

Evaluating a Recorded Appointment Service for Individual Research Consultations between Librarians and Allied Health Students

Abstract

Purpose

Research consultations are a long-established means of providing training and support to students undertaking research activities (Stapleton et al., 2020). Literature on research consultations consistently reports a high level of satisfaction and that students value the individual, bespoke advice received via one-on-one tuition from a librarian. As a service however, research consultations are resource-intensive and maximizing the learning potential of consultations is a priority in order to justify the expenditure of staff time and ensure the sustainability of services.

This study reports on the outcomes of a service development where students attending research consultations were offered a screen cast recording of their appointment to support the retention and application of information literacy (IL) skills and research processes covered in the research consultation. The study explored student perceptions of the service and how the recording of the appointment was integrated into research practices.

Design

The study used a mixed-method approach including a questionnaire and interviews. Quantitative elements explored if and how students engaged with recordings made during

research consultations while qualitative elements investigated students' perceptions of the service and how content from the recordings was used to complete research activities.

Findings

Findings indicated a high degree of positive feedback on the service and reveal complex user behaviours when using appointment recordings. The study demonstrates that the addition of multimedia recording during individual research consultations may offer significant benefits to students by improving knowledge retention and application and for librarians by reducing follow-up enquiries and increased engagement with the service.

Originality

This study is believed to be the first to investigate the perceptions and use of synchronous recording of research consultations between librarians and students.

Practical Implications

The findings of this study give an evidential basis for library and reference services interesting in incorporating synchronous recording into a research consultation service.

Keywords

Information literacy

Research consultations

Multimedia

Recording

Reference services

Research skills

Introduction

Individual research consultations (IRCs) are a well-established student-support services (Stapleton et al., 2020). While research has demonstrated the popularity of one-on-one consultations (Magi and Mardeusz, 2013a), the high level of input required to deliver individualised support requires librarians to assess both the impact of such interventions and explore methods of maximising potential gains (Watts and Mahfood, 2015).

This study seeks to evaluate a novel service development within an IRC service; the use of screencast software to record visual and audio interactions during appointments and providing permanent recordings of activities and dialogue from the interaction. A mixed-method approach was used to investigate if and how students use recordings and integrated these into research activities. The results may help justify the use of recordings as an adjunct to IRCs and give insight into user behaviours if such a service is implemented.

The Recorded Appointment Service.

The recorded appointment service was piloted in 2018/19 and evaluated via a small-scale quantitative study. Students attending IRCs are offered a screencast recording of the librarian's monitor and the accompanying conversation. Consultations generally involve a demonstration of a systematic search strategy including discussion of techniques, concepts and processes. Database tutorials are conducted on one database with the expectation that students apply techniques demonstrated on this and additional databases required for a thorough literature search. No preparatory searches or work is completed in advance of the consultation in order to better replicate the student experience (Kean and Robinson, 2019).

An opportunity for the student to raise additional queries/clarifications is given before the recording is stopped. Afterwards, recordings are uploaded to OneDrive and shared with the student.

The service was designed to aid students' retention and application of content covered during IRCs. A secondary aim of the service was that increased retention and ability to review consultation proceedings would reduce the number of follow-up appointments and enquiries by students who had attended a consultation but required further clarification.

Literature Review

A review of published literature failed to yield any studies related to the distinctive aspects of the service; recorded consultations delivered synchronously. Maddox and Stanfield's (2019) survey of technologies used in virtual IRCS identified screen-sharing as commonly-used functionality but no mention was made of recordings as an adopted practice.

Literature on the use of recordings in non-librarian settings was more apparent. Health settings were identified as a context where consultation recordings were used, though not routinely. These studies merit consideration given similarities in medic-patient and librarian-student relationships. Both contexts consultations involve: specialised professionals communicating complex information, isolated not ongoing interactions and high levels of technical terminology and procedures. Discharge instructions (advice on future management/medication of illness/injuries) were particularly apt as these interactions are aimed to elicit behavioural change and promote compliance with recommended actions. Multiple studies indicate that issues of comprehension, retention and information recall and non-compliance with advice from discharge instructions (Engel et al., 2009; Zavala and Shaffer, 2011; Marty et al., 2013; Sheikh et al., 2018).

Strategies to address these concerns in healthcare via supplementary materials have included verbal, written/pictorial and video methods. A systematic review by Hoek et al.

(2020) demonstrated that in emergency room environments, supplementing discharge instructions via written or video media positively impacted knowledge retention. The use of live-recorded medical consultations between clinicians and patient has a strong research hinterland exploring both effectiveness and user experience. Studies in medical setting were identified as early as 1977 wherein patients evaluated audiocassette recordings of patient dismissal interviews (Butt, 1977). Later studies have tracked the increased sophistication of recording technology from audiotapes (Butt, 1977; Lobb et al., 2002; Liddell et al., 2004; Hack et al., 2007), to compact disks (Adamson et al., 2012) and smartphone recordings (Elwyn et al., 2015; Moloczij et al., 2017). Rieger et al.'s (2018) systematic review of recorded medical consultations provided a range of findings useful for exploring the use of similar interventions in library/research settings; most included studies found that patients listened back to their consultation (range =51-100%), listened numerous times (mean 1.3-3.0), and patients found recordings beneficial (55-98% across included studies). Additional findings explored patients' qualitative experience; five included studies reported increased information recall and/or perception of being informed and two reported a statistically significant reductions in patient anxiety indicating that the experience of recordings is not limited to the cognitive domain but has an additional affective impact (Cope et al., 2003; Mishra et al., 2010).

In addition, understanding the experience of non-recorded consultations is useful to identify an experiential baseline. IRC studies have consistently demonstrated that students find them a valuable addition to library services (Magi and Mardeusz, 2013a; Butler and Byrd, 2016; Rogers and Carrier, 2017; Bezet et al., 2018; Sikora et al., 2019; Bradley et al., 2020). A systematised review of IRCs reported similarly consistent levels of positive feedback (Stapleton et al., 2020). Additional student feedback and perceptions of IRCs have been identified in individual studies. Rogers and Carrier (2017) identified that students attending consultations valued subject-specialist librarians' expertise. Magi and Mardeusz (2013b) reported that participants placed a high value on the specificity of consultations to individual

projects. Two studies and a review reported additional affective benefits relating to increased confidence in research activities following IRCs (Magi and Mardeusz, 2013b; Stapleton et al., 2020; Bradley et al., 2020). Increased metacognition relating to knowledge of research activities was reported by Magi and Mardeusz (2013b), with participants reporting that attendance at a consultation aided them in understanding aspects of the search process they were previously unaware of.

Few studies explore what precise skills participants report learning from IRCs. Bezat et al. (2018) reported skills acquisition from IRCs including search technique, controlled vocabulary use and database functionality. Bradley et al., (2020) reported participants' increased application of research skills but these were not specified. While these studies made reference to students (perceived) increase in research skills, neither investigated how students integrate knowledge gained in an IRC into research activities or how knowledge transfer occurs.

