What is the user perception of the virtual shelf browse function of academic library websites?

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I, Niamh Gaskin, declare that this research is my original work and that it has never been presented to any institution or university for the award of Degree or Diploma. In addition, I have referenced correctly all literature and sources used in this work and this work is fully compliant with the Dublin Business School’s academic honesty policy.

Signed: Niamh Gaskin

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Abstract

Academic library websites and online catalogues are increasingly becoming a user’s first interaction with library services when beginning an information search. Because of this, it is vital that these online discovery tools are accessible and user-friendly for all. One goal of this exploratory research is to gain an insight into user’s perceptions of academic library websites and online discovery tools. However, the focus of this project was to evaluate the user response to one particular feature offered by several academic library catalogues. The virtual shelf browse tool simulates the experience of physically browsing library shelves by representing books or materials as icons of books sitting on a virtual shelf. This research asked whether users felt that this feature made the online catalogue more engaging and if it helped make navigating the catalogue easier. This research interviewed 3 Systems Librarians by e-mail to get an understanding of the logistics of the virtual shelf in their institution. To investigate whether the virtual shelf could improve or hinder how accessible a library catalogue is, the researcher interviewed three users with disabilities. A questionnaire was created and advertised publicly on Twitter to learn about user perceptions of the online discovery tools in general and the virtual shelf browse feature in particular. Findings from this research suggest that a significant number of users find searching through the online catalogue frustrating or inefficient. The research suggests that catalogues need to be made more intuitive or there needs to be more instruction for users in how best to search. Users showed a preference for information to be presented in different formats and were interested in using the virtual shelf browse feature. However, many were unaware that this feature existed and had no previous experience using it.
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Chapter 1 – Introduction

Academic library users are more likely than ever to use library websites and the online catalogue as their first port of call for library research (Carr, 2015; Zaid and Zaid, 2017). If users are relying more on online discovery tools, it is essential that we evaluate these to see how user friendly and accessible they are for users. Websites and discovery tools that present information effectively in a variety of formats have a greater chance of being engaging, intuitive and helpful for the entire intended audience. One such way in which online discovery tools can make their site more visually engaging is by implementing a virtual bookshelf tool.

Virtual shelf browsing aims to recreate the browsing experience of being in a physical library or bookshelf while using a library website. It combines ease-of-use with an engaging way of searching resources. It can be a helpful and interactive addition to a library catalogue. Universities have been experimenting with using the virtual shelf browse function since 2008. Virtual shelves come in many different iterations and serve different purposes. Some just highlight exactly what is present on the physical shelf in the library beside the resource a user is looking at, as with the virtual shelves used by academic library websites in Ireland. As will be seen in the literature review, virtual shelves can be employed to create an imaginary shelf to organise material in a different way to that of the shelves and to highlight it to a new audience, as California State University has experimented with (Dahlen Sarah P., Watkins Steve G. and Trott Barry, 2013). Virtual shelves can be used to recommend books by showing books by the same author or books of the same genre, as New York Public
Library demonstrates on their site. Both physical resources and/or electronic resources can be included in a virtual shelf to help users find the material they need.

In an Irish context, all public libraries in Ireland can be searched using the one user interface, which does not include a virtual shelf. There are, however, many academic institutions that include the virtual shelf as a feature on their library catalogue.

![Fig. 1.2 – New York Public Library uses Virtual Shelves to recommend books. (New York Public Library Catalog, no date)](image)

When researching this topic, it became clear that there is a gap in the literature for an exploration of user perceptions of virtual shelf browsing. Research that explicitly explored virtual shelves focused on how libraries used them to promote recreational reading materials (Dahlen Sarah P., Watkins Steve G. and Trott Barry, 2013; Proctor and Barstow, 2013). As academic libraries often struggle with space issues and many institutions must store resources off-site or in areas that are not available to users, the virtual bookshelf has been employed by several institutions to make these resources seem more accessible (Macquarie University Library, Syracuse University Library, North Carolina State University). This research aims to study the current perceptions of virtual shelf browsing among users of academic libraries.
Research Question

What is the perception of the virtual shelf browse function of academic library websites?

Research Sub-questions

Are users aware of it?
Are users aware of this function? Have they experience using it? Do libraries highlight and demonstrate this to users?

Do users feel the virtual shelf helps them find resources efficiently?
Do users find that this function helps them find relevant resources in an efficient manner? Related to this, it would be interesting to see if users believe that virtual shelf browsing allows for “accidental discoveries”.

Do users think it allows for holistic accessibility?
Do users with accessibility issues find that navigating the library website is made easier using the virtual shelf browse?

Research Question Explanation

It is important to measure the impact of all implemented library services; this research hopes to explore if people are using the virtual shelf browse while looking for resources. Are people aware of this function on the library site and are they familiar with using it? If people are not aware, it is important to ask if libraries are doing enough to market this element of their website and to explain the benefits of using it to their patrons.

Measuring the value of new library features is another essential element of evaluating library services. When carrying out this research, it is important to ask users if they feel that virtually browsing the shelves helps them retrieve relevant and helpful information resources. As we will see from the literature review, the idea of serendipitous discoveries can be seen as a positive or negative thing to promote in libraries. This research aims to explore whether the virtual shelf allows users to perceive they are having “accidental discoveries” in a controlled online environment.
Presenting information in different formats can allow for greater web accessibility for users. This research will question whether users find that the virtual shelf browse functions allows for greater accessibility to the library website and catalogue.

Dissertation Structure

➢ Chapter 1: Introduction.

➢ Chapter 2: Literature Review – this chapter will explore the literature on the main themes of this research: web accessibility, serendipity, browsing and the virtual shelf browse tool. In this chapter, this research will be contextualised in the larger canon of literature on these subjects.

➢ Chapter 3: Methodologies – the research strategy for this project will be outlined here. The ethical considerations and limitations of this research will be examined.

➢ Chapter 4: Findings – this chapter will outline the primary findings of the research.

➢ Chapter 5: Discussion – this chapter will explore the findings of the research and examine whether the data collected contributes to the body of knowledge on this subject.

➢ Chapter 6: Conclusions and Recommendations – the researcher will reflect on what the research findings can mean for libraries and recommends what further study could be done on this subject.

➢ Chapter 7: Personal Reflection – the researcher will reflect on the learning experience of the dissertation and the course in general.
Chapter 2 – Literature Review

Literature Introduction

Before embarking on a research project of this nature, it is important to explore what studies and literature already exists relating to the topic. The main goal of a literature review is to provide a comprehensive and up-to-date review of the topic (Galvan and Galvan, 2017). There is limited literature that focuses entirely on the virtual browse shelf tool so it is important to explore the literature that helps to contextualise the virtual shelf. This chapter will discuss the literature surrounding general accessibility in libraries, web accessibility in libraries, serendipity in libraries, browsing and the virtual shelf browse tool.

