RLUK Research Libraries UK

# Academic use and perceptions of Virtual Reading Rooms and Virtual Teaching Spaces

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## ACKNOWLEDGEMENTS

This report presents the results of a survey launched by Research Libraries UK (RLUK), in collaboration with the School of Advanced Study (SAS), University of London, and members of a working group convened by the International Alliance of Research Library Associations (IARLA). The aim of this research was to establish the academic awareness, experience, and perception of Virtual Reading Rooms (VRRs) and Virtual Teaching Spaces (VTSs).

RLUK would like to thank its members as well as its key strategic partners for supporting this research through promoting it to their members and constituents:

- School of Advanced Study (SAS), University of London
- Association of Research Libraries (ARL)
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- Association of European Research Libraries (LIBER)
- The National Archives, UK, Higher Education Archives Programme
- Jisc

Finally, RLUK would like to thank all participants who completed this survey and shared their experiences and perceptions of Virtual Reading Room (VRR) and Virtual Teaching Space (VTS) services.

# EXECUTIVE SUMMARY

This report presents the results of a recent survey launched by Research Libraries UK (RLUK), in collaboration with the School of Advanced Study (SAS), University of London, and members of a working group convened by the International Alliance of Research Library Associations (IARLA). The aim of this research was to establish the academic awareness, experience, and perception of Virtual Reading Rooms (VRRs) and Virtual Teaching Spaces (VTSs). Developing a better understanding of user needs and motivations behind the use of VRRs and VTSs will lead to further improvements which will ensure greater use and sustainability of the services. It complements an ongoing piece of research being undertaken by RLUK regarding the potential of VRRs as digital research infrastructure and the possibilities and benefits of undertaking a networked approach.

The survey was completed by academics, researchers, and students from across the UK and beyond. The findings uncover issues related to the perceptions and motivations behind the use of VRRs and VTSs, including the benefits of the services for research, teaching, and study. For example, the environmentally friendly nature of the services as well as their ability to speed up the research process through providing quick and reliable access to institutional collections were regarded as the main advantages of VRR services. The potential of VTSs to enhance the experience of students and learners either remotely or when employed as part of a hybrid or blended approach to teaching and learning was considered an important benefit of the services.

However, as it became evident, there are challenges that need to be overcome to make the services more inclusive and widen their reach. Increasing awareness with regards to the existence and potential of VRRs and VTSs will be necessary to reach the audience groups that would most benefit from the services. Some of these groups, such as independent researchers and users with disabilities, will also benefit from greater support and further improvements to the services. Providing guidance about how VRRs and VTSs can be best used and maintaining good communication with users will ensure that the service offering is tailored to the needs of different individuals as well as their projects.

Finally, this report reveals the significant role that the library and other curatorial staff play in developing, promoting, and delivering VRR and VTS sessions in a way that ensures a unique user experience. For instance, several participants referred to the valuable contribution of the professionals running the services to their research, teaching, and study, and recognised the effort invested in preparing for and delivering VRR and VTS sessions. It was also discovered that the library and its staff is the main avenue through which users find out about the services. Given that developing and running VRR and VTS services is labour and resource intensive, it will be important to engage users as champions of the services when advocating for more support and resources internally and externally, something which can contribute towards sustainability.

# HEADLINE FINDINGS

Responses were received by 38 academics, researchers, and students from across the UK and beyond. The headline findings based on these responses, which are fully discussed later in this report, are presented below:

### User awareness and perceptions

The academics, researchers, and students in this study who had previous experience of using VRRs and VTSs often reported on the positive impact that the services had for their research, teaching, and study. Yet, a large number of participants were unaware of the existence of VRRs and VTSs as well as their potential, even though many expressed an interest in using the services in the future. As a result, a recommendation of this research is that institutions planning to launch or further develop their services should aim to increase awareness with regards to their offering amongst existing and target audiences. Widening the reach of the services will ensure VRR and VTS sustainability and increase the impact of collections.

### Access to unique collections beyond boundaries

Through the results of this study, some of the key benefits of VRRs, as perceived by the user community, were the environmentally friendly nature of the services as well as the fact that they can speed up the research process through providing quick and reliable access to institutional collections. More specifically, our participants argued that the services can be valuable when the required material is not digitised or catalogued in detail, to evaluate the need for an in-person visit and to limit travel more generally. Regarding VTSs, their potential to engage remote learners through providing access to unique and, often, fragile material and the potential to be used as part of a hybrid or blended approach to teaching and learning were the main advantages of the services.

### The use of remote technologies as inclusive practice

Despite the benefits, though, there are still challenges that need to be overcome to make VRR and VTS services more inclusive. As was discovered, some of the audience groups that would find the services most useful would benefit from greater support and further improvements to the services. These include independent researchers who often find it difficult to access collections remotely, users with certain disabilities (e.g. hearing impairment, neurodivergence) and users concerned with the cost of travel due to limited funding. Providing guidance and maintaining good communication with users is essential for offering tailored support based on the requirements of a project or the needs of the user.

### The role of staff and the future of VRRs and VTSs

Based on our findings, the role of library and other curatorial staff was crucial for the successful delivery of VRR and VTS sessions. Academic, researchers, and students often referred to the excellent support they received by the professionals running the services and the positive impact their advice and contribution had to their research, teaching, and study. Moreover, the role of library staff in successfully promoting the services became evident thought the participants' answers as the library was recognised as the main avenue through which they found out about VRR and VTS services. Finally, it is worth noting that users were often aware of and appreciated the effort that library and other curatorial staff invested in preparing for and delivering the sessions in order to provide a unique user experience. Given that the development and delivery of VRR and VTS sessions can be labour and time intensive, joining forces with users to champion the services can prove valuable when advocating for more support and resources that will ensure their long-term sustainability.

# METHODOLOGY

For the purposes of this project, a survey was developed to establish the academic awareness, experience, and perception of Virtual Reading Rooms (VRRs) and Virtual Teaching Spaces (VTSs). The survey was open between March 2022 and May 2022 and was circulated through different channels and the partners' internal and external networks with the goal of reaching the target audience.

In more detail, the survey looked to explore:

- The level of familiarity and experience that participants had with regards to VRRs.
- The level of familiarity and experience that participants had with regards VTSs.
- The motivations behind academic and research use of VRRs.
- The potential of using VRRs in research, teaching or study.

Overall, the survey consisted of six sections. However, to encourage a variety of responses from both users who had experience with these services and those who did not, many of the fields in the survey were not compulsory. Moreover, by incorporating skip logic in the survey, participants could navigate the different sections based on their degree of familiarity with VRR or VTS services. Thus, not all respondents completed all sections or all the questions from each section; this is often highlighted in the analysis of the results that follows. It is worth noting that the last section, focusing on the potential of VRRs in research, teaching and study was completed by all participants.

## Definitions

As in previous RLUK work in the area (Greenhall 2021, p. 9; Kamposiori, 2022, p. 8), the definition of VRRs and VTSs employed in this report is:

> VRRs and VTSs provide human-mediated remote digital access to collections which do not depend on digitisation. Through the use of live streaming via hi-res visualisers positioned within physical research spaces, scholars, teachers or members of the public can view and digitally engage with an institution's heritage and cultural collections, asking for these to be positioned and repositioned by a member of staff, to enable their research. These are emerging and bespoke services which provide another means of user-responsive access to collection materials.

The next part of this report aims to present the findings of the survey, beginning with a summary of the participants' profile information and listing the participating institutions. A brief discussion and concluding remarks will follow the presentation of results.

