Competences%20of%20Librarianship_FINAL.pdf
2. Appleton, L. (2018). *Training and development for librarians: Why bother?* <https://www.elsevier.com/connect/library-connect/training-and-development-for-librarians-why-bother>
3. Atkinson, J. (2020). *Technology and the academic library: Key themes for success*. <https://www.elsevier.com/connect/library-connect/technology-and-the-academic-library-key-themes-for-success>
4. Australian Library and Information Association (ALIA). (2014). *The library and information sector: Core knowledge, skills and attributes*. <https://read.alia.org.au/file/641/download?token=7-wEkkvq>
5. Blankstein, M. (2022, July 14). *Ithaka S+R US faculty survey 2021*. Ithaka S+R. doi:10.18665/sr.316896
6. Calarco, P. V., Schmidt, B., Kutchma, I., & Shearer, K. (2016). Time to adopt: librarians' new skills and competency profiles. In F. Loizides & B. Schmidt (Eds.), *Positioning and power in academic publishing: Players, agents and agendas*. IOS Press.
7. Cox, A. (2022). How artificial intelligence might change academic library work: Applying the competencies literature and the theory of the professions. *Journal of the Association for Information Science and Technology*, 74(3), 367–380. <https://doi.org/10.1002/asi.24635>
8. European Committee for Standardization. (2014). *User guide for the application of the European e-Competence Framework: A shared European Framework for ICT Professionals in all industry sectors* (User Guide). Author. https://itprofessionalism.org/app/uploads/2019/11/User-guide-for-the-application-of-the-e-CF-3.0_CEN_CWA_16234-2_2014.pdf
9. Evans, G., & Schonfeld, R. C. (2020). *It's not what libraries hold; it's who libraries serve*. Ithaka S+R. <https://sr.ithaka.org/publications/its-not-what-libraries-serve/>
10. Hanover Research. (2023). *2023 Higher Education Diversity, Equity, and Inclusion Survey*. <https://www.hanoverresearch.com/reports-and-briefs/2023-higher-education-diversity-equity-and-inclusion-survey/?org=higher-education>
11. Hulbert, I. G. (2023). *U.S. Library Survey 2022*. Ithaka S+R. <https://sr.ithaka.org/publications/us-library-survey-2022/>
12. Mumenthaler, R. (2023). *The future of academic libraries: A utopian vision for 2040 and beyond*. De Gruyter Conversations. <https://blog.degruyter.com/the-future-of-academic-libraries-a-utopian-vision-for-2040-and-beyond/>
13. Partridge, H., Menzies, V., Lee, J., & Munro, C. (2010). The contemporary librarian: Skills, knowledge and attributes required in a world of emerging technologies. *Library & Information Science Research*, 32(4), 265–271. <https://doi.org/10.1016/j.lisr.2010.07.001>
14. Research Libraries UK. (n.d.). *RLUK Strategy 2022–2025*. <https://strategy.rluk.ac.uk/wp-content/uploads/2022/01/RLUK-Strategy-2022-25.pdf>
15. Saunders, L. (2020). Core knowledge and specialized skills in academic libraries. *College & Research Libraries*, 81(2). <https://crl.acrl.org/index.php/crl/article/view/24336/32167>
16. Singley, E. (2023). *Navigating the new normal: Five takeaways from the latest Ithaka S+R U.S. Library Survey*. <https://www.elsevier.com/connect/library-connect/navigating-the-new-normal-five-takeaways-from-the-latest-ithaka-sr-us-library-survey>
17. Technology from Sage. (2023). *Librarian futures part II*. https://www.technologyfromsage.com/wp-content/uploads/2023/04/TFS_Librarian_Futures_Part2_Whitepaper_FINAL.pdf
18. Warren, B., Armstrong, D., Boucher, A., Harper, J., Pierard, C., Thoulag, J., Ketchum, D., Harper, J., Kemi, S., Nesselroad, L., Vaughn, S., Barbato, K., Wilson, D., & Hattan-Edward, O. (2020). *A framework for access services librarianship: An initiative sponsored by the Association of College and Research Libraries' Access Services Interest Group*. https://www.ala.org/acrl/sites/ala.org/acrl/files/content/standards/acrl_access_services_framework.pdf