Accessibility in Libraries

Pionke argues that there is a trend in library research about accessibility for librarians to interview other librarians, while neglecting to ask the functionally diverse about their experience of libraries (Pionke, 2017). Similarly, Pionke criticises the tendency to focus narrowly on one disability in research and advocates for a more holistic approach towards accessibility (Pionke, 2017, p. 49). Pionke ensured that the research they carried out would directly ask a group of people with diverse functional requirements about their library experiences and recommendations. From these interviews, it was recommended that libraries take several big issues into consideration. It was important for some users that libraries provide a quiet space for people with disabilities (Pionke, 2017, p. 51). This may have seemed like an obvious requirement of libraries, but many libraries are moving more and more towards being social spaces rather than quiet storage houses for books. While this may be a positive step in library services, libraries should consider having a designated quiet space with limited distractions for students. According to participants, libraries tended to have inconsistencies with physical access, for example the aisles being too narrow for wheelchairs even though the building has wheelchair accessible entrances (Pionke, 2017, p. 52).
One finding of Pionke’s study is that patrons with disabilities were particularly concerned with finding resources online because the stacks were physically inaccessible to them (Pionke, 2017, p. 53). Patrons with issues accessing the stacks often relied on help from others to physically retrieve books (Pionke, 2017, p. 52). If the stacks are inaccessible or physically exhausting for patrons, it is essential that they can find out online where resources are situated. This highlights that a feature like the virtual shelf browse tool may help those with a range of disabilities to navigate the library resources online and in the physical library.

A recurring idea in literature regarding accessibility in libraries is that librarians and information professionals are not trained effectively to cater for the functionally diverse, particularly regarding web accessibility. Pionke highlights that LIS courses do not discuss adaptive technologies (Pionke, 2017, p. 49). A chapter of *Web accessibility: practical advice for the library and information professional* is dedicated to shining a light on this gap in LIS training and to highlight available resources for LIS professionals to teach themselves about web accessibility.

**Web Accessibility**

The concept of web accessibility is central to this dissertation proposal. The importance of web accessibility in academic library websites is highlighted in Zaid and Zaid’s article on Nigerian Academic Library sites. They acknowledge that “websites are the likely first points of call for the potential library users” (Zaid and Zaid, 2017, p. 4). Pionke asserts that learning through online environments is a gateway for people with disabilities, therefore web accessibility is a vital component for overall library accessibility (Pionke, 2017, p. 49). This idea is confirmed by a study of faculty at Indiana University and the University of North Carolina at Chapel Hill, which found that less than 5% of respondents start their research at the library building (Carr, 2015, p. 838). If users are more frequently relying on websites and digital resources for their research, it is essential that we take accessibility into account. These services and platforms should be placed under the same degree of scrutiny regarding accessibility as the physical library building. This research project aims to explore user
perceptions about the accessibility of academic libraries websites. It will focus on whether the virtual shelf browse function allows for greater web accessibility.

The collection of essays *Web Accessibility: practical advice for the library and information professional* informs us of the relevance of web accessibility as well as how websites can be audited and improved. Several authors in this book recommend that a site should be tested by intended users with disabilities to evaluate how accessible the website is (Brophy, 2008; Craven, 2008; Howell, 2008). Howell maintains that the most effective way to audit a web resource for accessibility is to involve people with disabilities and Brophy cements this idea by highlighting the importance of listening to the users of websites (Brophy, 2008; Howell, 2008). Howell suggests that remote user testing could overcome some of the barriers for people with disabilities getting involved in user testing (Howell, 2008, p. 84). However, Howell notes that when employing this method, the researchers must be wary of the fact that this approach may attract people who are already technically literate and would perhaps isolate users who are not (Howell, 2008, p. 84). This research project was inspired by these ideas to listen to the experiences of users with disabilities. It aims to ask users with experience of using academic library websites and online catalogues about their experiences.

Draffan’s essay asserts that almost all changes made to suit users with accessibility issues provide benefits for all users (Draffan, 2008). This idea is complemented by a study carried out among web accessibility professionals and related groups. This found that the majority of people surveyed perceived that web accessibility helps everyone (Yesilada et al., 2015). It could be argued that this study is biased considering the respondents were all working with web accessibility at the time or active in a related group.

While the virtual shelf browse function is not explicitly mentioned in the literature about web accessibility, it can be argued that it meets some of the criteria laid out for facilitating accessibility. Ball maintains that the best practise for web accessibility is to have information presented in a variety of different ways (Ball, 2008, pp. 34–35). In this way it can help people from a diverse functional background as well as being more engaging for learners who may learn better outside of a text-based environment (Ball, 2008, p. 35). The virtual
shelf browse presents information resources in a different, interactive format than the general catalogue searches. It may provide an alternative to users who find the library catalogue search results overwhelming or inaccessible.

**Serendipity in Libraries**

As will be discussed further in the section on virtual bookshelves, almost every work that explores the virtual shelf browse function mentions how virtual shelf browsing allows for serendipity or serendipitous discoveries. This is done with little exploration of what serendipity in library means and always with the assumption that this is a positive aspect of the tool. Burton and Kattau suggest that ‘one of the joys of university library collections is their serendipitous nature’ (Burton and Kattau, 2013, p. 112). This glorification of serendipity in libraries is seen throughout the literature on virtual bookshelves. However, there are many conflicting views about the importance of serendipity in libraries outside of the literature focused on virtual bookshelves.

Serendipitous discovery in libraries and research – the idea of finding things by accident or by luck – is seen as encouraging creativity by some and as supporting irresponsible research methods by others. Patrick L. Carr’s work on serendipity in libraries explores the problems associated with finding things by “accident”. Carr makes the valid point that for the most part, the experience of serendipity in libraries is perceived as an unintentional find, rather than being the result of an accident (Carr, 2015, p. 838). Where resources are organised by subject by information professionals, is it accurate to say that someone finding a related book in their search is purely “accidental”? Carr asserts that if libraries encourage serendipity they are in conflict with tools for discovery online that aim to help users find information intentionally and efficiently (Carr, 2015, p. 838).

In *The Filter Bubble: What the Internet is Hiding from You*, serendipity is posed as a healthy reprieve from a digital environment that personalises search results and limits users from being exposed to new ideas and ideologies (Pariser, 2011). The author goes as far as to suggest that “serendipity is a shortcut to joy” (Pariser, 2011, p. 224). Whereas Carr perceives the fact that serendipity is at odds with organised online information environments, Pariser
believes that consumers would benefit from systems that are good at introducing them to new topics (Pariser, 2011, p. 236). Pariser’s work is focused broadly on online information environments, not academic library online discovery tools. However, the premise of the importance of encouraging exposure to new ideas and ideologies can be applied to serendipity in an academic library.

Many of Carr’s arguments against serendipity and Barclay’s against browsing are echoed in an academic blog by Brian Mathews: “Haystacks vs. Algorithms: Is Scanning the Stacks for [Pretty] Books Really the Best Research Strategy?”. Mathews suggests that serendipitous discoveries outside of browsing the library occur frequently, but they go unnoticed. It is in the ‘romantic setting’ of the library stacks that they seem more special to users (Mathews, 2013). Mathews encourages serendipity but suggests that users need to be open to accidental discoveries in every environment – including online environments such as Twitter or search engines. Mathews theorizes that accidental discoveries may happen anywhere if users are open to them and acknowledges that serendipity is “a state of mind” (Mathews, 2013). However, Pariser would argue that these serendipitous discoveries online are being limited by the personalised online environment.

A study “Observing Serendipity in Digital Information Environments” was carried out with the intention of learning how best to facilitate serendipity in information searches (Makri et al., 2015). It specifically mentions “digital bookshelf visualizations” as a potential way for digital library environments to highlight “less obvious” links between books (Makri et al., 2015, p. 9). This research aims to explore how virtual shelf browsing may be a compromise for those who are wary of serendipity and those who wish to encourage it. Virtual shelf browsing may create the perception of an “accidental” discovery, while facilitating discovery in an organised online environment.