# SURVEY RESULTS

## Participants

As part of this survey, 38 responses were received. Regarding the participants' profile, they were academics and researchers at different career levels, ranging from students (including at PhD level), Research Fellows, Lecturers and Senior Lecturers to Readers, Associate Professors and Professors. Thinking about the disciplinary background, they were mainly from Arts and Humanities, and Cultural Heritage areas. Examples of the participants' areas of study or research include: History and Art History; English; Literature; Creative Writing; Film, Theatre, Television and Performance Studies; Music; Classics; Philosophy; Museums; Digital Humanities. Yet, there were also respondents from the fields of Law; Modern Languages; Geography; and Library and Information Science.

The majority were based in Higher Education institutions around the world; however, there were researchers based in cultural institutions, such as libraries and museums, as well as independent researchers who either had no institutional affiliation at the point of completing the survey or worked under private employment. The institutions where participants were based were mainly in the UK, but also included institutions in South Africa, Europe (Greece, Bulgaria), New Zealand, and the US.

Below are some of the institutions represented in this study (Table 1). Participants from these institutions gave their permission to be cited.

| Table 1. Examples of participating institutions |
|---|
| University of London, UK |
| University of Pretoria, South Africa |
| University of Leeds, UK |
| Royal Holloway, University of London, UK |
| Institute of Balkan Studies & Centre of Thracology, Bulgarian Academy of Sciences, Bulgaria |
| Victoria University of Wellington, New Zealand |
| University of Cambridge, UK |
| University of Glasgow, UK |
| Metropolitan Museum of Art, USA |
| University of Exeter, UK |
| University of Reading, UK |

## Use and perceptions of Virtual Reading Rooms (VRRs)

Based on our results (Fig. 1), the majority of respondents to this survey had not used VRRs before; yet, some of those who had not engaged with VRRs in the past (26.3%) were planning to use the services when the opportunity arose. Regarding the group of participants with previous experience of VRRs, it is worth noting that the number of those who had used the VRR services offered by another institution is slightly greater than the number of participants who had used the VRR services offered by their institutional library. This finding agrees with the results of the previous RLUK reports exploring the development and delivery of VRR and VTS services by collection-holding institutions (Greenhall, 2021; Kamposiori, 2022), which showed that the core audience for these services included, primarily, external academics and students.

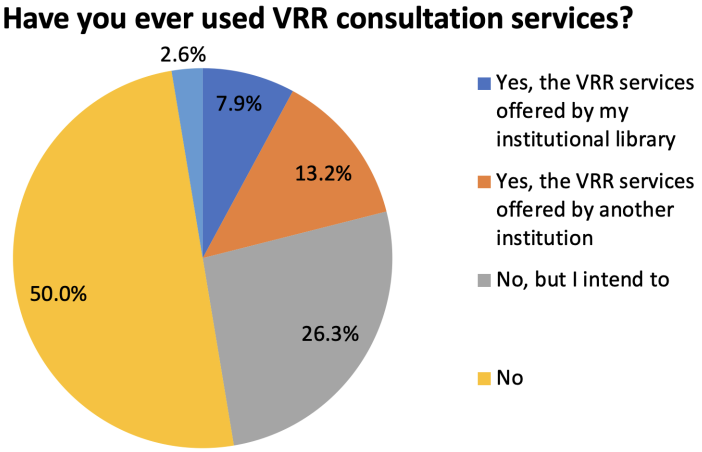



*Figure 1 Usage of VRR consultation services*

The respondent choosing other, referred to VRR consultation services which were not available due to lack of staff or budget, a comment possibly implying willingness to use them in the future if they become available.

Thinking about the reasons why participants were not using VRR services (Fig. 2), the majority responded that they were unaware of the services, while several participants said that they could either consult the material they need digitally or visit in-person. Few said that VRR services were not available for the types of material they wanted to consult, while one respondent replied that appointments were not available. Comments submitted under 'Other' were related to lack of awareness of the availability of services to independent researchers, limited availability of the services due to lack of resources, or lack of need of the services.

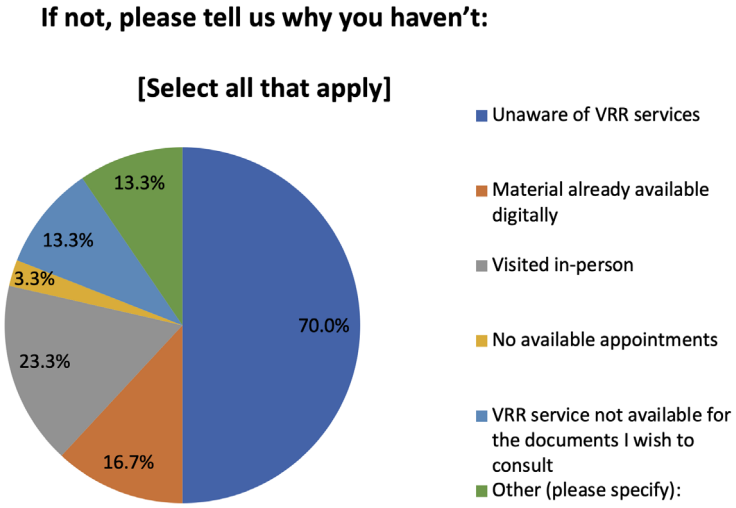



*Figure 2 Reasons behind the non-use of VRR services*

From the participants with experience of VRR services who answered the question of whether they were aware if their institutional library offered VRR services, most (60%) answered that they were, while the rest (40%) replied that they were not sure. It is also worth noting that most of the respondents who had used these services before said that their experience was 'highly positive', with only one participant saying that this was 'moderately positive'.

The majority of users of VRR services offered by an institution other than their home library replied that they had used the collections of that institution before (Fig. 3); this includes the reply submitted under 'Other' which refers to use of collections of another institution a long time ago (30 years). Some of the respondents, though, had not used the collections of the external institution before, but were aware of them. None replied that they were not aware of the material offered by the external institution and that that was their first experience of using it. Concerning the location of the external institutions offering the VRR services used by this group of participants, most (83.3%) were located nationally and few internationally (33.3%).

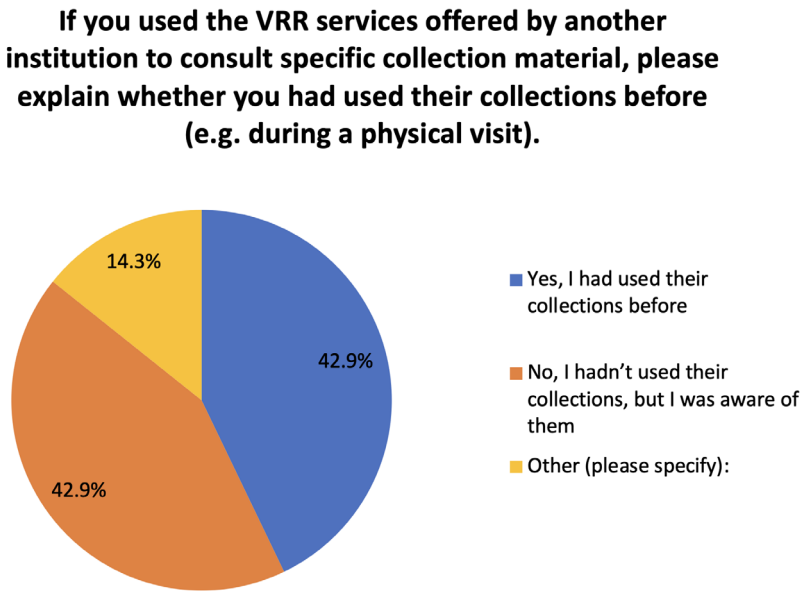



*Figure 3 Use of VRR services and collections offered by another institution*

Considering the positive aspects of using VRR consultation services as reported by the respondents with previous experience of them, these included: quick and reliable access to primary material that is not digitised or catalogued in detail; opportunity to consult an item when it is difficult or expensive to visit in-person; the environmentally-friendly experience that VRR consultation services offer; the potential to enhance student experience during teaching and motivate students to learn more about collections; the ability to zoom-in and see details that are difficult to view with the naked eye; and the opportunity to consult and collaborate with library staff. The below quotes illustrate some of the benefits of using VRR consultation services:

> *It was excellent - it enabled me to deduce the importance of the manuscript for my research without having to make an expensive trip. As it happened, the manuscript proved very important, but it could easily have been irrelevant, in which case a trip would have been a big waste of time and money.* [Participant 33]

> *[...] Being able to highlight my research interest to library staff was equally the most positive experience, as it led to further discussions with curatorial and conservation team members that enhanced my research (and also led them to discover something new about their collections).* [Participant 03]

On the other hand, users of the services shared their views on the drawbacks of using VRRs and highlighted areas for improvement. For example, a participant mentioned that there was a short delay to get an appointment to use the services; however, this was balanced out by avoiding a longer delay which would have been caused by the need to travel. Further comments on the experience of using VRR consultation services revealed that users are often aware of and appreciate the amount of time that library professionals and curators devote to preparing for the delivery of a VRR session. Yet, sometimes, the processing time for appointments may need to be shorter to enable users to meet relevant research deadlines. Given that many institutions currently offering VRR services are making plans for the future of the services (Kamposiori, 2022), this should be taken into consideration when resourcing the services to meet demand for appointments and thinking about how VRRs can be embedded in the existing service offering.

Other issues were related to the materiality of the object and the valuable information that can be gained by handling an item and viewing it up close; thus, some participants found out that this need could not be met though VRRs. Another comment referred to the fact that the curator's understanding of what might be of interest is directed by their interpretation of a research project and that might affect what and how items are viewed. Finally, other issues related to the experience of viewing collection items through VRRs were: the lack of flexibility to flick backwards and forwards; the appointment's time limitation (usually up to 1 hour), and the fact that VRR services may not be suitable for reading long texts. Regarding the latter, a respondent highlighted the fact that they may feel uncomfortable engaging in this activity in a short amount of time, knowing that a library professional is waiting for them to complete the task. A recommendation in this case was to provide guidance about the type of reading or consultation that VRRs are designed to facilitate as well as on how academics, researchers, and other users can best utilise the service, including what is expected and what not. Finally, issues regarding the quality of images can be overcome when the right equipment is used, such as an overhead camera that can zoom in, or an overhead and a snake camera.

Thinking about the ways through which users find out about the availability of VRR services (Fig. 4), half of participants with previous experience of VRRs said that they discovered these through direct contact with the library staff. Several participants found out by visiting the library or institutional website and through colleagues, while one participant was informed about the services through their academic department, centre, or institute.

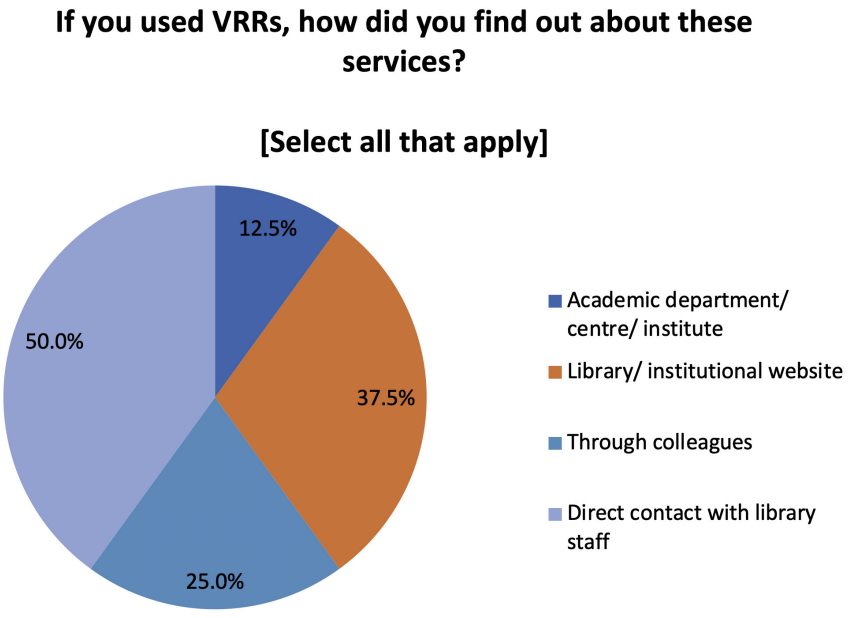



*Figure 4 Finding out about VRR services*

It is worth noting that no one mentioned finding out about the availability of VRR services through social media, mailing lists, their academic tutor or supervisor, or any other method. The avenues through which academics, researchers, and students discover information about the availability of the VRR consultation services provided by institutions should be considered when promoting them to the users as part of developing or planning for the future of the services.

## Use and Perceptions of Virtual Teaching Spaces (VTSs)

According to our findings (see Fig. 5), almost a quarter of the responses received to the question about whether participants had used VTS services before were positive; this includes the responses submitted by academics, researchers, and students who had either used the services of their own or an external institution and who had either used them to deliver content or as participants. Many of the responses received to this question indicated that participants had not used this type of services before. From this group, 18.4% of respondents were planning to use VTSs to deliver content, while 18.4% were planning to use VTSs as participants in the future. On the other hand, 31.6% of respondents were not planning to use VTSs to deliver content or use them as participants. Comments submitted under 'Other' often provided further explanation as to why participants were not using the services, which was mainly because the services were not relevant to them (e.g. they were not teaching) or were unfamiliar with VTSs and their potential.

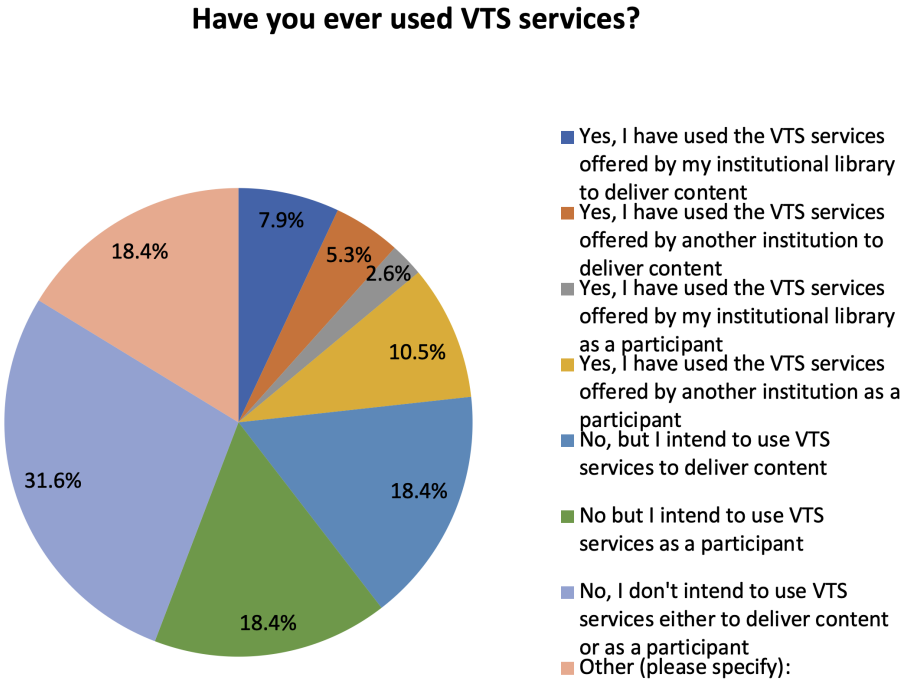



*Figure 5 Usage of VTS services*

Thinking about whether participants were aware if their institutional library offered VTS services, a quarter of those completing the corresponding question said they were indeed aware, while half replied that they were not or were not sure. Through the comments submitted under 'Other', some of the participants further confirmed their lack of awareness of VTSs or explained the reasons why they did not use the services, which was mainly due to lack of access to the services (not available to independent researchers, postgraduates or alumni).