While no studies were identified specifically investigating the use of IRC recordings, two were found that merit consideration given other similarities. Kani (2017) describes the pilot of Evernote as IRC adjunct. Evernote (cross-platform software for multimedia notetaking) was incorporated into IRCs to allow students and librarians to add and annotate notes made during the meeting. This bears some similarities to recorded consultations in that both services included structured and librarian-mediated methods of recording activities and dialogue. Students reported favourable feedback regarding Evernote as a supplement to the consultation. Both student reporting and Google URL-shortener statistics show that all Evernote pages were accessed after the recording with some accessed multiple times. While no exploration was made as to how students incorporated these collaborative notes into their research activities, several uses can be inferred based on the stated content of notes; "identifying keywords, search strategies and databases, while documenting the process" (Kani, 2017) implying that students used the notes to replicate searches demonstrated during the consultation. Kean and Robinson (2019) describe a service where

personalised videos are provided to students as an alternative to synchronous IRCs. In this approach the student provides several pieces of information prior to the main interaction; their research question, previously-used keywords and databases searched. These are then reviewed by the librarian who records a personalised tutorial outlining the process, problems and procedures necessary to undertake a search based on the individual student's research area using screen-recording software to and recorded audio. This shows significant similarities with the recorded consultation service in that video support is used in teaching search technique, combined screen-share and audio use, personalised content and two-way communication (though asynchronous). Usage statistics revealed that 71% of the videos recorded were accessed of which 57% were watched multiple times indicating a high level of use by students. Data were also collected regarding playing-time of videos; 65% were watched in their entirety, of which 37% had a watch time of >100% (meaning further sections were re-watched). Qualitative feedback expressed high degrees of service satisfaction. These findings indicate that students found the service useful, usage of recordings was high and students adopted complex and selective behaviours to learn from and apply the content of recordings.

Theoretical Framework

The theoretical hinterland of this study can be divided into three primary regions; the recording as a multimedia artefact designed to support learning, the lived experience of the learner undertaking advanced research activities and the nature and classification of knowledge.

The process of a student attending and learning from a librarian during a research consultation can be understood through the lens of social cognitive theory (Bandura, 1986). In this understanding of the learning interaction, knowledge acquisition occurs when the librarian models the behaviours, processes and procedures required in a literature search. Successful knowledge transfer occurs when the learner is able to replicate the steps modelled by the librarian to achieve similar results independently. In addition to modelling

effective search behaviours, in communicating with the student, the librarian emphasises and demonstrates the achievability of the task (developing a search strategy, finding relevant materials etc.) When successful in this, the librarian builds self-efficacy required for the learner to attempt mastery of the skill despite any reservations, set-backs or barriers they may experience (Bandura, 1995). In the recorded consultation, the recording functions as an additional, accessible teacher to model search behaviours. Mayer (1997, 2005) expands on cognitive theory, exploring this in relation to multimedia learning environments. Cognitive theory of multimedia emphasises the importance and usefulness of learning that combines written, visual and audio elements. Finally, Mayer (2005) emphasises the need for meaningful connections between these elements for learning resources to be useful.

In addition to a theoretical framework for the intervention and learning resource, understanding the experience of the student undertaking research activities is beneficial for any exploration of a library service. Kuhlthau's (1991) Information Search Process provides a seminal interpretation of the experience students undergo when undertaking search tasks. The Information Search Process framework describes information seeking knowledge construction as an intersection of three domains; behavioural (the processes and strategies students exhibit), cognitive (an understanding of the process), affective (the emotional experience of information-seeking). Kuhlthau articulates the problematic nature of information-seeking. This insight into the student's perspective helps inform the evaluation of teaching interventions and learning resources that attempt to support the development of research behaviours by providing a frame and vocabulary for analysis.

Finally, a thorough understanding of the potential learning impact of the service requires a framework to explain not just if knowledge is constructed but to articulate *what type/s* of knowledge is/are constructed. Educational psychology is replete with attempts to systematically and consistently categorise different types of knowledge with varying degrees of complexity. For the purposes of this study De Jong and Ferguson-Hessler's (1996) matrix system and classification of knowledge into four primary categories was particularly relevant

given its focus on task performance and problem solving being particularly pertinent to the content of research consultations [where the learner has a specific, discrete task to perform]. De Jong and Ferguson-Hessler place knowledge types for task performance within four broad categories; situational, procedural, conceptual and strategic. Situational knowledge focuses on the ability to recognise a specific situation and what response is required; in this study's context this may be recognising that a search strategy is required within a systematised literature review. Procedural knowledge concerns actions and may be understood as what to do in a given scenario; in the case of research activities procedures such as where to type in keywords, how to use a Boolean operator, how to look up a subject heading. In contrast, conceptual knowledge describes knowledge of ideas, theories and principles, gives context to actions and helps learners understand why a given action has relevance to a situation; in a research activity this may include why synonyms are required, why subject headings might be included and what the overall aims of a systematic search are. Finally strategic knowledge is a sense of the overall steps required to complete a process, the ability to plan and order actions to give a specified result. In research activity this may include the development and implementation of a search strategy, the sifting of results and the recording and presentation of a search. These categories provide for a means of analysing any learning gain at a more granular level; exploring what specific areas of knowledge may be developed via the recorded consultation service. In addition to classifying knowledge within these four domains, De Jong and Ferguson-Hessler (1996) draw a distinction between surface-knowledge (where knowledge is shallow and context-dependent) and deep-knowledge (where knowledge can be abstracted and/or used in multiple contexts). This allows for a matrix structure where knowledge can be organised by both domain and level (e.g. strategic+deep, procedural+surface). The goal of effective teaching is to move the learner, through instruction, activities and resources, from surface to deep knowledge in all applicable domains, thus allowing them to apply the learning independently and in multiple contexts.

Research Aims

The review of existing literature elicited a two key research questions for investigation:

1. If and how students use recordings from IRCs as part of their research activities?
2. How do students experience recorded consultations as a service offer?

The overall research questions for the study were further divided into sub-questions:

1. How do students incorporate recorded consultation videos into their research practices?
2. How do students learn from and use recordings while completing research activities?
3. If and why students find the recorded consultation service useful?

Analysis of qualitative data revealed an additional sub-question:

4. How are students' study behaviours influenced by the existence of the recordings during and after the consultation?

Population

Coventry University has over 30,000 students in attendance with ~1,450 enrolled on allied health courses in 2019/20. Allied health courses are supported by one specialist health librarian, all students are entitled to request IRCs. 263 consultations were booked by allied health students in 2019/20 (primarily final year students undertaking systematised literature reviews) of these 166 were recorded as part of the service. Participants included a convenience sample of recorded consultation service users identified via librarian records.

Methods

The study used a mixed-methodology. Students who had received a consultation recording were invited to complete a questionnaire via JISC OnlineSurveys. The questionnaire contained of 10 questions to assess respondents' use and feelings regarding the service. Four optional demographic questions were included to investigate if specific groups reported

divergent opinions. A final question invited to indicate willingness to be contacted regarding the qualitative phase. Inclusion criteria were that the respondent was enrolled on an allied health course at Coventry University and had received a consultation recording. Data collection was completed May-July 2020.

Qualitative data collection was completed via semi-structured interviews using a volunteer-based convenience sample. Interviews were conducted remotely and were recorded, transcribed and anonymised for analysis.