**Browsing in Physical Libraries**

Before focusing on the virtual browse shelf tool in particular, it is vital that we consider the literature surrounding the act of browsing in libraries and its importance in academic research. In “A Case for Browsing”, Barbara Montgomery argues that browsing is not a good choice for academic research, but is something that should be encouraged in young readers
in order to discover new ideas and interests (Montgomery, 2014). Montgomery’s work includes a succinct literature review on browsing but is mostly based on her own personal experiences working as a school librarian. Her suggestion that librarians disapprove of browsing because it bypasses the need for librarian’s services fails to acknowledge that browsing by author, age group, subject or topic would not be possible if these books had not been carefully classified and arranged by librarians.

“The Myth of Browsing” is a short piece that was written in response to an event at Syracuse University Library. When the University announced its intention to move a large amount of the book collection in its library into off-site storage, there was a vitriolic reaction from faculty who suggested that this would turn the library into “an internet café” (Donald A. Barclay, 2010). Barclay’s piece is a short history of physical browsing in academic libraries that highlights the disadvantages of using this method of research. He highlights that physical browsing often overlooks books that are in high circulation and are often checked out. As well as this, browsing does not take into consideration the potential that a book relevant to a number of disciplines may only be shelved in one section of a library. Barclay notes that books that are in the middle shelves circulate more than those above or below and acknowledges that this may be because of the physical inaccessibility of these shelves. This idea echoes Pionke’s suggestion that the stacks are physical inaccessible for many users (Pionke, 2017).

Barclay also discusses the essential problem of storage space in academic libraries, which will be covered in more detail when we review the literature on virtual shelves. While Barclay’s work succinctly summarises some of the problems with browsing, it seems directed at changing the minds of those angry at this particular crisis at Syracuse University. It does not contain any primary research into user perceptions of browsing or into the browsing habits of students or faculty. At the time of the publication of this article in 2010, some universities were already experimenting with virtual shelves in their catalogues, for example University of Huddersfield (Pattern, 2008). However, Barclay discusses online browsing experiences only in the context of online bookstores. It is interesting to note that Syracuse University Library, the library at the centre of the crisis Barclay discusses, adopted virtual book shelves in 2012 and published a guide showing students how to use them.
This guide is short, mostly text-based and includes a link to a video demonstrating using the library shelf. It is helpful for users that this visual demonstration is included, as the virtual shelf may be best suited for those who do best outside of a text-based environment. As we will see from the literature on virtual shelves, this is just one example of a university implementing the virtual shelf to help users who are denied access to the physical stacks to replicate the browsing experience.

**Virtual Browse Shelf Tool**

Literature that explicitly discusses virtual shelves on library sites explores how virtual shelf browse can be used to organise material to highlight it to a different audience or how it can be used to facilitate browsing books and materials in off-site storage. Two studies explored the benefits of the virtual shelf browse function being used to encourage recreational reading in university libraries (Dahlen Sarah P., Watkins Steve G. and Trott Barry, 2013; Proctor and Barstow, 2013). This literature highlights one of the most obvious aims of virtual shelf browsing – it tries to simulate the experience of browsing in a public library or bookshop (Dahlen Sarah P., Watkins Steve G. and Trott Barry, 2013, p. 94).

California State University used the virtual shelf browse function in a project to promote recreational reading among the students and faculty at the college (Dahlen Sarah P., Watkins Steve G. and Trott Barry, 2013). The library wished to promote materials that were already in the library that they felt students and faculty from all departments may enjoy for recreational reading. Creating a virtual shelf of this material allowed them to promote these materials without using the resources of space or staff time by creating a physical reading collection space in the library. The University found a 21.6% increase in circulation of these materials which meant a significant uptake in adoption with minimal resources used (Dahlen Sarah P., Watkins Steve G. and Trott Barry, 2013, p. 98).

University of Wyoming Libraries (UWL) were early adopters of a cloud library for recreational e-books (Proctor and Barstow, 2013). This cloud library service provided a virtual shelf browse for their students and faculty to browse these reading materials. This shows that virtual shelves can be used to represent e-materials and make them seem more
accessible to users. These two works are examples of University libraries exploring the potential of the virtual shelf browse function. However, both of these works are relevant to recreational reading whereas this study would like to look at users who engage with virtual shelves during academic library research.

As Barclay notes in “The Myth of Browsing”, academic libraries face a space crisis where huge on-site collections are becoming an “unsustainable luxury” (Donald A. Barclay, 2010, p. 54). Two works explore Sydney’s Macquarie University and its decision to make a large part of its Library collection accessible only with an Automatic Storage and Retrieval System. “Out of Sight but not Lost to View” is an evaluation written two years after the change to see how effective it has been (Burton and Kattau, 2013). This work justifies the decision as an economically wise use of space, highlighting that it allowed works in off-site storage to be returned to the on-site library. As with the change in Syracuse University, the change was met with disappointment and anger on campus, leading to two negative articles being written in college newspapers. As a way of ensuring the books and resources which users could not physically browse were not “lost to view”, Macquarie introduced the virtual bookshelf as a tool in the online catalogue. The process of introducing this and the reaction to it is expanded in an earlier work by Burton and Kattau, “Building in the ‘e’: creating the virtual bookshelf” (Burton and Kattau, 2012).

This work asks the question: “why, if browsing has worked for hundreds of years, have libraries not been prepared to work at ways to encourage it to happen in the electronic environment?” (Burton and Kattau, 2012, p. 1). Barclay’s work suggests that this is factually incorrect for academic libraries and that allowing students and faculty to physically browse the stack is only a recent phenomenon, adopted after World War 2 (Donald A. Barclay, 2010, p. 53). However, this question still raises an interesting point about the reluctance to encourage browsing and serendipity in online discovery tools. Burton and Kattau give a summary of the process of implementing the virtual bookshelf, including the need to assign electronic resources call numbers so that they may be included in the virtual shelf. This work is the only example in this review where users were asked their opinions of the virtual shelf browse tool and the results were overall positive. Clients found the Virtual Bookshelf
“exciting” and “useful” and the majority were aware of the feature and had used it (Burton and Kattau, 2012, p. 8).

James Padgett and Jonathan Hooper have written another account of implementing the virtual bookshelf using the Sierra Library Management System closer to the Irish context, at the University of Leeds (Padgett and Hooper, 2015). At the University of Leeds, the virtual bookshelf is used to highlight similar material in a ‘People who borrowed this also borrowed...’ feature. This work maintains that this is a more ‘serendipitous way’ to find information and allows users to ‘stumble upon that key item’ they may have otherwise overlooked (Padgett and Hooper, 2015). This article is informative about how they developed and managed this feature, including explaining the coding script used. The function relies on reading analytics collected on an opt-out basis from users, something that may need to be altered now considering General Data Protection Regulation compliance requirements.

The vast majority of literature about virtual bookshelves mentions that virtual browsing allows for serendipitous discoveries. This seems to be perceived as one of the main advantages of the virtual shelf browse tool. However, these works fail to acknowledge that this serendipity may only be perceived and overlooks the work that librarians must put in to create the environment were ‘serendipity’ or perceived serendipity is possible. This literature takes for granted that encouraging serendipity in libraries is a good thing.