Regarding the type of experience that participants had with VTSs, the majority of those completing the relevant question reported neutral to positive experiences. Two participants rated their experiences as moderately negative, while one participant said they had a highly negative experience. Replies to the questions about the positives and negative aspects of VTSs as well as the areas for improvement shed further light into the experiences of users. Based on the submitted responses, gaining access to, very often rare, material required for teaching purposes is the key benefit of using VTS services. As one participant stated, access to such material can sometimes be achieved only through a VTS, providing a unique experience:

> *Seeing five copies of the Gutenberg Bible, along with other material printed by Gutenberg, was not just a once-in-a-lifetime chance, it was something that few if any besides a tiny number of the most elite experts have been able to access. This research-led specialist module would not have been possible without a VTS, and I plan to undertake others that make use of VTS in this way.* [Participant 03]

Another key benefit of using VTS services is the flexibility they provide for users to join a session regardless of where they are based (especially when not on campus), something which was proven very helpful during the peak of the Covid-19 pandemic. Additionally, it was discovered that aspects of the delivery of a VTS session, such as the exaggerated sounds that are sometimes produced through the microphones can be used to facilitate creative thinking and enquiry during virtual teaching. For example, one academic participating in this study used the sounds of books opening and pages turning during a VTS session as an opportunity to teach their students about the materiality of print heritage.

Concerning the negative aspects or issues for improvement as raised by the participants, these included technical and practical issues, such as the technical limitations of certain types of cameras which do not facilitate virtual access to very large items, such as some rare books. Other related issues were the difficultly to get a clear view of the details of some collection items (e.g. as some illustrations may have highly reflective elements) when there is a lack of suitable cameras (e.g. snake cameras for the details). Other negatives were related to the limitations of virtual teaching with regards to student engagement; for example, respondents mentioned the fact that the tutor cannot always be certain of the level of attention of their students during the session or referred to the difficulty of switching to 1:1 guidance during a virtual session.

Other issues included the limited time that, often, needs to be allocated to this type of sessions as well as the fact that these sessions may not be designed to support users with certain disabilities, such as participants with hearing impairment or neurodivergence. Regarding the latter, a suggestion made by a participant underlined the need for institutions to offer a caption service as some users with hearing impairment may not qualify for TTY equipment (text telephone device) or may not be able to afford it. This respondent also stressed the importance of providing recordings of a session or allowing private recordings of a session to enable participants with neurodivergence to review them later.

As an academic participating in this study noted (see below quote), another drawback of VTS sessions is the fact that they can be time and expertise intensive without necessarily being recognised as such within an institution and, thus, potentially undervalued and under-resourced.

> *I was also aware of the time demand of the rare books librarians and curators, since leading sessions in a virtual reading room, undertaking virtual teaching with rare materials, and delivering expert teaching rather than 'just' supporting it are not necessarily clearly delineated in workload models and, if they are, the time required tends to be underestimated.* [Participant 03]

As VTSs become integrated into the existing service offering of institutions (Kamposiori, 2022, p. 34), it will be important to raise awareness about the value of these services to ensure that they are sufficiently resourced and that the work of staff members involved in the preparation and delivery of the sessions is recognised. Working closely with users who have benefitted from the services and can act as advocates can also contribute towards this goal.

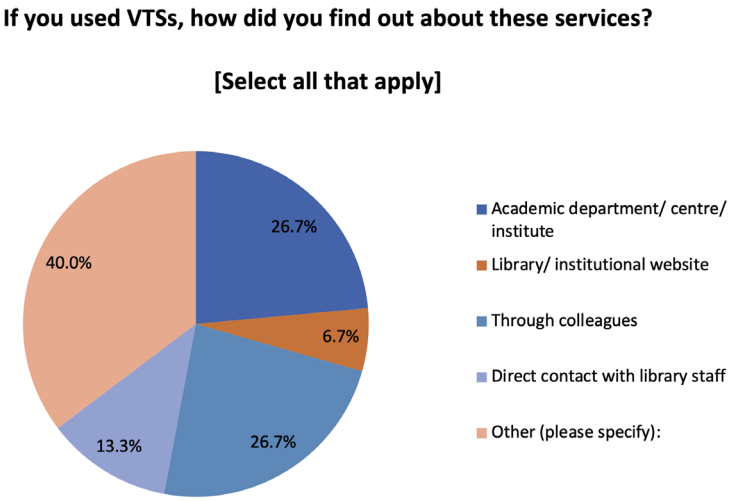



*Figure 6 Finding out about VTS services*

Considering the way through which users find out about VTS services (Fig. 6), 26.7% of survey respondents completing this question said that they found out through their academic department, centre, or institute, while another 26.7% found out through colleagues. 20% of participants said that they became aware of VTS services either through library staff or the library or institutional website. Finally, responses submitted under 'Other' indicated that some of the participants had not used VTS services yet or that these services were not relevant to them (e.g. independent researchers). It is worth noting that no participant mentioned finding out about VTS services through social media, a mailing list, or their academic tutor or supervisor.

## Motivation for using Virtual Reading Rooms (VRRs)

Regarding the context within which survey participants had used VRR services (Fig. 7), 45.5% of those who responded to this question said that they used them as part of a research project, 18.2% as part of postgraduate teaching, and another 18.2% as part of a course or module. The rest 45.5% of participants who chose 'Other', did so to explain that they had not used the services yet and, thus, the question was not applicable to them. No participant said that they had used VRR services as part of undergraduate teaching.

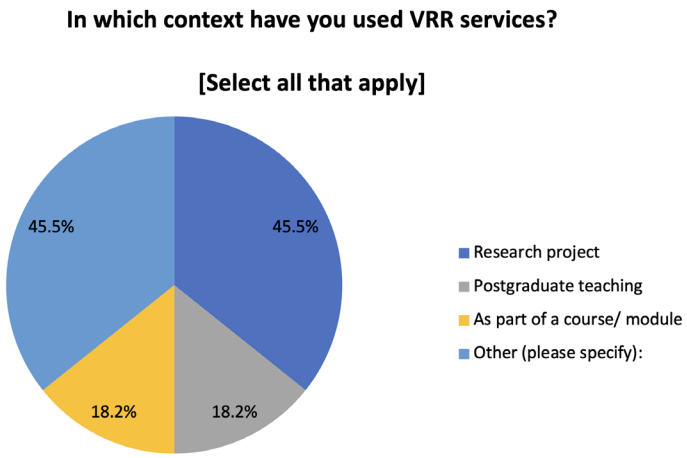



*Figure 7 Context of use of VRR services*

According to our participants, the most popular reasons for using VRR consultation services were to check references (45.5%) and to confirm the contents or relevance of a document (45.5 %) (see Fig. 8). The next most popular reasons were: to conduct original research via VRR in lieu of an in-person visit (36.4%); to conduct a preliminary survey of material in advance of an in-person visit (36.4%); and to seek advice and knowledge from library and archive professionals (36.4%). Fewer used VRR services to decide whether to have an item digitised (27.3%) or to compare documents between institutions remotely (18.2%). Participants who chose 'Other' (36.4%), either noted that they had not used VRR services yet or that none of the provided choices were relevant to them. In the case of one participant, it was explained that even though they had not used the services yet, they would use them to gain access to documents they cannot afford the cost or time of travelling to.