Ethical approval was granted by Coventry University Professional Services committee

Analysis

Quantitative data was analysed using descriptive statistics (frequency distribution). Given the high degree of homogeneity in responses, granular analysis based on demographics was abandoned. Analysis of free-form text questions was completed using an inductive coding frame. Analysis of reported reasons for using recordings was supplemented by De Jong and Ferguson-Hessler's (1996) four knowledge categorisations to divide responses into situational, procedural, conceptual and strategic knowledge types.

Qualitative analysis was completed through the lens of three sub-questions with a fourth added during analysis when it emerged as an area of interest. Sub-questions were derived from Kuhlthau's (1991) Information Search Process and explored elements of the behavioural (what learners do), conceptual (what learners understand) and affective domains (what learners feel). Narrative analysis was used to explore users' stated actions (behavioural) and thematic analysis for conceptual and affective domain responses.

Quantitative Results

Sample Breakdown

57 questionnaires were completed with all eligible for inclusion (response rate 34.9%). The sample was primarily UK-domiciled, full-time undergraduates aged >25.

Table I: What is your status as a student at Coventry University?”.

Table II: Which age group are you?”

Table III “Are you on an undergraduate or postgraduate course?”

Table IV “Are you a full time or part time student?”

Table V “What course are you studying?”

Usefulness of Recording

Respondents overwhelmingly reported the recording as ‘very useful’ (n=55). Video and audio aspects of the recordings were rated as almost equally ‘very useful’ (n=55 and n=52 respectively). Greater diversity was reported in the ways recordings were used during research activities. When analysed against De Jong and Ferguson-Hessler’s (1996) knowledge categorisations, fulfilling procedural knowledge needs was most popular (89.5% and 66.7%), followed by strategic (75.4%) and conceptual (45.6%). Most reported multiple reasons for using recordings with 66.1% (n=37) reporting >3 purposes. Of those who

reported >2 (n=50), all included an element of procedural knowledge. Over half of respondents (n=36) reported using the recording for both procedural knowledge reasons.

Table VII “How did you use the video/screencast from your librarian appointment? (Tick as many boxes as apply)”

Table VIII Reported purposes of recording viewing matched to knowledge types as categorized by De Jong and Ferguson-Hessler’s (1996)

Table IX Respondents reporting multiple purposes for use of recording

Access to Recording

A large majority of respondents reported accessing the recording as fairly or very easy (n= 8, n=55 respectively). Laptop/desktop devices were the clear preference for watching recordings (n=53). Respondents reported multiple views of the recording, with overall half reporting >3 views. 75.4% reported watching most/all of the recording.

Table X “How many times did you watch your video/screencast? (either in full or parts of it)”

Table XI Reporting of number of times video watched compared to number of reported reasons for watching

Table XII “How much of your video/screencast did you watch?”

Recording Quality

All respondents reported satisfaction with video quality (n=57). Audio quality was reported as somewhat less satisfactory (n=51) with one respondent indicating that affecting usefulness negatively.

Free-form Text Comments

Respondents were given the opportunity to answer two additional free-form text questions. Given the number of responses to the two questions (n=44, n=24) content analysis of comments was done manually. The coding frames were created through an inductive approach.

Respondents were asked if they had any additional comments and/or feedback on the service, 44 comments were recorded.

Table XIII “Do you have any other comments and/or feedback about having your librarian appointment recorded?”

Comments and feedback from the first free-form text comment were overwhelmingly positive (n=63). Aside from generally positive comments (“useful”, “helpful”) responses identified specific areas of feedback and elucidated on some study practices when using appointment recordings. Several responses linked use of recordings to revision of processes covered in the consultation and/or drew favourable comparisons between use of the recording and notetaking activities; this may indicate that a key benefit of recorded appointments is in addressing problematic knowledge transfer modelled in the consultation to actual research activities. Several responses implicitly or explicitly described how respondents incorporate recordings into research activities, describing a process of revision and replication of steps covered in the recording. Negative comments (n=2) centred on software issues though in

both cases respondents explicitly stated that despite these problems they were able to use the recording.

Respondents were then asked if they had any suggestions to improve the recorded appointment service, a lower number of respondents opted to complete this question (n=24) and of those few left specific suggestions for improvements.

As previously, most of the comments and feedback were positive and specific suggestions for improvements were not given by most respondents. As reported previously, some respondents (n=2) commented on issues with the audio quality, it is unknown whether these appointments took place face-to-face or remotely, if face-to-face background noise may have been a factor. Better control of the consultation environment and use of a dedicated microphone may remedy this. Requests for generic video support on literature searching would be easily implementable though would need to be balanced against the current offer of individualized support.

Qualitative Results

27 questionnaire respondents indicated a willingness to participate in the qualitative phase and were contacted to schedule an interview. 10 participants arranged an interview (response rate 37%). Further requests for participants were not made as it was felt data saturation had been reached.

Table XIV Characteristics of Interview Participants

All participants had received a recording of an IRC. Several participants reported having received multiple appointments which were recorded, these were asked to respond with reference to the first unless otherwise specified. A minority of participants also reported having received/used generic pre-recorded tutorial videos from the librarian, these were asked to disregard these and answer only with reference to individualised recordings (except to draw comparisons).

Sub Question 1: How do students incorporate recorded consultation videos into their research practices?

All participants reported watching the video several times between receiving the recording and the interview. Viewings were reported as clustered around the period when students undertook the research activities described in the recording. Some participants reported significant gaps of several weeks between attending the consultation and completing research activities. Reasons given for this gap were primarily prioritisation of other assignments though one participant reported disruption of study activities due to the COVID-19 pandemic.

I had an interview with you about around January I think yeah and so we were still pretty busy with the second semester module so I was working on that and not concentrating on

my dissertation per se but uh so I did keep it on a back seat for a while but as soon as I started my dissertation uh I saw the video (Participant 10)

Participants described consistently similar practices to incorporate use of the recording into their research practices. Two main watching practices were identified; playthroughs and play-and-pause. Playthroughs described watching the video from start to finish in a single sitting, generally in advance of undertaking a research activity such as database searching. Play-and-pause described a more methodical and active approach to the engaging with recordings; participants described playing short sections of the video, pausing, then repeating the activities they had observed 'live' in their search, then resuming the video for another section (repeating this throughout the research activity). While an implicit distinction was made between these methodologies, most participants reported using both within a single sitting; first watching the entire video then on subsequent re-watches playing-and-pausing while mirroring the content in a separate internet browser tabs/window.

Participant: What I found particularly useful was that it really gave me a step-by-step process to follow and also it was although it wasn't live, because it was recorded it almost felt like I was still interacting through the session

Interviewer: Ok

Participant: because it you know it went through the different stages so that I could pretty much like a recipe I could follow it so that was very very helpful as opposed to you know not having that visualisation having that was able to guide me through easier than just kind of working something out and trying to interpret it (Participant 1)

So I watched it through once so I kind of, I knew the different steps. I watched it again though a few times, probably two or three more times but then I was like skipping to bits and pausing it so I could do it myself at the same time (Participant 3)

All participants reported having the video and database open on their PC/laptop concurrently, most switching between two browser tabs/windows but two participants reported having two monitors and/or using split screen to improve efficiency. Participants described a higher level of use of the video for their first search (the search demonstrated in the recording itself) with lower levels of dependency on subsequent searches on other databases.