Monica Moore explores online discovery tools and argues that after implementation and ensuring they work, there is often a lack of evaluation and follow-up to thoughtfully promote and the curation of their content (Moore, 2016). Moore argues that discovery tools should ideally break down the access point silos and allow users to have a Google-like experience while searching through the library resources (Moore, 2016, p. 150). Her work provides interesting insights using recorded data of online user engagement from the Hesburgh Libraries at the University of Notre Dame. Search strings that were recorded indicated that the majority of searches from users were unknown-item searches, looking for a broad exploration of a topic rather than a specific resource (Moore, 2016, p. 155). This is relevant to the virtual bookshelf as this type of search is suited to the browsing it facilitates.
Moore briefly talks about the virtual shelf as a feature offered in their online discovery tool which allows users to find similar content to what they are currently viewing (Moore, 2016, p. 153). The virtual bookshelf data is included in ‘I want something like it’ events (actions taken by users) and the number of these events are proportionately very small, 3.6% of total events (Moore, 2016, p. 153). Moore does not explore why this might be, whether this is due to a lack of awareness or if it is not an intuitive feature for users. Moore’s work discusses ‘inclusion’ and ‘access’, but in a different context than what this research aims to explore. The focus of Moore’s work is on allowing users to search across all library resources in the one place and inclusion means ensuring resources are available for users to search through and access. This dissertation project is interested in exploring whether users feel excluded from using online discovery tools as their assistive technologies are not facilitated or they find the discovery tools too difficult to navigate. This work provides some interesting insights about what users are doing with the online discover tools but follow up would need to be done asking why users are engaging in this way. This research hopes to expand on that by asking users why they use or do not use the virtual bookshelf to find resources.

**Literature Conclusion**

The existing literature surrounding accessibility and web accessibility does not explicitly explore the virtual shelf browse function. However, it does show a move towards exploring holistic accessibility and it recommends listening to the experience of users with varying abilities. It recommends that library staff and information professionals receive more training regarding helping people from a diverse range of abilities access their services.

The place of serendipity, or “accidental” discovery, in libraries is a contentious issue for academics writing about it. Some feel it is an essential part of research and allows for creativity, while others warn it is irresponsible to glorify this method of finding resources. It could be useful, as with accessibility, for literature surrounding this topic to involve the users and ask their experiences and thoughts on serendipity. Virtual shelf browse is briefly suggested in an article as a means to encourage serendipity in an organised online
environment (Makri et al., 2015). This research intends to further explore the idea that virtual shelf browsing may allow for the perception of serendipitous discovery.

Literature that deals with virtual shelf browsing involves how it can be exploited to organise information in a different context than its original purpose. For example, literature that has been purchased and stored in a library for academic study and which is intended for a particular discipline may be read for recreational purposes by a different audience. Some university libraries have employed a virtual shelf on their website to market this material to this audience. Universities have implemented a virtual shelf on their catalogue when storage issues have led them to deny users physical access to the stacks. As users are often frustrated by this, the virtual shelf has been employed to give them the experience of browsing and allowing materials to seem more accessible to users. The literature gives us examples of how universities have creatively used the virtual shelf.

This research hopes to address some of the gaps in the literature. There are no studies into people’s perceptions of the virtual shelf browse function in academic libraries outside of the US or Australia. The virtual shelf presents information in a different format to the general text-based environment and so hypothetically could make academic library websites and catalogues more accessible. However, no work has been done to evaluate whether the virtual shelf allow for greater web accessibility or to ask if it hinders users. Makri et al. suggest the potential for virtual shelf browsing to allow for greater serendipity in digital libraries, but this idea has not been interrogated elsewhere. This exploratory research hopes to gain an insight into these questions by asking users about their experiences and impressions of academic library websites and online discovery tools in general and the virtual shelf in particular.
Chapter 3 – Methodology

Methodology Introduction

This research study aims to get an understanding of users’ experiences using academic library websites and online catalogues, particularly looking at user perceptions of the virtual bookshelf tool. This chapter will outline the chosen methodology for this research study. There has been careful consideration to choose the approaches and methods that best suit this study and to ensure consistency throughout the research. This chapter will outline the research philosophy and approach, research strategy, sampling, data collection and data analysis procedures with the relevant approaches to this research study emphasised for clarity. To create a credible study, it is essential that these elements are evaluated, and viable options chosen before carrying out research. The ethical considerations of this research and the limitations of the research design will be explored.

Research Design

Research Philosophy

When embarking on a research project, it is essential that the researcher question their own belief systems and understand how these may influence their research strategy. It is important to evaluate existing research philosophies and establish which would be most suitable for their research needs. Designing a coherent and credible research project requires a credible research philosophy. This will be the foundation for the methodological choice, research strategy, data collection techniques and data analysis procedures (Saunders, Lewis and Thornhill, 2015, pp. 124–125). Though researchers will inevitably make assumptions throughout the course of the project, establishing a research philosophy will provide a “well-thought out and consistent set of assumptions” (Saunders, Lewis and Thornhill, 2015, p. 124).

Of the five major research philosophies (pragmatism, positivism, interpretivism, critical realism, postmodernism), interpretivism is the most relevant to this researcher and this research project. Interpretivists are interested in how humans create meaning and they believe that researching humans must be done in a different manner to studying physical
phenomena (Saunders, Lewis and Thornhill, 2015, p. 140). Interpretivism recognises that individual people are different from one another, and that these individuals form varying different understandings of the world around them. Interpretivists believe that meaning is constructed and re-constructed by people throughout their lives and are interested in the contextual factors that inform people’s construction of meaning (Flowers, 2009).

Interpretivism is explicitly subjectivist as it focuses on multiple interpretations and meaning-making (Saunders, Lewis and Thornhill, 2015, p. 141). With subjectivism, it is vital that the researcher is self-reflexive, constantly aware of and questioning their own biases. In this research, the researcher was aware of their own perception of the virtual shelf browse function and carefully considered how to ensure this did not affect the study. Subjectivists believe that phenomena cannot be studied separately from the people that engage with them. This is central to this research project as all discussion of the virtual shelf browse function revolves around studying the people who use it or the intended users.

**Research Approach**

This is an exploratory study into the perceptions of academic library websites, in particular the virtual shelf browse tool. Exploratory studies are helpful to gain a greater understanding of a phenomenon and also to determine whether this is an area worth further research (Saunders, Lewis and Thornhill, 2015, pp. 174–175). One advantage of exploratory research is that it is flexible and adaptable, the researcher must always be open to changing direction if data introduces new insights (Saunders, Lewis and Thornhill, 2015, p. 175). The data for this research was originally intended to be collected using an online focus group but recruiting an adequate number of participants for this proved impossible. The researcher was flexible and instead opted to carry out interviews and to develop a questionnaire to gather data for the study. Exploratory research may involve working with a broad topic of interest and narrowing down to become more focused as the research develops (Saunders, Lewis and Thornhill, 2015, p. 175). The literature review highlighted a lack of research into user perceptions of virtual shelves in academic library websites in the UK or Ireland, and so an exploratory study was deemed appropriate.
This study uses a mixed methods research approach to ensure greater accuracy and to get the most insight into the experiences and perceptions of users. Both qualitative and quantitative methods have their own weaknesses – qualitative is difficult to apply to a larger group and quantitative does not allow for a holistic understanding of the context of the data (Creswell and Plano Clark, 2007, p. 9). By employing both qualitative (interviews, open questions in questionnaire) and quantitative (closed questions in questionnaire) methods, the researcher aimed to get an understanding of both the perceptions and the context.

There are three main approaches for building a research theory – deductive, inductive and abductive (Saunders, Lewis and Thornhill, 2015, p. 145). If a project creates a theory from the data collected throughout the research, this is based on an inductive approach. An inductive approach is the most suitable for this research project as the research does not begin with an already formed hypothesis to test. The inductive approach suits working with qualitative data to explore different views of phenomena (Saunders, Lewis and Thornhill, 2015, p. 147).

Research Strategy

This research collected data through mixed methods collection. It involved interviews and a questionnaire. Interviews were carried out with library staff and the participants with disabilities as this gives respondents the opportunity to raise interesting ideas and issues that the researcher may not have been aware of. A questionnaire was used as it would not impose excessively on participants’ time. This could then give an insight into the larger user population, which - as was noted in above Research Approach - is one of the weaknesses of qualitative data.