Archival material was most frequently consulted through VRR services according to those who provided an answer to the relevant question, a finding that agrees with the results of our previous research on the development and delivery of VRRs and VTSs (Greenhall, 2021; Kamposiori, 2022). However, some of the participants had consulted other types of material as well, such as photographs, manuscripts, cultural artefacts, and single documents. Some of the respondents who chose 'Other', explained that they hadn't had the opportunity to use the services yet. One participant further clarified that appointments were not available, another noted that they would like to consult documents in a US archive, while a third referred to the fact that access to the needed material depends on good communication with archivists.

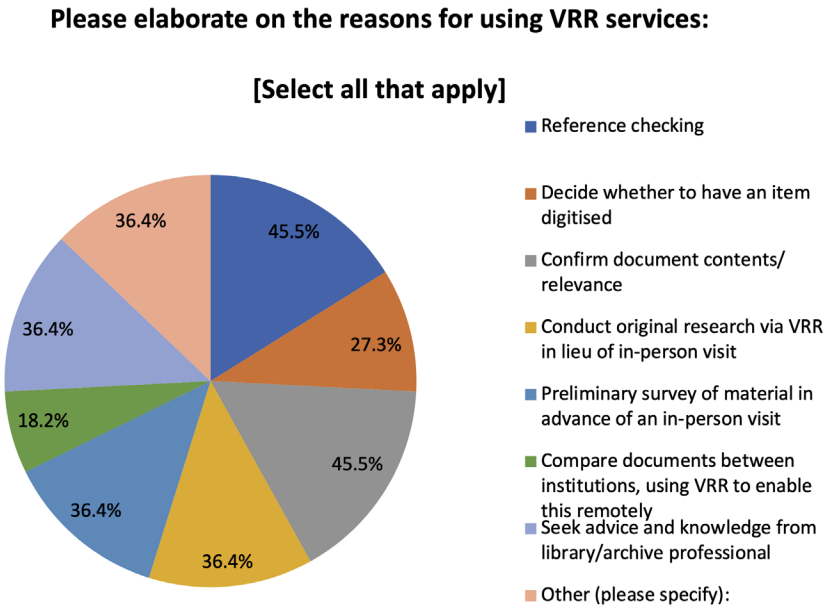



*Figure 8 Reasons for using VRR services*

Thinking about the benefits of using VRR consultation services (Fig. 9), most of those completing the relevant question (73.3%) agreed that the environmentally-friendly experience that the services provide is their main benefit. Providing access to resources not available digitally (66.7%) and the fact that they can speed-up the research process by limiting travel (66.7%) were the second most voted benefits of VRRs. The fact that they can provide enhanced access despite limitations (e.g. lack of funding for travel, mobility issues) (60%) as well as facilitate discovery of information (53.3%) and increased accessibility to fragile collection items (53.3%) were also considered important advantages by several participants. Some (46.7%) also agreed that VRRs can enable open and inclusive access to heritage collections. On the other hand, benefits such as the fact that VRRs can support remote teaching (40%), can provide quick and low access to resources (40%), and entail the provision of personalised service and support by library staff (26.7%) were the least voted. Answers submitted under 'Other' indicated that some of the participants had not used VRR services yet or were not sure about the benefits of VRRs.

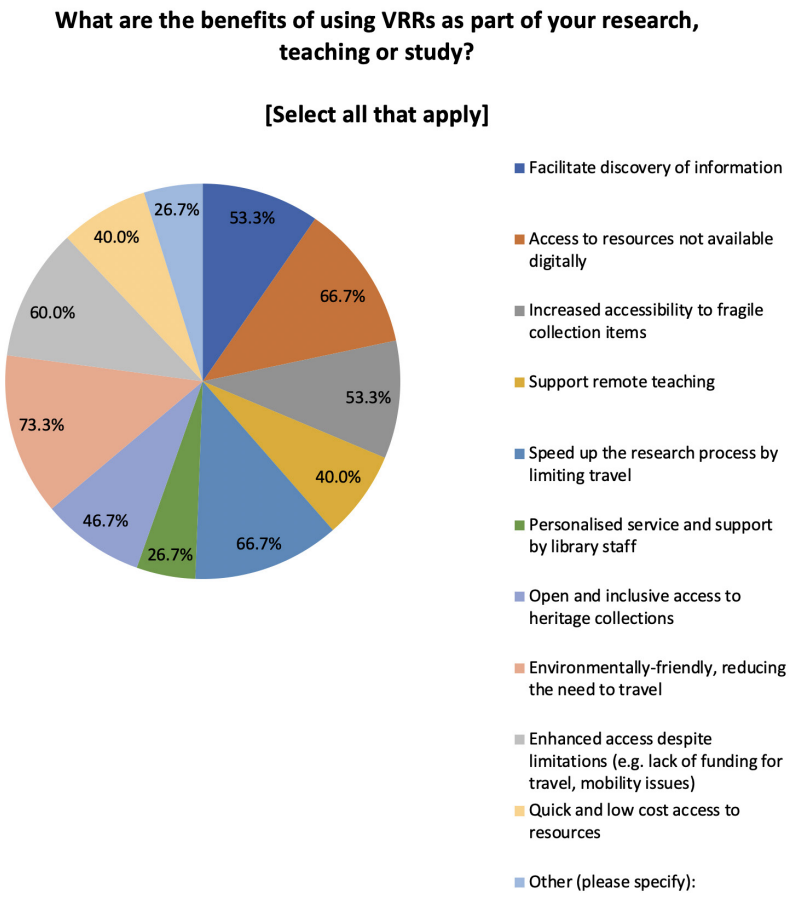



*Figure 9 Benefits of using VRRs*

Through providing additional comments, some of the participants elaborated on some of the benefits of using VRRs, such as the importance of gaining access to collections to support research when personal circumstances make it difficult to visit in person (e.g. due to lack of funding, length of travel, caring responsibilities). However, it was noted that access to resources for certain groups of users, such as independent researchers, still needs to be widened. The opportunity to use VRRs to limit research-related travel to contribute towards tackling climate change was also highlighted. Finally, two comments referred to the complexity of preparing for and delivering VRR sessions and the pressing need that libraries and archives have for more funding to develop or continue providing these services.

Regarding the downsides or the challenging aspects of using VRR consultation services (see Fig. 10), more than half of respondents (53.3%) agreed that the services offer limited chances to discover material serendipitously. Difficulties in finding out about VRRs (46.7%) and limited opportunity to browse through large quantities of material (46.7%) were the next most voted downsides of the services. Technical issues (e.g. problems with software, internet connection) (40%) that can potentially occur during a session were also considered an important barrier in engaging with VRR consultation services. Several respondents thought that limits in terms of the length of session (33.3%), the lack of ability to take photographs or screenshots of material (33.3%), and the cost of using these services (33.3%) in some cases can negatively affect user experience with VRRs. An equal percentage of respondents believed that the experience of seeing and handling the collection in-person is better (33.3%) compared to using VRR services.