Participant: I watched it like super closely at first with I was pausing it, going back and following it, where to click and stuff. Yeah like that.

Interviewer: Ok so you watched it all the way through once, then you were playing and pausing it when you did the search?

Participant: Yeah but when I first did it I mean. I had to do other searches too on like Medline and I didn't really do that then, just for the harder bit like when I did the headings (Participant 6)

Sub-Question 2. How do students learn from and use recordings while completing research activities?

Most participants described using the recording to revise concepts and procedures covered during the consultation in support of their research activities. Having a record of what was shown and said during the consultation for later use was identified as a valuable learning resource for research activities.

Participant: uh yes actually it was extremely useful uh since uh when we had that recording we uh went through uh steps of a search strategy right from the population and what terms to use what mesh term to use so it was really really helpful

Interviewer: okay um and what sort of aspect of it was made it you made the recording itself useful um was it sort of as a revision aid or was it as sort of a reminder or checking your knowledge, what was it about the recording?

Participant: I think it was for revision since it has been so long since we met person so I it was it was difficult me to recollect if the video recording wasn't there I wouldn't have uh I wouldn't have remembered the terms I used or how we actually gone about the search strategy yeah since the video was there I could do it exactly how we had done it and it was super easy (Participant 7)

All participants reported that use of the video increased their confidence in performing research activities. When asked to rate their confidence before the consultation, participants generally reported low levels of confidence. Interestingly, three participants reported that their perceived confidence level in database searching was lowered as a result of attending a consultation and seeing a search demonstrated by a librarian suggesting that in addition to teaching skills, consultations perform a metacognitive role.

Before the appointment I think I felt that I knew briefly how to do it from kind of other years but actually looking back on reflection I wasn't doing it as in-depth as how I would have done it you sort of have a sense that you knew what you were doing but maybe the appointment actually shook that a little bit because there was different things yeah so it kind of gave me more confidence actually yeah that's right that's right but also you need to do this and actually this helps oh like the Refworks importing system thing you taught us on the course but I didn't know how to do that and that massively saved a lot of time and helped me with my process really (Participant 8)

Most participants gave visual and audio elements of the recording equal levels of importance and usefulness, with a small slant towards the visual. Several participants described themselves (and perceived their discipline more widely) as primarily visual learners. Despite this most participants acknowledged that the audio narration and conversation was important in giving context to the activities shown; while the visual element described *what* to do, the audio described *why* to do it.

Um yeah I think you needed both I thought it was ideal because you were explaining what you were doing and why you were doing it you know as you were doing it on the screen um I

think if it had just been the video um it may have lost some, it may be a bit more confusing really about why you were ticking certain boxes and and not and if you just had the audio would be the same as notes you wouldn't you know exactly on the screen where you were clicking (Participant 5)

Sub Question 3. If and why students find the recorded consultation service useful?

The most consistent theme regarding the service was usefulness when completing research activities. All participants described the recording as useful. One participant described their perception that the recordings had particular use for international students as helping to overcome potential language barriers and aiding comprehension.

I think it was especially good as I'm an international student. Sometimes it can be, it's um hard to always understand what a tutor is saying and it was different systems you were showing me than what we had than when I was undergrad. I liked it because I could pause you and check what you said, what you meant and also I could see it (Participant 3)

Of particular value to some participants was that the recording was bespoke and specific to their needs, both in terms of covering their individual research question and learner needs. These participants placed a high value on the personalised nature of the service and felt that it provided better support for their research activities.

Interviewer: Okay cool so did you feel more or less confident about actually undertaking your research um by having the video?

Participant: Yeah I'll go as far as saying a million times more confident and I think what has made the difference is the fact that because it was on a one-to-one and it was based on my um actual idea for research it was more targeted um so it was so clear and so concise I would say honestly it has made it has honestly made a huge difference really to my work (Participant 5)

A final theme that emerged related to the broader experience of undertaking dissertation research activities and receiving librarian-support. Several participants perceived the process of literature searching as a potentially overwhelming activity and (as related to metacognition) that librarian-support didn't necessarily negate this but rather could highlight the complexity of the task. The existence of recordings and the ability to independently 'chunk' content using the 'play-and-pause' method previously reported was described positively as a means of managing the process and resulting anxiety.

Participant: The first video I just watched right through

Interviewer: And the second one?

Participant: I watched that one more and I um stopped it a lot

Interviewer: Why was that?

Participant: The first one was easy it was just like checking there was articles for my topic so I could do that ok. The other video was doing the whole thing, the whole search and was a lot more. I couldn't remember any of that from 201 [second year evidence-based practice module] so it was really confusing. I had to keep pausing it and stopping it so I, to follow it. So yeah I watched it more times, like over and over (Participant 2)

Sub-Question 4. How are students' study behaviours influenced by the existence of the recordings both during and after the consultation?

Participants were asked if they felt that knowing their consultation was being recorded affected what they said. The primary concern was that knowledge of the recording taking place could cause self-censoring behaviours or a reluctance to engage in conversation with the librarian. No participants reported a negative impact on knowledge of the recording impacting on what was said, though one participant did express discomfort hearing their voice when playing the recording back.

No not at all I think the good thing about it there's a level of transparency um so I, and the intentions are good so it didn't make me feel "oohh I can't really engage in this because its being recorded" I was you know its, it didn't affect me personally (Participant 1)

This question did however reveal two unanticipated findings regarding the relationship between recordings and participant behaviours. Four participants drew a favourable comparison between the use of recordings and traditional notetaking, describing the recording as a more effective means of remembering and/or repeating processes. Two participants specifically stated that while they had planned to take notes during the consultation this was abandoned once they were offered a recording.

I had a notepad with me which I always do for kind of meetings or those kind of things and but I do only wrote a few things down and then I realized actually it's all getting covered in the video so it saved my distraction from making notes I could just focus on the actual call without worrying that I would forget something or I haven't wrote something down that you've said so for me personally that works really well because I often do the lessons or call and I completely forget afterwards what was I'm end up back on my notes and I don't know what that means yeah I didn't take many notes (Participant 8)

A second change in behaviour related to the use of questions by the participant during their consultation. Far from dissuading participants from engaging in conversation, for two participants the knowledge of the consultation being recorded reportedly prompted them to ask more or more complex questions knowing that the librarian's response would be recorded.