Interviewing Library Staff

To get a better understanding of the context of the virtual shelf browse, several Systems Librarians and Library Staff responsible for Library Management Systems were interviewed by e-mail. These were very short interviews including questions about when the virtual shelf was implemented, why they chose to implement it and if they measure user engagement with this tool.
Interviewing Participants with Disabilities

Several researchers and authors in the literature surrounding this topic have suggested that the best way to measure accessibility and web usability is to involve the users themselves (Brophy, 2008; Craven, 2008; Howell, 2008; Pionke, 2017). This research aims to learn from the experiences and difficulties of users. Pionke argues that this is the way to ensure holistic accessibility in libraries (Pionke, 2017). The researcher hoped interviews would allow participants the freedom to discuss and highlight issues with the virtual shelf browse or ways in which it aids users that the researcher may not have included in a questionnaire.

Questionnaire

The questionnaire included quantitative and qualitative elements. Questions were devised with the intention to gain an insight into the following:

- Population of the questionnaire
- User perception of browsing
- User perception of academic library websites
- User research habits
- User awareness of the virtual shelf
- User experience with the virtual shelf
- User perception of academic library online catalogues
- User perception of serendipity
- User perception of the virtual shelf.

Sampling - Selecting Respondents

Sampling is required when it is impractical or impossible to collect data from the entire relevant population (Saunders, Lewis and Thornhill, 2015, p. 275). It would be impossible to contact all of the academic library website users in Ireland as recent figures suggest a total student population of 225,000 (Student Numbers in Ireland Top 225,000 | News | Higher Education Authority, no date). It was important to consider sampling in each of the three targeted population groups. To ensure reasonable accuracy, it is vital to carefully consider and choose samples. This section will break down the target population groups and the means of sampling each.
**Interviewing Library Staff**

Participants were chosen from Universities who currently have the virtual shelf browse function and so the researcher used **purposeful sampling** to select participants who have experience with the central phenomenon (Creswell and Plano Clark, 2007, p. 112). The researcher contacted staff involved with the Library Management Systems in Trinity College Dublin, University College Dublin, University of Limerick and Dublin Business School to get a better understanding of the context of the virtual shelf browse tool at these institutions. The relevant staff were identified using the library staff directories, occasionally the staff contacted recommended someone with more experience of this particular aspect of the catalogue.

**Interviewing Users with Disabilities**

When recruiting participants for interviews about web accessibility, the researcher used **self-selection sampling**, where each case is allowed to come forward themselves with a desire to take part in the research (Saunders, Lewis and Thornhill, 2015, p. 303). With self-selection sampling, first the researcher publicises their need for cases and then they collect data from those who respond (Saunders, Lewis and Thornhill, 2015, p. 303). In this case, the researcher advertised through e-mail and Twitter that they were looking for participants who were registered with the Disability Service in their institutions to talk about their experiences using the library website and catalogue. The Deputy Librarian at Dublin Business School helped to e-mail the researcher’s details out to past and present users of the Disability Service. The Student Union Welfare Officer at UCD also shared information about this research on their Twitter account. In this way, the research project was able to recruit 3 interview participants.
Questionnaire

The target population for this study was users of academic library websites. As with the interviews with users with disabilities, volunteer sampling was employed, and self-selection sampling was chosen again to find respondents. The questionnaire was aimed at all users of academic library websites – students, faculty, staff, etc. As this study was exploratory in nature, the researcher did not limit the questionnaire to users in Universities already employing the virtual shelf browse tool. This was in order to explore whether users who do not currently have access to this tool on their library management system would be likely to use it if it were to be implemented. The questionnaire was shared on the researcher’s Twitter account, by numerous members of library staff working in academic libraries and by the library accounts of several institutions.

Data Collection

Interviewing Library Staff

After identifying the library staff to contact, the researcher sent an e-mail detailing what this research project was about and attached the information sheet and consent form. If the library staff replied with the consent form signed and affirmed that they were happy to answer questions, the researcher followed up with the relevant questions. Participants then responded with their relevant answers which provided the interview transcript. One advantage to using e-mail for this data collection was that it gave staff time to double-check dates and metrics that they may not recall in a face-to-face interview or over the phone.

Interviewing Users with Disabilities

Three successful interviews were carried out with users who identified as having a disability and agreed to be interviewed for this research. Before the interviews, the researcher shared the information sheet and consent form with the potential interviewees. One interview was carried out over the phone, one interview was in person and one interview was conducted by e-mail. The participants were given the choice as to which type of interview suited them best, as the researcher was conscious that there may be accessibility barriers to meeting in person. The in-person and phone interviews allowed for naturalistic and interactive data collection (Saunders, Lewis and Thornhill, 2015, p. 168). However, it was important to
remember researcher bias in these interviews and to try to moderate the conversation rather than influence it.

**Recording and Transcribing Interviews**

One advantage to interviewing participants by e-mail is that their answers are already transcribed, and it reduces the likelihood of errors as the researcher is not relying on memory or on a recording which may not always be clear. Interview transcriptions were saved immediately, and the files labelled in a clear manner that protected the anonymity of the participants.

Before the phone interview and the in-person interview, participants were asked if they were comfortable with the interview being recorded. Participants raised no objections, so these interviews were recorded on the researcher’s phone using a pre-installed voice recorder app. Recording interviews to be transcribed later can ensure accuracy as trying to transcribe from memory is unreliable and may be subject to the biases of the researcher. These transcriptions were also labelled to preserve participant anonymity. The researcher took notes throughout these two interviews in case the recording was unclear or in case the recording failed. These notes were also used to confirm accuracy in cases where the recording was unclear.

**Questionnaire**

This questionnaire was promoted on the researcher’s Twitter and other social media accounts. The Head Librarian at Dublin Business School helped to share and promote the questionnaire to Librarians and other library staff who were in a position to share to large groups of users. The questionnaire was shared by the Twitter accounts of several large organizations and libraries including DIT Aungier St Library and Trinity College Dublin library. The researcher asked the Association for Higher Education, Access & Disability (AHEAD) to share it with their followers in the hope of getting some further respondents who identified as having a disability. A selection of the tweets promoting this research have been included in Appendix D.
The questionnaire was created using Google forms as this is a free, easy-to-use data collection tool online. It was designed to be self-administered in the hope that this would eliminate researcher bias that may have been present in the interviews. The questionnaire included both open and closed questions. The questionnaire consisted of a total of 38 possible questions, but users who had experience of the virtual shelf browse function were asked to complete a separate section than users who had no experience of using this tool. This meant that users with past experience using the virtual shelf browse tool were asked a total of 31 questions. Users who had no prior experience with the virtual shelf were asked a total of 30 questions. The questionnaire was opened on the 9th of July 2018 and was closed on the 16th of July 2018. With limited time to code, analyse, present and evaluate the findings, it was decided not to let it continue for another week, though this may have helped to gather more responses.