Difficulties booking the services (26.7%) and the limited availability of material to consult (26.7%) constituted a concern for some participants, while others regarded the limited in-person engagement with physical collections for students (20%) and any potential screen-related accessibility issues (20%) as drawbacks of engaging with VRRs. Fewer regarded the limits in the number of people allowed to attend a session (13.3%) and the lack of availability of VRR for the collection or material they needed (13.3%) as

negative aspects of using VRR services, while one participant (6.7%) voted that limited or lack of digital skills was a challenge for using the services. Finally, respondents choosing other (33.3%) provided further comments on the drawbacks of VRRs, such as related to the costs of staffing and running the services, or shared information about their experiences (or lack of) and views regarding access to collections and VRRs.

It is worth noting that when asked about any reasons why they would choose not to use VRR consultation services, participants responding to the question did not list any factors that would immediately deter them from using VRRs. However, some of the respondents expressed concerns with regards to issues that can affect their engagement with collections when viewed through VRRs and, thus, discourage them from using them. These included not taking into account digital accessibility issues for disabled users; personal preferences concerning the consultation of material that can not be met through VRRs (e.g. not having enough time to consult the material); and issues related to the staffing and delivery of the services that may affect the reliability of the service and lead to a frustrating experience.

Thinking about the latter, and based on the experiences of some survey participants, these issues could range from technical difficulties during the delivery of a session to issues with the collection items retrieval system that can result to delays and additional costs for the user. Lack of awareness of VRR availability and their potential to be used by external users, such as independent researchers, was also identified as a challenge that can prevent some users from engaging with the services.

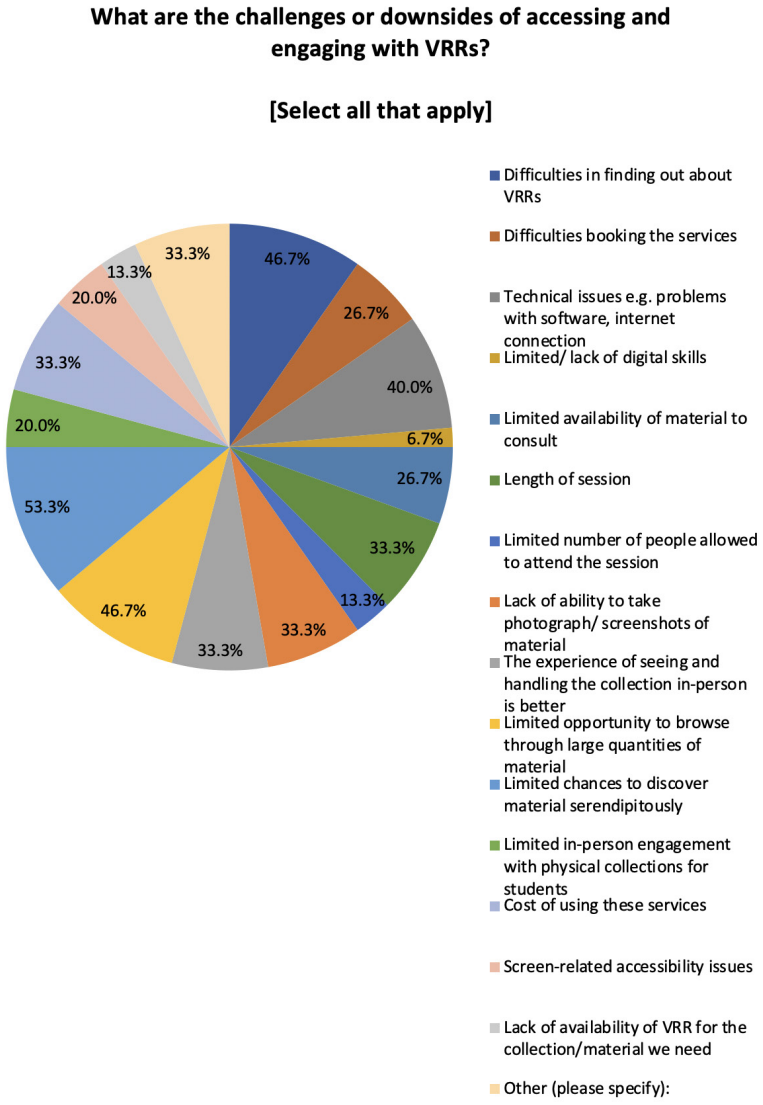
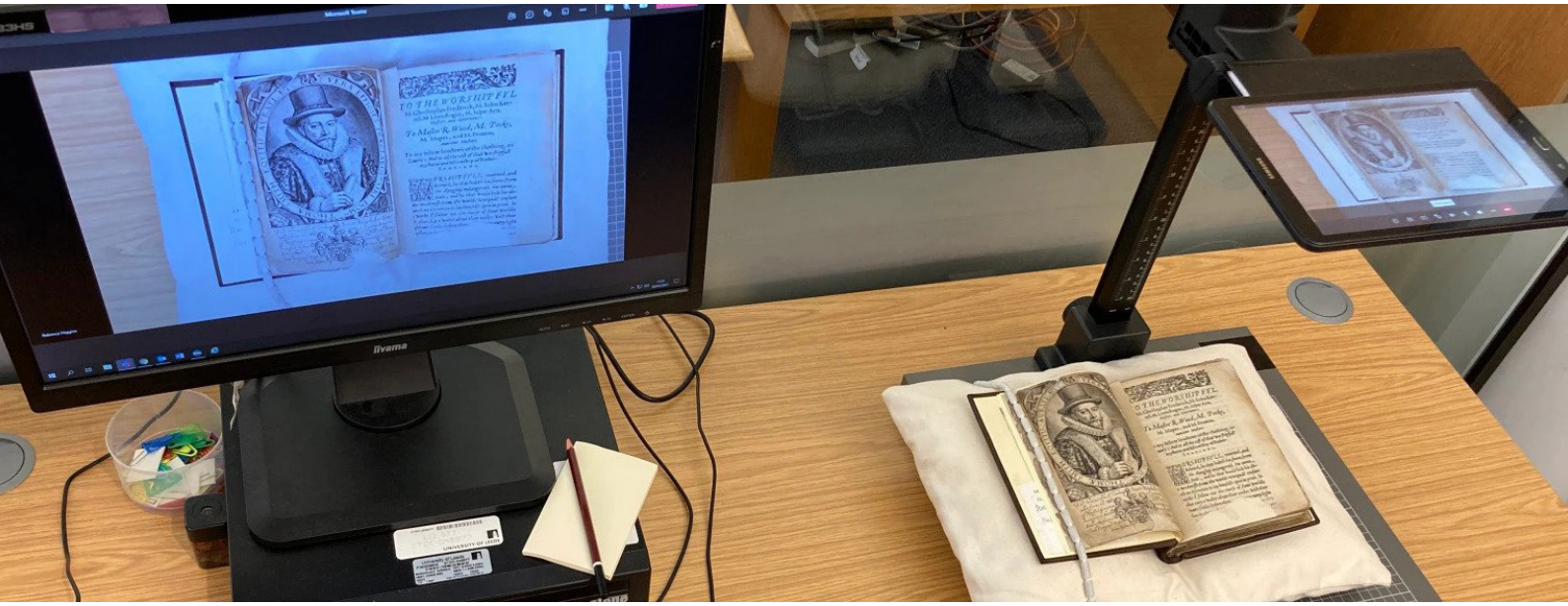



*Figure 10 Challenges or downsides of accessing and engaging with VRRs*

Finally, some participants offered further insights on the topic of use and engagement with VRRs. Some of these comments were related to the potential of VRRs to open up access to cultural heritage collections more widely for research, teaching, and engagement if funded sufficiently. Regarding teaching, it was argued that VRRs can meet tutors' and students' need for access to primary material as universities are reducing educational field trips. Yet, others highlighted the fact that even though the provision and potential uses of VRRs are promising, there are still challenges that need to be overcome to make these technologies truly useful. Given that these services can be labour and time intensive and, thus, not cost-effective for some institutions, it was suggested that investing in digitisation may be a better choice in some cases.