...I think I kind of almost forgot who was getting recorded yeah I think because it's, it was, it wasn't very noticeable that it was on, and you are getting recorded but yeah it wasn't like there was a camera sat in front of me yeah I was doing it was very kind of yeah I don't think it changed any kind of things or maybe made me and push me a little bit to ask more questions to kind of remind myself when I looked back at the video of what we were talking about and stuff like that (Participant 8)

I wasn't bothered about it being recorded. I think if anything I probably talked more and asked like more detailed questions about what was going on. If you weren't recording it I would have, would've had to try and get that all down on paper so maybe I would just watch instead (Participant 6)

Discussion

Participants provided both quantitative and qualitative data expressing strong positive feedback regarding recorded consultations. The findings provide a strong evidence base for continuing and extending the service to other subject disciplines. This finding aligns with the findings of studies exploring both recorded consultations in a medical setting (Rieger et al., 2018) and with broader findings regarding IRCs (Stapleton et al., 2020). It should be noted however that numerous studies on non-recorded IRCS have reported high levels of usefulness of the intervention (Magi and Mardeusz, 2013a; Butler and Byrd, 2016; Rogers and Carrier, 2017; Bezet et al., 2018; Sikora et al., 2019; Bradley et al., 2020). This study was not a side-by-side comparison of recorded and non-recorded IRCS and thus cannot demonstrate if the addition of recording further improves the positive perception students report of IRCs. However, as efficient recall of information from the consultation was consistently cited as a benefit of recordings it may be inferred that recordings do offer an additional supplementary benefit to traditional IRCs. That the usefulness of audio (including descriptions and the librarian-student conversation) was reported almost as useful as the video element may indicate an additional benefit of the recorded appointment approach over personalised video instruction as advocated by Kean and Robinson (2019). The near parity of visual and audio elements reported in the study with regards to usefulness ratings supports Mayer's cognitive theory of multimedia learning (1997, 2005); questionnaire respondents reported both aspects as being highly useful and interview participants described the importance of both seeing and hearing the search being demonstrated in their

recording. The ability of recording to make a multimedia learning resource, rather than purely textual notes made by the student, may offer a powerful means of improving learning.

In addition to an overall perception of usefulness, consultation recordings had broader affective impacts on students. All qualitative participants reported an increase in confidence with regards to completing research activities. Increases in confidence, while universally reported by interviewees, varied by extent with some participants reporting higher confidence increases than others. However, studies into standard IRCs also report increases in confidence (Magi and Mardeusz, 2013a; Stapleton et al., 2020). Within the confines of the study methodology, it is difficult to determine the extent to which recordings may give an added benefit compared to non-recorded consultations. However, the fact that students attended a live research consultation and all respondents still watched (and in 96.5% of cases re-watched) the recording suggests that the consultation alone was not enough to give learners the confidence to undertake the search without further input.

User behaviour with regards to use of the recording, while complex, showed a high degree of consistency. In interviews most participants reported a methodology of watching recordings that began with a complete viewing with subsequent re-watches focusing on key areas with pausing and mirroring of activities taking place. Quantitative data on the number of views and amount of the recording watched support this, suggesting that these practices were common outside of the interview sample. Without explicit guidance from the librarian, students appeared to integrate the recording into their research practices effectively and efficiently. Similar behaviours may be inferred in asynchronous recordings utilised by Kean and Robinson (2019) and may help explain the patterns of use reported in their study. The insight gathered into user behaviour aligns strongly with social cognitive theory as described by Bandura (1986). The recording acts as a proxy for the librarian by modelling the processes and procedures required for developing and implementing a search strategy and successful knowledge transfer occurs when the learner is able to replicate these steps. While this may take place in a non-recorded research consultation, the ability of students to

pause and re-watch the recording in sections or as a whole allows the learner to achieve more efficient and effective mirroring behaviours and thus consolidate learning more effectively.

Whilst information recall and/or knowledge retention were not investigated as explicit concepts within the study, quantitative responses and qualitative themes consistently raised these issues in relation to use and evaluation of consultation recordings. The focus on reminding and revising of procedures needed to conduct database searches suggests that knowledge transfer between consultation and 'real-life' is problematic without the aid of sufficient strategies to document information conveyed by librarians during consultations. The published literature on IRCs is scant with regards to knowledge retention strategies adopted or the relative effectiveness of different methods, though it is likely that, though rarely explored, forms of documentation are made by students during consultations (e.g. traditional notes). An unanticipated finding from this research was the often significant time lapse between students attending a consultation and implementing this knowledge with their research activities. In retrospect this is unsurprising as given IRC's labour-intensive nature and scheduling limitations; many students may struggle to request consultations at the point of need (Kuglitsch et al., 2017; Cole and Reiter, 2017). Thus a need exists to develop and evaluate strategies to support effective knowledge recall and transfer. The use of mediated notetaking advocated by Kani (2017), use of asynchronous recording as used by Kean and Robinson (2019) in asynchronous settings or recorded consultations as described here may prove beneficial.

Investigating the knowledge qualities and depth of knowledge learned from consultation recordings as categorised by De Jong and Ferguson-Hessler (1996) unearthed interesting findings. The range of reasons participants gave for using the recordings in the questionnaire and the user behaviour narratives given during interviews indicates a complex interplay of these knowledge domains. Use of the recordings to develop strategic and procedural knowledge types was reported by most questionnaire respondents. That

recording use to develop conceptual knowledge was reported at lower levels (45.6%) suggests that for a small minority of students, the consultation alone (without recording) was sufficient to deliver in this domain. Multiple views of the recording may infer that the single interaction of the consultation (and a single view of the recording) was not sufficient to achieve deep learning and that multiple views were required to achieve this. Narratives on user behaviour gathered during interviews can also be understood through a knowledge domain and depth of knowledge lens. Whole play-throughs may indicate the development of strategic knowledge; putting the steps of the search process in order. Play-and-pause combined with mirroring behaviour may support procedural knowledge acquisition; knowing what steps need to be undertaken to achieve an effective search. Audio narration of what is shown on screen combined with the students' recorded responses to questions give context to the activities and reinforce conceptual knowledge. A traditional, non-recorded research consultation therefore may only achieve surface-level conceptual knowledge gain for many students, particularly if complex and/or systematised research behaviours are required.

Limitations

Several limitations were identified. Participation bias was a significant risk and users who had a pre-existing positive perception of the service may have been more motivated to complete the questionnaire and agree to interview participation. Similarly, given that the researcher also conducted the IRC, participant bias may have led to students to give perceived socially desirable answers. Similarly, due to the overlap of practitioner and researcher roles in this study, there were risks of researcher biases including design and confirmation biases.

The quantitative stage sample group, while sufficient in relation to the population was small compared to the overall institution so findings may not be generalizable. The study was limited to allied health students for whom complex search behaviours are both expected and

follow prescribed methodologies [for systematised literature reviews]. The findings may not be generalizable to students in other disciplines where the information retrieval process is more holistic.

Conclusion

This study generated a number of key findings. Students reported using and valuing recordings made during IRCs. Students used them to revise procedures and concepts and incorporated them successfully into research activities. The student experience of recorded consultations was overwhelmingly positive and is likely to improve the relationship and communication between librarians and the students. The fact of recording does not appear to influence how students communicate with librarians negatively and may in contrast be beneficial to facilitating meaningful discussions and maintaining focus during the consultation.

The findings of this study offer a range of implications for practice in library services offering IRCs. Recording is a relatively low-input addition to the intervention requiring access to screen recording software to record IRCs and cloud storage by the librarian and a stable internet connection by the student (for streaming or downloading the recording). Thus this technique could be easily incorporated into practice. Alongside with the benefits outlined previously, the ability of students to independently revise IRC content may reduce follow-up enquiries or repeat bookings. Any broader rollout however should be preceded by detailed examination of ethical principles and good practice relating to academic integrity. The use of recordings should be used to support development of students' knowledge and skills not provide a formulaic blueprint that the student simply repeats. Within this study's context, this risk was managed as recordings demonstrated one search on one database (whereas students needed to complete additional searches to demonstrate a systematised approach).