Data Analysis

This research study will involve qualitative and quantitative analysis. The emphasis will be on qualitative analysis to scrutinise the data, evaluate and present findings. Wildemuth and Yan set out the following steps for qualitative analysis to ensure credible, trustworthy findings (Wildemuth and Yan, 2017):

1. **Prepare the data** – in the case of this research, the transcript of the interviews and the data collected using the questionnaire.
2. **Define the unit of analysis** – in this case, a theme as a coding unit.
3. **Develop categories and a coding scheme** – develop categories inductively and create a coding manual.
4. **Test your coding scheme on a sample of text** – check coding consistency and revise.
5. **Code all the text.**
6. **Assess your coding consistency** – re-check the consistency of your coding.
7. **Draw conclusions from coded data** – make inferences and try to reconstruct meaning from the data.
8. **Report your methods and findings** – describe and interpret your results, display data.
These steps have been employed in the qualitative analysis of the data collected. The researcher received a tutorial in how to use the computer-aided qualitative data analysis software Nvivo in the module Research Methods 1. However, as access to this software was solely available in the computer rooms in Dublin Business School and the researcher is not based in Dublin, it was decided to use Microsoft Word to code the data. This was possible given the number of respondents and interviewees in this research, though for a larger project it could be necessary to use Nvivo to manage all data collected.

The researcher used some quantitative analysis to explore some of the quantitative questions from the questionnaire, analyse the findings and present them in an engaging manner, e.g. the number of people from the questionnaire who had experience using the virtual shelf browse function. This quantitative analysis was carried out using Microsoft Excel.

Research Ethics
This research took several ethical issues into consideration to ensure that the data was collected fairly and respectfully and that participants did not feel uncomfortable with the process of this study. First, it was important to be transparent with the respondents about what the research is about and what was expected of them. This was included in the information sheet given to the participants before they consented to be involved in the interviews. Consent is the second major consideration of this research – it is vital that we gather informed consent from the participants. Consent forms and information sheets were e-mailed to participants to read before they agreed to be interviewed. Before the in-person and phone interviews, the researcher ensured that the information sheet had been fully understood and that the participant still agreed to be involved. At the start of the questionnaire, the information sheet was included, and all users were required to consent to be able to progress to the questionnaire content. Vulnerable groups are identified as being historically mistreated in research and can include people with learning disabilities. Special care must be taken in the cases of vulnerable groups to ensure that participants are in a position to give informed consent.

Respondents must be guaranteed anonymity and confidentiality throughout their
participation. Offering the opportunity to keep a participant’s identity hidden is the cornerstone of an ethical research project (Oliver, 2010, p. 77). Anonymity is presumed by some to encourage objectivity and to allow for more open discussion of sensitive topics (Oliver, 2010, p. 78). Participants were assigned numbers in transcripts. The coded list of the names were kept so that the researcher clearly understood who each respondent is (Oliver, 2010, p. 99). To ensure confidentiality, respondents should be made aware of who will be reading and scrutinizing the data provided, how it will be stored and how long it will be retained for (Oliver, 2010, p. 83). This is also necessary to comply with the recently implemented General Data Protection Regulation (GDPR). GDPR compliance was considered at every step throughout the study. The researcher made the decision not to collect e-mail addresses in the questionnaire as they were not necessary to the study.

The researcher made every effort to remain respectful throughout the study as it involved sensitive topics. Accessibility and disability are personal issues that people may not necessarily feel comfortable disclosing details about.

Limitations of Methodology

It is important to acknowledge the limitations of research in order not to misrepresent the research or mislead the reader. One of the limitations of this research was the difficulty recruiting relevant participants. This was partially due to the time constraint of the project, which was particularly trying at less than 3 months to collect, analyse and discuss findings. The time constraint was amplified by the fact that this window is during the summer holidays when academic library staff are likely to be on annual leave and students are away from college. Uptake for the questionnaire would likely have been higher during the term as it was shared by several college library Twitter accounts. However, students were unlikely to be keeping up-to-date with these social media accounts outside of term time. The number of questionnaire respondents makes up a tiny proportion of the users of academic library websites in Ireland.
At the beginning of this research, the researcher attempted to recruit participants who identified as having a disability to take part in an online focus group. There were only two interested participants and after trying to recruit for more, the researcher decided to instead interview participants. However, the interested participants then stopped replying to e-mails and were not included in this study in the end. If the researcher had made the decision pursue with interviews immediately rather than try to arrange an online focus group, these two participants may have been involved.

Given more time to recruit and plan, online or in-person focus groups could have given helpful insight into the usability and accessibility of academic library websites, catalogues and the virtual shelf browse tool in particular. This would have reduced the likelihood of the researcher’s presence influencing the answers.
Chapter 4 – Findings

Introduction

The aim of this research project was to gain insight into user’s perceptions of the usability and accessibility of academic library websites. Specifically, there was an interest in the virtual browse shelf tool to see if users were aware of it, if users felt it was helpful and if there was a desire for similar engaging and interactive features of the catalogue. This chapter will discuss the findings of this dissertation research. This research involved gathering data from several stakeholders in academic library websites.

- Short e-mail interviews were carried out with Systems Librarians at various institutions whose catalogue featured a virtual shelf. These questions were related to when and why the virtual shelf was implemented, as well as asking whether the library measured user engagement or awareness.

- Interviews with users who identified as having a disability took place in person, by phone and by e-mail to get a better understanding of the perceptions of the accessibility of library websites and online discovery tools. These interviews involved a possible total of 16 questions. However, as some of the questions involved scenarios that were not relevant to each participant, some of these questions may not have been included throughout any one interview. For example, not all participants used assistive technology and so follow-up questions about that were not always relevant or helpful. The researcher made a concerted effort to speak to users with a wide range of disabilities, however only three respondents came forward who were comfortable being interviewed about these topics.

- A questionnaire was circulated and filled out by a variety of users from several institutions to gain a better understanding of people’s experiences using academic library websites and catalogues. This questionnaire involved 7 sections, with the number of questions differing depending on whether the user had past experience using the virtual shelf browse tool before or not. Those who did not have previous experience were taken to answer a different
section than those who had used it before. To ensure people were not answering questions about a feature they did not understand, the researcher created a video using the virtual shelf browse tool featured in the Dublin Business School catalogue. This video was included in the survey and every respondent was asked to watch it before they completed the section on the Virtual Shelf.

With the interviews and the questionnaire, the aim was to address the following themes of this research:

- User experience of the library website
- User experience of the library catalogue
- Importance of physical browsing to users
- Importance of serendipity to users
- Awareness of the virtual shelf browse tool
- Promotion of the virtual shelf browse tool
- Advantages of the virtual shelf browse tool according to users
- Disadvantages of the virtual shelf browse tool according to users
- User experience of those who access the website and catalogue using assistive technology.
Findings and Analysis

Population Findings of the Questionnaire

Breakdown by Institution

Users were identified from 12 different institutions. The institution represented by the greatest number of respondents was Dublin Business School, which may be attributed to the fact that the researcher was studying there and received great help in promoting the survey from the Library Staff there.

### Fig 4.1 – Bar Chart Showing Population Breakdown by Institution
Of the 34 respondents to the questionnaire, there is a bias towards postgraduate students as they account for two-thirds of the participants.
All the respondents answered this question about which faculty they belonged to. The School of Arts and Humanities accounts for over a third of respondents (35%). There were no respondents from the School of Health and Agricultural Science or the School of Social Science.
Breakdown by Learner Type

![Bar Chart Showing Population Breakdown by Learner Type](image)

The majority of users described themselves as Visual Learners (59%). The second most frequent learner type was Kinesthetic Learner (15%), followed by those who combined Mixture of Learning Types (12%). One respondent did not know what Learner Type they were and one preferred not to disclose this information.

Where Users Begin Their Search

Questionnaire Respondents

When asked where users usually begin their search when looking for information for an academic project, the majority of respondents to the questionnaire answered that they first consulted the library website or catalogue (59%). The second most likely option for users to take was to search for this information using Google, Google Scholar or another search engine (41%). Not a single
respondent to the questionnaire answered that they usually began their search at the library in person.