*Enhancing research and learning through collections at the University of Leeds.*

## The possibilities of using Virtual Reading Rooms (VRRs)

The final section of the survey aimed to explore the possibilities of VRRs through asking participants to share what would motivate them to use VRR consultation services as well as reflect on their value. It should be noted that this section was completed by all participants regardless of whether they had previous experience of VRRs or VTSs or not. Thus, based on the survey results (Fig. 11), the opportunity to view material that is otherwise difficult to access through VRR services (71.1%) would be the main motivating factor for the majority of survey respondents. A large range of collection material to consult (65.8%) and greater awareness of VRRs and the possibilities they offer (63.2%) were, respectively, the second and third most voted reasons that would motivate users to consult collections through VRRs.

Half of the participants thought that having the opportunity to order digital copies of the material consulted (50%) would encourage greater use of VRRs, while just less than half regarded the possibility of viewing more than one collection or item in one session (47.4%) as an influential factor. Tailored advice and support by library staff (42.1%), the possibility of viewing materials from different institutions in one session (39.5%), low cost (36.8%), and the possibility to host sessions with large number of students (31.6%) were reasons that would motivate several participants. On the other hand, fewer participants thought that the positive experiences of other colleagues (26.3%) or any relevant skills development opportunities (13.2%) would be motivating factors that could lead to increased VRR use. Finally, some of the respondents choosing 'Other' (13.2%) highlighted the fact that limiting travel, especially when the collection items to be consulted were not considered crucial for a project or for environmental reasons, was a motivating factor for them. Others said that issues related to problematic access to collections, such as in the case materials are not accessible in any other way, would be the reason why they would use VRRs.

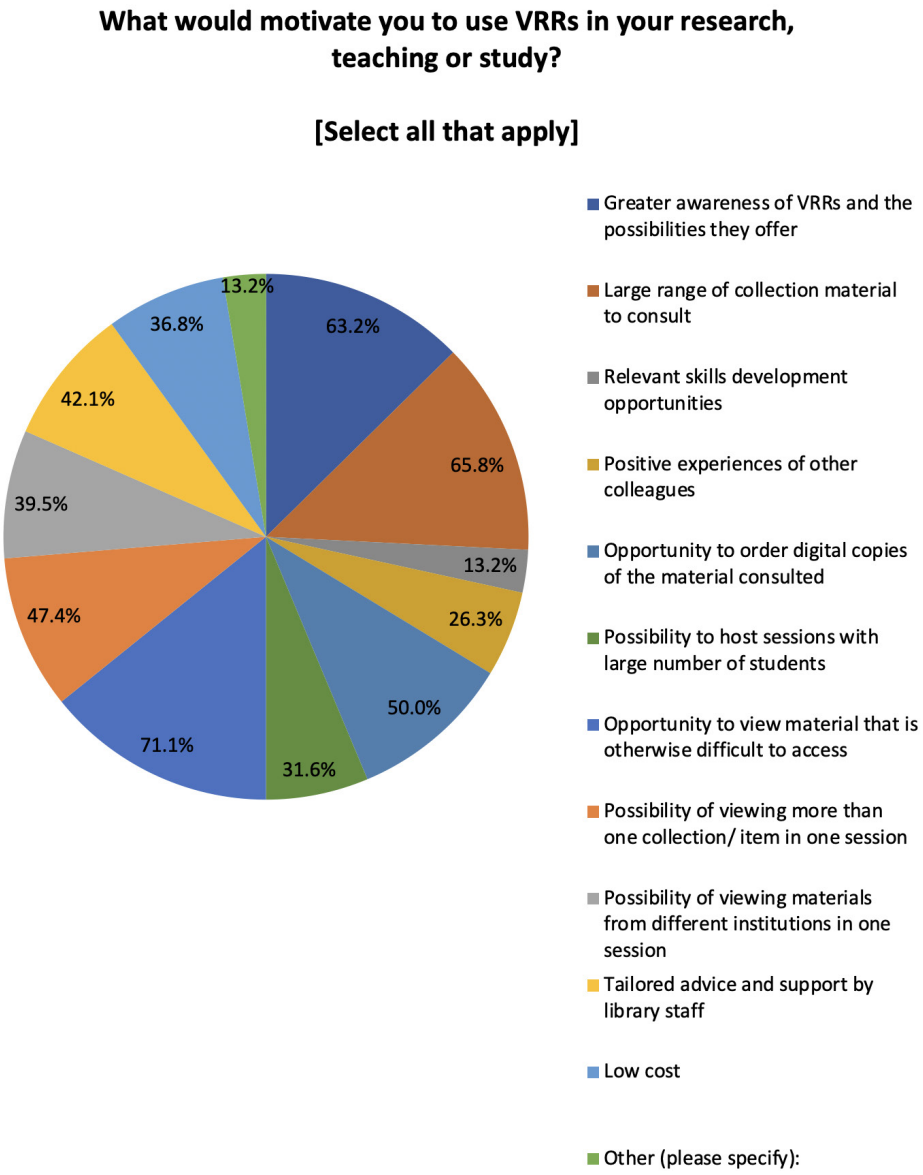



*Figure 11 Motivation for using VRRs*

Thinking about the circumstances under which VRRs would be most valuable (Fig. 12), the majority agreed that VRR services are of most value when collection items required are not digitised (73.7%). Limiting travel (71.1%) was the second most voted reason that increases the value of VRR services. More than half thought that using VRRs can be valuable for evaluating the need for an in-person visit (55.3%) as well as when there is limited funding (52.6%). Half of respondents said that VRR use is of value when collection items are fragile and difficult to access physically (50%). VRRs were also considered valuable for distance learning and studying (44.7%) as well as for linking collections that are split across institutions (39.5%) by several participants. Some thought that VRRs are valuable for remote teaching (26.3%). From the two respondents choosing other (5.3%), one mentioned that the services can be of value in times of crisis, such a global pandemic, while the other replied that they did not know.