Therefore students had to apply skills independently; this may not always be the case in other disciplines or other assignments.

Future research areas may include direct comparisons of recorded and non-recorded IRCs to assess if recordings offer additional benefits. Positive findings within this study are based on subjective measures; future studies may consider the using objective assessment such as citation analysis, performance-based assessment or coursework grading undertaken in other studies (Mery et al., 2012; Bezet et al., 2018; Biddle and Montigaud-Green, 2020).

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Appendixes

Appendix 1: Participant Information Sheet, Consent Form and Questionnaire used in quantitative stage

PARTICIPANT INFORMATION STATEMENT

The aim of this study is to investigate the use and perceived effectiveness of screen recordings made during a student-librarian one-on-one appointment.

The study is being conducted by Darren Flynn at Coventry University. You have been selected to take part in this questionnaire survey because according to my records you received a screencast recording of your appointment during the service's pilot. Your participation in the survey is entirely voluntary, and you can opt out at any stage by closing and exiting the browser. You can close the survey at any point until you have submitted your responses, any data you have entered until that point will not be saved. As your responses will be fully anonymised, you will not be able to withdraw your data from the study after submitting your responses.

If you are happy to take part, please answer the following questions relating to your use and feelings about the screen recording you received of your appointment with your librarian. Your answers will help us to see how students feel about the service and how they used the recording for further study. You will also be asked about some of your personal characteristics (UK/EU/International, Age group, Full/part Time and Undergraduate/Postgraduate status); this is in order for us to investigate if certain types of students have different opinions on appointment recordings than others.

The survey should take approximately 10 minutes to complete. Your answers will be treated confidentially and the information you provide will be kept anonymous in any research outputs/publications. Your data will be held securely in a password protected file on a Coventry University's OneDrive and will be accessed only by the named lead researcher. All

data will be deleted by 1st September 2020. The project has been reviewed and approved through the formal Research Ethics procedure at Coventry University. For further information, or if you have any queries, please contact the lead researcher Darren Flynn, email; XXX@example.email.com , tel; XXX, post; XXX XXX, XXX XXX, Coventry University, XXX, XXX.

If you have any concerns that cannot be resolved through the lead researcher, please contact XXX XXX, XXX XXX XXX, XXX XXX; email; XXX@example.email.com , tel. XXX. Thank you for taking the time to participate in this survey. Your help is very much appreciated.

I have read and understood the above information. I understand that, because my answers will be fully anonymised, it will not be possible to withdraw them from the study once I have completed the survey.

I agree to take part in this questionnaire survey. I confirm that I am aged 18 or over.

Yes

No

1. Did you receive a video/screencast of your appointment with a librarian?

Yes

No

2. How useful did you feel having a video/screencast of your librarian appointment was?

<input type="checkbox"/>				
Not at all useful	Not very useful	Not sure	Somewhat useful	Very useful

3. How did you use the video/screencast from your librarian appointment? (Tick as many boxes as apply)

<input type="checkbox"/> I didn't use it	<input type="checkbox"/> To provide instructions for handling my results (e.g. saving searches, exporting results)
<input type="checkbox"/> To teach or remind me of general points about my search strategy (e.g. general advice on the different stages of my research)	<input type="checkbox"/> To explain/revise concepts
<input type="checkbox"/> To teach or remind me of specific points about my search strategy (e.g. specific search techniques such as using Cinahl/MeSH headings in my search)	<input type="checkbox"/> Other _____ _____

4. How easy was it to access your video/screencast when it was sent to you?

<input type="checkbox"/>				
Very difficult	Fairly difficult	Not sure	Fairly easy	Very easy

5. What device did you use to watch your video/screencast? (Tick as many that apply)

- Laptop/Desktop Computer
- Tablet device
- Smartphone
- I didn't watch the video/screencast
- Other _____

6. How useful was having the video part of your appointment recorded (what was happening on the librarian's screen)

<input type="checkbox"/>				
Not at all useful	Not very useful	Not sure	Somewhat useful	Very useful

7. How useful was having the audio part of your appointment recorded (the voiceover and conversation)

<input type="checkbox"/>				
Not at all useful	Not very useful	Not sure	Somewhat useful	Very useful

8. How much of your video/screencast did you watch?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None of it	A little of it/small parts of it	Not sure	Most of it	All of it

9. How many times did you watch your video/screencast (either in full or parts of it)

- I didn't watch it
- Once
- Twice
- Three times
- Four or more times

10. How would you rate the video quality of your video/screencast (i.e. how well you could see what was happening)?

<input type="checkbox"/>				
Very poor quality	Quite poor quality	Not sure	Quite good quality	Very good quality

10a. If you said “very poor” or “quite poor” quality, did this affect how you could use the video/screencast?

- Yes
- No
- Not applicable

11. How would you rate the audio quality of your video/screencast (i.e. how well you could hear what was happening)?

<input type="checkbox"/>				
Very poor quality	Quite poor quality	Not sure	Quite good quality	Very good quality

11a. If you said “very poor” or “quite poor” quality, did this affect how you could use the video/screencast?

- Yes
- No
- Not applicable

12. Do you have any other comments and/or feedback about having your librarian appointment recorded?

13. Do you have any suggestions on how we could improve the service?

We would like to a few questions about yourself. This will help us to know what different groups of students think about the appointment recording service. All these questions are optional and you can chose to leave them blank and submit your questionnaire responses without answering them.

14. What is your status as a student as Coventry University

- Home/UK student EU student International student (non-EU)

15. Which age group are you?

- 18-25 26-35 36-45 46-55 55+

16. Are you a full time or part time student?

- Full time
 Part time

17. Are you on an undergraduate or postgraduate course?

- Undergraduate
 Postgraduate

18. What course are you studying?

Thank you for participating in this study. Once data collection is complete, your responses will be analysed by the lead researcher. The data will be used to produce an internal report for the library and, if deemed of interest may be published within professional literature – no individuals will be identifiable within any products of this research. If you would like to receive any reports or publications produced through this research please email the lead researcher Darren Flynn on XXX@example.email.com

As your responses are anonymous you will not be able to withdraw from the study after submitting them. If you are happy to submit your responses please select “submit” below. If you wish to withdraw from the study, please close this browser window, the responses you have given so far will not be recorded.

< Submit >

Thank you for your participation in this study. You can now close this browser window.

Thank you very much for participating in this research. You can now close this window. If you want to receive a copy of any outputs coming from this research please email XXX@example.email.com

Appendix 2: Participant Information Sheet, Consent Form and Interview Schedule for Qualitative Phase

Informed Consent and Participant Information Sheet for Interview Stage

Recorded Appointments with a Librarian

PARTICIPANT INFORMATION SHEET

You are being invited to take part in research on recorded librarian appointments. Darren Flynn (Academic Liaison Librarian) at Coventry University is leading this research. Before you decide to take part it is important you understand why the research is being conducted and what it will involve. Please take time to read the following information carefully.