**Web Accessibility Interviewees**

The users with disabilities who were interviewed each gave a different answer – one was most likely to go to Google, another to ask the Subject Librarian in the library and the third was likely to consult the library website.

**Awareness of the Virtual Shelf**

**Interviews with Systems Librarians**

Two of the three Systems Librarians noted that they would be surprised if it were found that the virtual shelf was widely used, expressing a belief that many users would have no idea of its existence.

**Web Accessibility Interviewees**

None of the three interview participants were aware of the virtual shelf browse tool and these participants were all current or past users of Universities whose catalogues feature a Virtual Shelf.
Questionnaire Respondents

Were you aware of the virtual shelf browse tool before this study?

- Yes: 26%
- No: 71%
- I don't know: 3%

Fig 4.5 – Pie Chart Showing Percentage of Respondents With Previous Awareness of the Virtual Shelf

Have you used the virtual shelf before?

- Yes: 24%
- No: 76%

Fig 4.6 – Pie Chart Showing Percentage of Respondents With Prior Experience of the Virtual Shelf
All of the respondents answered this question. The majority had not been aware of the Virtual Shelf Browse Tool before this study (71%). One respondent said they did not know if they had been aware of this feature before. Just over a quarter of questionnaire respondents were previously aware of the virtual shelf.

When asked if users had used the virtual shelf the results were very similar – 24% had previously used it, 76% had no experience. No users answered that they did not know. Only one of the 9 respondents who were aware of the virtual shelf had never actually used it. In the following findings, comparisons will be made between those who had previous experience of using the virtual shelf and those who had not.

Promotion of the Virtual Shelf

Systems Librarian Interviews

The interviews with Systems Librarians highlight that they will show the virtual shelf feature to users who come to the desk with a query or for help. However, there was no mention of the virtual shelf being promoted widely or highlighted in library instruction classes. One respondent said they thought that the library was not promoting it enough.
All of the respondents who had previous experience of the virtual shelf answered this question. None of the respondents who had previous experience using this feature had been shown it by a member of library staff. The vast majority (75%) had discovered this feature themselves when using the catalogue. The other respondents had been introduced to it by a lecturer or a peer.

Measuring Use of the Virtual Shelf Browse Tool

None of the Systems Librarians interviewed measured the use or perceptions of the Virtual Shelf at their institution. The Virtual Shelf Browse Tool is a free feature of their Library Management System and so its continuing existence in the library catalogue does not have to be justified, which was noted by one of the interviewees. From the interviews, it is clear that the Virtual Shelf Browse Tool
was implemented by default as it was a feature offered by their Library Management System and they chose to keep it rather than remove it from the catalogue.

Experience of Users with Assistive Technology

Web Accessibility Interviewees

This research interviewed one participant who had experience using assistive technology to access and use the library website and catalogue. This interviewee had a visual impairment and used ZoomText, which is a magnification and reading program. ZoomText enlarges text and reads it aloud for people with low-vision. While there were no specific features of the website and catalogue that were particularly disruptive while using their assistive technology, the interviewee felt that assistive technologies are still an after thought for most library websites and online discovery tools. They noted that if things are not tagged correctly that it would not register correctly with ZoomText and that they would miss information presented by the website. As screen readers generally read down in columns rather than across the screen, the interviewee recommended that developers make an effort to put important links together and as close to the top of the screen as possible.

This interviewee had not been aware of the virtual shelf browse tool before being involved in this study. They surmised that because users must click into a ‘Browse Shelf’ link to use this feature that it would not disrupt assistive technology. They were also interested in this feature and noted that they would find it very helpful if it did work with screen reader technology. If the assistive technology could identify the titles and read them aloud, this would allow a browsing-like experience for a user that could never physically browse the shelves because of their visual impairment.
Questionnaire Respondents

In the questionnaire, no respondents identified as having a disability, despite a concerted effort to try to promote the questionnaire to users with disabilities in order to have a holistic understanding of web accessibility. However, one respondent answered that they use assistive technologies and responded that they used the browser tools to magnify the screen.

User Experience of the Website and Catalogue

Questionnaire Respondents

![Pie Chart](Fig 4.8 – Pie Chart Representing User Opinions About Whether the Library Website is Easy to Use)
All users answered these questions about the library website. The majority agreed or strongly agreed that they found the website easy to use (62%) and that they often find the information or resources they need using it (62%). However, that means almost two-fifths of users (38%) do not find the website easy to use or feel that they can find the information they need using it.
I FIND THE LIBRARY CATALOGUE EASY TO USE.

- **Agree**: 50%
- **Strongly Agree**: 6%
- **Disagree**: 18%
- **Strongly Disagree**: 3%
- **Neither Agree nor Disagree**: 23%

Fig 4.10 – Pie Chart Representing User Opinions on Whether Catalogue is Easy to Use
All user respondents answered these questions about the catalogue. The majority (56% in both cases) found that the catalogue was easy to use, and they generally found the information and resources they need using the catalogue. However, this still means that 44% of users who answered the questionnaire feel that the catalogue is not intuitive and that they find it difficult to find resources using it.
When we compare these results to those who feel that they find the information or resources they need at the physical library, we can see more people believe they find what they are looking for at the library. Many users noted the time necessary to find relevant information in a search as something they found frustrating. The number of times speed was mentioned in qualitative answers in the questionnaire highlights that users think it is an important factor in evaluating whether a catalogue is easy to use.

Several users from the questionnaire wished to have an experience tailored to their needs when using the catalogue.

"Recommendations based on previous books checked out would be nice!"

Questionnaire Respondent #16
Users from the questionnaire highlighted that they found using the catalogue frustrating as they did not know what search terms to enter in order to find the most relevant and helpful results.

“I find the website easy to navigate but searching the catalogue can be difficult and quite finicky in terms of having to use the exact terms. I don’t tend to browse the library shelves but when searching the catalogue will often discover useful material I hadn’t known about.”

Questionnaire Respondent #15

“Relevance of searches could be improved in library catalogue. Often need to type in exact titles in order to find books/articles.”

Questionnaire Respondent #29

Users answers also suggested that they felt their institution’s catalogue meant that subject or topic browsing was difficult in comparison to specific item searching.

“Our library catalogue is extremely poorly organised. If you are looking for a book on a certain topic you have to hope that the topic is in the title of the book - extremely unhelpful.”

Questionnaire Respondent #14

“The [Institution] library search engine is difficult to use if you don’t have the exact author or title, which makes it less useful for browsing in the early stages of research.”

Questionnaire Respondent #9

Web Accessibility Interviewees

Similar to the questionnaire respondents, the interviewees highlighted that they found the search sometimes frustrating. When looking for a specific title, they struggled to find it efficiently.

“I found it quite challenging over the years because sometimes even if you have the exact title of something and you put it into the search part of the website, it’s not the first thing that comes up. Generally, there’ll be a number of things come up and I can never understand why if I put in the exact title, it can’t be the first article or book in the list of options.”

Interview Participant #1
“I find it a bit slow and the feature that I would use most, OneSearch, is a bit clunky to use compared to the equivalent searches on the NCBI or Google Scholar. Mostly I would be looking for papers and the OneSearch feature shows papers and other things which clutter it a bit for my purposes.”