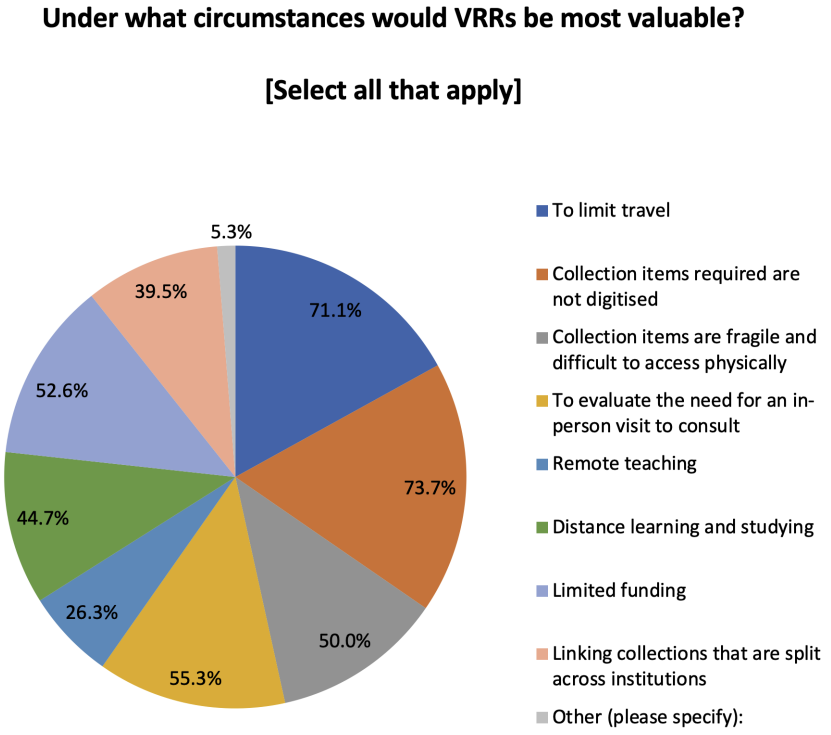



*Figure 12 Value of VRRs*

Final comments regarding the potential use of VRRs in research, teaching or study confirmed the value that these services can have for certain groups of users, such as independent researchers who often find it difficult to access collections remotely, users with disabilities or users concerned with the cost of travel (e.g. due to limited funding). Yet, understanding the needs of these user groups is essential for maximising the reach and impact of VRR services; based on the responses, these can arrange from raising greater awareness regarding the existence and potential of VRRs and providing the necessary information about what users might expect from a VRR session to meeting the specific needs of users with certain disabilities or providing tailored support based on the requirements of a project.

The role of library staff in delivering successful VRR sessions and contributing to a unique user experience was also mentioned. However, given the fact that preparing and running VRR services can be labour and resource intensive, a respondent highlighted that investing in large scale digitisation may be more fruitful for some institutions. Finally, two participants provided examples of how VRRs were used or can be used as part of their practice. For example, one participant expressed their interest in mixing traditional object-handling with VRR sessions as part of their teaching practice to increase student experience. Another argued about the potential of the VRR process to become part of artistic research, such as through featuring within live or screened performance that focuses on archives and collections, or practice-led research employing virtual and augmented reality technologies. Both examples reveal the innovative and creative possibilities through which VRRs can enhance research and teaching.

# DISCUSSION

As the previous RLUK research on the development and delivery of VRRs and VTSs by collection holding-institutions showed (Greenhall, 2021; Kamposiori, 2022), research libraries that began offering these services during the pandemic are currently making plans to further develop and integrate them into the existing service offering. More libraries and other cultural heritage institutions internationally were also planning to launch their services in the immediate future.

However, part of ensuring the sustainability of VRRs and VTSs in the current environment where on-site operations have restarted, but there is also a shift towards more hybrid and blended approaches in working and learning practices, is to promote the services to the audience groups that will most benefit. Hence, this research aimed to understand the user perspective, including the motivations behind the use of VRRs and VTSs. Taking into account the needs of academics, researchers, and students when improving and further developing VRR and VTS services can have a positive impact on research, teaching, and study, while contributing to continuous and, potentially, increased use of the services.

Some of the findings of this research agreed with the results of our previous work in the area. External academics, researchers, and students often make the greatest use of VRRs. Also, as discovered previously, special collections and archives are mostly consulted by users through VRRs. Yet, as it became evident, a large number of potential users remain unaware of the existence of VRR consultation services as well as their potential; more specifically, only a small number of the participants in this study had previous experience, albeit mostly positive, with the services. Several participants, though, expressed an interest in finding out more about the services and possibly using them in the future. Thus, there is an opportunity to widen the reach of the services and increase the potential of VRRs to facilitate inclusive engagement with collections, a future goal for many institutions (Kamposiori, 2022, p. 5).

Considering the reasons that would motivate academics, researchers, and students to engage with VRRs as well as the user perceived benefits of using the services, as presented earlier, can be valuable when planning to promote the services to both existing and prospective audience groups. For example, the fact that VRRs can speed up the research process by providing quick and reliable access to material that is not digitised or catalogued in detail as well as the environmentally friendly nature of the services were found to be draw factors for many users. Regarding VTS services, the potential of reaching remote learners and the possibility of using the services as part of a hybrid or blended approach to collections-based teaching and learning that can enhance student experience were attractive reasons to those interested in using them.

However, to improve the services and make them more inclusive and appealing to a wide variety of users, it will be important to take into account the challenges related to finding out about VRRs and VTSs and engaging with the services that some users often faced. Based on our findings, raising greater awareness with regards to the existence and potential of VRRs and providing the necessary information about what users might expect from a VRR session will benefit both existing and future users. It is worth highlighting here the important role that library staff play in promoting the services as the library was found to be the main avenue through which users found out about the services.

Additionally, some of the audience groups that would find the services most useful would benefit from greater support and further improvements to the services. These include independent researchers who often find it difficult to access collections remotely, users with certain disabilities (e.g. hearing impairment, neurodivergence) and users concerned with the cost of travel due to limited funding. Providing guidance and maintaining good communication with users is essential for offering tailored support based on the requirements of a project or the needs of the user. Ultimately, this will maximise the reach and impact of VRR and VTS services and contribute towards sustainability.

Finally, it is worth noting that users are often aware of the effort that is required to prepare and deliver VRR and VTS sessions successfully and appreciate the contribution that professionals and curators in libraries and other collection-holding institutions make to their research, teaching, and study. As the previous RLUK studies showed (Greenhall, 2021; Kamposiori, 2022), the development and delivery of VRR and VTS sessions can be labour and time intensive and require securing more resources, including funding, staff and spaces, to ensure they continue to be offered alongside onsite operations. Thus, it will be vital to engage academic and other user champions who can advocate about the importance of the services and the role of staff in contributing to a unique user experience.

*A live demonstration of a virtual reading room at the John Rylands Research Institute and Library, University of Manchester, given by Julianne Simpson at the RLUK21 Conference*

# CONCLUSION

The goal of this research was to establish the academic awareness, experience, and perception of Virtual Reading Rooms (VRRs) and Virtual Teaching Spaces (VTSs). Developing a better understanding of user needs and motivations behind the use of VRRs and VTSs will lead to further improvements which will ensure greater use and sustainability of the services.

Academics, researchers, and students with experience of VRRs and VTSs reported on the positive impact that the services had on their research, teaching, and study. Yet, lack of awareness of the existence and potential of VRRs and VTSs was often mentioned as an obstacle which prevented many users from engaging and benefitting from the services. As institutions are currently planning for the next steps of their services, which include engaging the audience groups that will most benefit, raising greater awareness about VRRs and VTSs and their potential should be a priority. Communicating about the main benefits of the services, such as the fact that they provide environmentally-friendly and reliable access to unique and, otherwise, difficult to access material, will help reach the target audience for the services.

Moreover, further improving the services to meet the needs of certain groups of users, such as users with disabilities (e.g. hearing impairment, neurodivergence) or those who often find it challenging to access institutional collections, such as independent researchers and users concerned with the cost of travel, will increase the reach and impact of VRR and VTS services. The provision of guidance and good communication with users are essential to meet the requirements of a project or the needs of the user. Finally, joining forces with users to champion VRR and VTS services can prove valuable when advocating for more support and resources internally and externally.

*Dr Richard Oosterhoof delivering a virtual seminar at the Centre for Research Collections, 2020, courtesy University of Edinburgh*

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