What is the purpose of the study?

1. To determine if and how students use recordings from research consultations as part of their research activities
2. To determine how students experience recorded consultations as a service offer

Why have I been chosen to take part?

You are invited to participate in this study because you received a recording of a librarian appointment and when completing the previous questionnaire indicated that you would be willing to participate in an interview.

What are the benefits of taking part?

By sharing your experiences with us, you will be helping Darren evaluate the recorded librarian appointment service and learn more about how these may be improved for future students.

Are there any risks associated with taking part?

This study has been reviewed and approved through Coventry University's formal research ethics procedure. There are no significant risks associated with participation.

Do I have to take part?

No – it is entirely up to you. If you do decide to take part, please keep this Information Sheet and complete the Informed Consent Form to show that you understand your rights in relation to the research, and that you are happy to participate. Please note down your participant number (which is on the Consent Form) and provide this to the lead researcher if you seek to withdraw from the study at a later date. You are free to withdraw your information from the project data set at any time until the data are fully anonymised in our records on 1st July 2020. You should note that your data may be used in the production of formal research outputs (e.g. journal articles, conference papers, theses and reports) prior to this date and so you are advised to contact the university at the earliest opportunity should you wish to withdraw from the study. To withdraw, please contact the lead researcher (contact details

are provided below). You do not need to give a reason. A decision to withdraw, or not to take part, will not affect you in any way.

What will happen if I decide to take part?

You will be asked a number of questions regarding your use of a librarian appointment recording. The interview will take place in a safe environment at a time that is convenient to you. Ideally, we would like to audio record your responses (and will require your consent for this), so the location should be in a fairly quiet area. The interview/ should take around 30 minutes to complete.

Data Protection and Confidentiality

Your data will be processed in accordance with the General Data Protection Regulation 2016 (GDPR) thereafter. All information collected about you will be kept strictly confidential. Unless they are anonymised in our records, your data will be referred to by a unique participant number rather than by name. If you consent to being audio recorded, all recordings will be destroyed once they have been transcribed. Your data will only be viewed by the researcher/research team. All electronic data will be stored on a password-protected computer file on Onedrive. All paper records will be stored in a locked filing cabinet. Your consent information will be kept separately from your responses in order to minimise risk in the event of a data breach. The lead researchers will take responsibility for data destruction and all collected data will be destroyed on or before 1st October 2020 at which point only anonymised data will be kept.

Data Protection Rights

Coventry University is a Data Controller for the information you provide. You have the right to access information held about you. Your right of access can be exercised in accordance

with the General Data Protection Regulation thereafter. You also have other rights including rights of correction, erasure, objection, and data portability. For more details, including the right to lodge a complaint with the Information Commissioner's Office, please visit www.ico.org.uk. Questions, comments and requests about your personal data can also be sent to the University Data Protection Officer - XXX@example.email.com

What will happen with the results of this study?

The results of this study may be summarised in a Masters dissertation, published articles, reports and presentations. Quotes or key findings will always be made anonymous in any formal outputs.

Making a Complaint

If you are unhappy with any aspect of this research, please first contact the lead researcher, Darren Flynn via email on XXX@example.email.com . If you still have concerns and wish to make a formal complaint, please email:

XXX XXX, (XXX XXX XXX). Email: XXX@example.email.com

In your letter please provide information about the research project, specify the name of the researcher and detail the nature of your complaint.

Participant No.

INFORMED CONSENT FORM:

Evaluating Recorded Librarian Appointments

You are invited to take part in this research study for the purpose of collecting data on recorded librarian appointments at Coventry University.

Before you decide to take part, you must **read the accompanying Participant Information Sheet.**

Please do not hesitate to ask questions if anything is unclear or if you would like more information about any aspect of this research. It is important that you feel able to take the necessary time to decide whether or not you wish to take part.

If you are happy to participate, please confirm your consent by circling YES against each of the below statements and then signing and dating the form as participant.

1	I confirm that I have read and understood the <u>Participant Information Sheet</u> for the above study and have had the opportunity to ask questions	YES	NO
2	I understand my participation is voluntary and that I am free to withdraw my data, without giving a reason, by contacting the lead researcher <u>at any time</u> until the date specified in the Participant Information Sheet	YES	NO

3	I have noted down my participant number (top left of this Consent Form) which may be required by the lead researcher if I wish to withdraw from the study	YES	NO
4	I understand that all the information I provide will be held securely and treated confidentially	YES	NO
5	I am happy for the information I provide to be used anonymously in academic papers and other formal research outputs	YES	NO
6	I am happy for the interview to be <u>audio recorded</u>	YES	NO
7	I agree to take part in the above study	YES	NO

Thank you for your participation in this study. Your help is very much appreciated.

Participant's Name	Date	Signature
Researcher(s)	Date	Signature

		↓									
<p>Could you describe how you watched the video?</p> <p>Probes: Device used? Using two screens? Why?</p>											
		↓									
<p>Did you watch all of the video or just parts?</p> <p>Probes: Which parts? Why?</p>											
		↓									
<p>Did you feel more or less confident doing your research by having the video? How so?</p>											
		↓									
<p>Did knowing your appointment was being recorded affect what you did/said during it? How so?</p>											
		↓									
<p>Do you use videos for other elements of your study?</p> <p>Probes: Why? What platforms? Self-selected or curated?</p>											
		↓									
<p>Are there any improvements you can think of for the service?</p>											

		↓									
Any further comments?											
		↓									
End interview. Ask participant if they want to clarify/change any answers given. Restate withdrawal process. Outline next steps in research. End recording											

Table I: What is your status as a student at XXX University?”.

Table I. “What is your status as a student at XXX University?”	
Domicile	Number of Responses (%) ¹
UK / Home student	51 (93%)
European Union	1 (1.8%)
International (non-EU)	3 (5.3%)
Total	55 (100%)

Table II: Which age group are you?”

Table II. “Which age group are you?”	
Age of respondent	Number of Responses (%)
18-25	29 (50.9%)
26-35	13 (22.8%)
36-45	12 (21.1%)
46-54	3 (5.3%)
55+	0
Total	57 (100%)

Table III “Are you on an undergraduate or postgraduate course?”

Table III. “Are you on an undergraduate or postgraduate course?”	
Level of Study	Number of Responses (%)
Undergraduate	50 (87.7%)
Postgraduate	7 (12.3%)
Total	57 (100%)

Table IV “Are you a full time or part time student?”

Table IV. “Are you a full time or part time student?”	
Mode of Study	Number of Responses (%)
Full Time	51 (89.5%)
Part Time	6 (10.5%)

¹ Totals may not equal overall sample as demographic questions were explicitly stated as voluntary in the questionnaire.

Total	57 (100%)
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Table V “What course are you studying?”

Table V. “What course are you studying?”	
Programme	Number of Responses (%)
BSc Occupational Therapy	36 (63.2%)
BSc Physiotherapy	11 (19.3%)
MSc Advancing Physiotherapy Practice	3 (5.3%)
MSc Manual Therapy	3 (5.3%)
BSc Paramedic Science	2 (3.5%)
BSc Prehospital Emergency Care	2 (3.5%)
Total	57 (100%)

Table VI “How useful did you feel having a video/screencast of your librarian appointment was?”

Table VI. “How useful did you feel having a video/screencast of your librarian appointment was?”	
Response	Number of Responses (%)
Not at all useful	0
Not very useful	0
Not sure	1 (1.8%)
Somewhat useful	1 (1.8%)
Very useful	55 (96.5%)
Total	57 (100%)

Table VII “How did you use the video/screencast from your librarian appointment? (Tick as many boxes as apply)”

Table VII. “How did you use the video/screencast from your librarian appointment? (Tick as many boxes as apply)”	
Reported Use	Number of Responses (%)
“I didn’t use it”	1 (1.8%)

“To teach or remind me of general points about my search strategy (e.g. general advice on the different stages of my research)”	43 (75.4%)
“To teach or remind me of specific points about my search strategy (e.g. specific search techniques such as using Cinahl/MeSH headings in my search)”	51 (89.5%)
“To provide instructions for handling my results (e.g. saving searches, exporting results)”	38 (66.7%)
“To explain/revise concepts”	26 (45.6%)
Other	1 (1.8%)
Total	160 (100%)

Table VIII Reported purposes of recording viewing matched to knowledge types as categorized by De Jong and Ferguson-Hessler’s (1996)

Table VIII. Reported purposes of recording viewing matched to knowledge types	
Reported Use	Knowledge Description and Rationale
“I didn’t use it”	N/A
“To teach or remind me of general points about my search strategy (e.g. general advice on the different stages of my research)”	Strategic Knowledge – use of the recording was to teach/remind the learner of the overall steps required in a search strategy.
“To teach or remind me of specific points about my search strategy (e.g. specific search techniques such as using Cinahl/MeSH headings in my search)”	Procedural Knowledge – use of the recording was to teach/remind the learner of the individual steps involved in completing a search.
“To provide instructions for handling my results (e.g. saving searches, exporting results)”	Procedural Knowledge – use of the recording was to teach/remind the learner of the individual steps required to handle results.
“To explain/revise concepts”	Conceptual Knowledge – the use of the recording was to teach/remind the learner about concepts involved in the search process.
Other	Individually categorised based on response (where appropriate).

Table IX Respondents reporting multiple purposes for use of recording

Table IX. Respondents reporting multiple purposes for use of recording ²

² Excluding 1 response indicating non-use of recording.

Number of reported purposes	Number of Individuals (%)
1	6 (10.7%)
2	13 (23.2%)
3	21 (37.5%)
4	16 (28.6%)
Total	56 (100%)

Table X “How many times did you watch your video/screencast? (either in pull or parts of it)”

Table XIV. “How many times did you watch your video/screencast? (either in pull or parts of it)”

Number of views	Number of Responses (%)
I didn't watch it	0
Once	2 (3.5%)
Twice	18 (31.6%)
Three times	21 (36.8%)
Four or more times	16 (28.1%)
Total	57 (100%)

Table XI Reporting of number of times video watched compared to number of reported reasons for watching

Table XV. Reporting of number of times video watched compared to number of reported reasons for watching

Number of views	0 reported uses (%)	1 reported use (%)	2 reported uses (%)	≤2 reported uses (%)	3 reported uses (%)	4 reported uses (%)	3-4 reported uses (%)
Once	1 (20%)	0	0	1 (20%)	0	4 (80%)	4 (80%)
Twice	0	3 (16.6%)	7 (38.8%)	10 (55.4%)	6 (33.3%)	2 (11.1%)	8 (44.4%)
Three times	0	2 (9.5%)	4 (19%)	6 (28.5%)	11 (52.3%)	4 (19%)	15 (71.3%)
Four or more times	0	1 (6.2%)	2 (12.5%)	3 (18.7%)	4 (25%)	9 (56.2%)	13 (81.2%)

Table 1 “How much of your video/screencast did you watch?”

Table XVI. “How much of your video/screencast did you watch?”	
Response	Number of Responses (%)
None of it	0
Not sure	1 (1.8%)
A little/small parts of it	2 (3.5%)
Most of it	11 (19.3%)
All of it	43 (75.4%)
Total	57 (100%)

Table XIII “Do you have any other comments and/or feedback about having your librarian appointment recorded?”

Table XIX “Do you have any other comments and/or feedback about having your librarian appointment recorded?”				
Category	Sub-category	No. of units of analysis	Total	Examples
Positive	General Positive	9	63	<p>“I consider it very efficient, especially for students who have never used such searching strategies in the past.”</p> <p>“Really guided me to finish the search for my dissertation”</p>
	Useful	19		<p>“I think this is a very useful service, nice and easy to follow and has it set in a way I understand because we sat and went through it so there was no way for me to get confused.”</p> <p>“Very useful especially when learning new concepts”</p>
	Helpful	16		<p>“I found this appointment and screen recording really helpful, otherwise I wouldn't have known what to do without it.”</p> <p>“really helpful and reassuring”</p>
	Helped with remembering tasks	7		<p>“I found it really beneficial to have to screen and audio recording of my appointment, I was able to quickly look back and remind myself and use it to carry out my own search strategy/prisma etc. step-by-step without needing to ask for more help.”</p> <p>“It was helpful to remind me what we'd spoken about, things I'd raised and forgotten about and things you mentioned which is forgotten but was very useful to know.”</p>
	Learned how to complete activity	4		<p>“This was a very handy thing to have in place to be able to access as and when needed. It helped a lot to re watch and follow steps at my own speed to ensure I did it correctly.”</p>

	Positive comparison to traditional notetaking	8		<p>“Great use of time for me, and great to be able to refer back to as note taking often misses points.”</p> <p>“Having the screen recording is very useful to look back on compared just note taking.”</p> <p>“It was so useful because it meant that i didnt need to take notes and could concentrate fully on the process. If I have to write notes i am worried I'll miss something. it was useful to watch the recording at different points in process. It was so helpful- thank you” [sic]</p>
Negative	Difficulty accessing recording	1		“I had trouble opening the video when it was emailed to me, I found the way to open it was to send it to a friend and then open it through the messages app. Other than that the video and audio was very helpful.”
	Poor audio quality	1		“The first appointment I could hear my audio but the second appointment I could only hear the librarians - this didn't really matter for using the video”
Neutral	Request for further recordings	1		“I think the recording was of great use to support my research. I would like to see more recorded topics such as using ref works and referencing.”

Table XIV Characteristics of Interview Participants

Table XXI: Characteristics of Interview Participants		
Participant Number	Course of Study	Level of Study
1	BSc Occupational Therapy	Final Year Undergraduate
2	BSc Occupational Therapy	Final Year Undergraduate
3	MSc Advancing Physiotherapy Practice	Postgraduate
4	BSc Physiotherapy	Final Year Undergraduate
5	BSc Physiotherapy	Final Year Undergraduate
6	MSc Advancing Physiotherapy Practice	Postgraduate
7	BSc Occupational Therapy	Final Year Undergraduate
8	BSc Occupational Therapy	Final Year Undergraduate
9	BSc Occupational Therapy	Final Year Undergraduate
10	BSc Physiotherapy	Final Year Undergraduate