Interview Participant #2

Importance of Browsing to Users

Questionnaire Respondents

<table>
<thead>
<tr>
<th>Opinion</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>12%</td>
</tr>
<tr>
<td>Agree</td>
<td>23%</td>
</tr>
<tr>
<td>Neither Agree nor Disagree</td>
<td>24%</td>
</tr>
<tr>
<td>Disagree</td>
<td>35%</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>6%</td>
</tr>
</tbody>
</table>

A significant portion of questionnaire respondents disagreed or strongly disagreed that physically browsing in the library helped them to find relevant resources (41% in total: 35% disagree and 6% strongly disagree). Almost a quarter of the respondents neither agreed nor disagreed and so seemed
unsure of the benefits of browsing. Only 35% of respondents answered that they felt that browsing helped them find the information or resources they needed (23% agree, 12% strongly agree).

Web Accessibility Interviewees

In the interviews, one of the downsides of physical browsing was highlighted by one of the participants – that the shelves can be physically inaccessible to people who cannot reach the top or bottom shelves. However, there was an emphatic response from one of the interview participants who could not physically browse because of a visual impairment, who clearly believed that browsing helped others and would be helpful to them if it were possible:

“| envy people who are able to go into a library and browse shelves, I think I could come across far more stuff if I’d been able to do it. It would just never be possible for me. [...] when I read a book [...] I automatically go to the bibliography for the references and that’s how I find additional material. That’s how I work, rather than be able to go into the library and browse shelves for a particular topic.”

Interview Participant #1

Serendipity

Questionnaire Respondents

The majority of questionnaire respondents acknowledged that they had serendipitous discoveries both at the library (59%) and while using the library catalogue (59%). While these figures are exactly the same, several qualitative answers highlighted a perceived difference between accidental discoveries in the library and online.

“Only seldomly discover something accidentally on shelves. Online search too tailored for accidental discovery”

Questionnaire Respondent #26
“While the website may be useful for finding specific articles/books etc. that I'm looking for, it's not great for browsing or accidental discoveries.”

Questionnaire Respondent #16

Serendipity was deemed an important part of research by 71% of questionnaire respondents.

Web Accessibility Interviewees

The user interviewees all acknowledged having accidental discoveries or in the case of one participant who was physically unable to browse, wishing for more accidental discoveries. There was a distinct differentiation made by one user between accidental discoveries in person and online, similar to the questionnaire respondent.

Serendipity and the Virtual Bookshelf

Questionnaire Respondents

With users who had past experience using the virtual bookshelf, six out of the eight respondents agreed that using the virtual bookshelf had facilitated accidental discoveries in their experience. Those who had not used the virtual shelf before acknowledged the potential for serendipitous discoveries when using this tool, with twenty out of the twenty-seven respondents agreeing that it would allow for accidental discoveries.

Web Accessibility Interviewees

All users responded that they felt the virtual bookshelf could lead to more serendipitous discoveries online.


Researcher Question

“What would attract you to using the Virtual Shelf Browse Tool?”

“It finds sources which have similar information, which is very helpful and it looks easy to use. It’s a similar tool used by shopping websites such as amazon or ebay. A lot [of] students would have used this kind of tool for shopping/browsing at some point and would understand how to use it in terms of browsing the library.”

Questionnaire Respondent #3

“I like being able to see things, and the layout helps me see the links between different books and maybe think more laterally, rather than just endlessly entering key words.”

Questionnaire Respondent #22

Researcher Question

“What would deter you from using the Virtual Browse Shelf Tool?”

“It takes longer for images to load than text, and in that extra second it takes for the images of the 5/6 books to load I would have gone back a page to scroll through the list of resources. I would only scroll right on the virtual Shelf Browse once or twice and if I didn’t find what I was looking for in the first few scrolls I would being my search again.”

Questionnaire Respondent #3

“Honestly, I’d probably forget about it. If my University began to use it then I would have to be reminded about it.”

Questionnaire Respondent #12
User Perceptions of the Virtual Bookshelf

Questionnaire Respondents

Users with No Prior Experience of Using the Virtual Shelf

Interest in Future Use

Of the 26 participants who had no prior experience of the Virtual Shelf, the majority were interested in using this feature in the future (61%). Only one respondent said they would not use it in the future, whereas roughly a third of respondents were unsure if they would (35%).

Opinions of Users without Prior Experience

Users who had never used the Virtual Shelf Browse Tool before were asked to give qualitative answers about why they would use it in the future. Positive comments about the virtual shelf mostly involved these topics:

- Convenience
- Similarity to online book shopping
- Ease of use
- It allows users to pre-plan their visit to the library
- It shows books that may not be physically present on the shelf
- It allows for beneficial accidental discoveries

Factors that would deter users from using the virtual bookshelf included:

- Internet speed – slow time to load
• Preference for physical browsing
• If it only includes physical books and not e-resources
• Complicated or messy user experience

Users without prior experience of using the virtual shelf were predominantly positive about the effect it could have on an online discovery tool. The majority agreed that the virtual shelf made a library catalogue more engaging and would make the catalogue easier to navigate.

**Users with Prior Experience**

All 8 questionnaire respondents who had previously used the virtual shelf browse tool reported that they found it easy to use.

Users who had previously used the virtual shelf tool were asked why they had chosen to use it and their answers highlighted these advantages of the Virtual Shelf:

• Quick
• Convenient to find books
• Will show books even if they are not physically on the shelf
• To get an understanding of how many copies of a book there are
The majority of respondents with experience of using the virtual shelf agree that the virtual shelf browse makes a library catalogue more engaging and easier to navigate.

One questionnaire respondent answered that they would prefer to see a virtual shelf where the spines of the books are represented and not the covers, in order to more accurately replicate the physical library browsing experience.

“It would be nice if it was the layout as on a book shelf, not just as the book covers [...] you could scroll across the actual bookshelf, from the computer.”

Questionnaire Respondent #22

Web Accessibility Interviewees

None of the interviewees had previous experience using the Virtual Shelf, however all of them had positive impressions of what the Virtual Shelf could offer. Their answers highlighted that the virtual shelf could allow people to pre-plan their visit to the library.
"It would make things a lot easier to be able to see the different titles that are available as something that is similar [...] might be more useful. It would also be very useful to have a rough idea of how many resources on a book would be available before you go in in person and it would save browsing time."

Interview Respondent #3

"... I feel that some of the shelves are very high or very low, which can be intimidating for people, but if they know what book they are looking for from the virtual shelf browse, they can then come to the library assistant, which may be less intimidating."

Interview Respondent #2

Presenting Information in Different Formats

![Chart](image)

The vast majority of respondents would like to see library websites feature more formats for presenting information (85% in total - 44% agree, 41% strongly agree).

User Recommendations for Academic Library Websites

"My way of thinking is, if the building can't fulfil its purpose, something in the building must change. It's the same for websites."

Interview Respondent #2
Many of the recommendations provided by respondents apply to the available resources at the library rather than improvements that could be made to the library website or catalogue – greater access to journals, more eBooks, removing outdated material, etc.

Some of the recommendations more relevant to this research on usability and accessibility of academic library websites from both questionnaire respondents and interview respondents were:

- Include better refined search options
- Ability to search by themes or keywords
- Good colour contrast between background and text
- Larger text

The findings of this research have now been investigated and presented in a way that allows for a better understanding of what users think and how they feel about the library websites and online catalogues of their institutions. In the next chapter, these findings will be evaluated and critically analysed.
Chapter 5 – Discussion and Analysis

In this chapter, the findings from the data will be investigated and evaluated. The research findings will be discussed in themes and explored with reference to the wider body of literature surrounding these topics. The results will be compared to the findings of other similar research studies. The discussion chapter is where the researcher reflects on what we can learn from the findings and critically engages with the data collected.

The findings will be discussed in relation to the following topics explored or introduced in the findings:

- Where Users Begin a Search
- Promotion and Measuring Value of the Virtual Shelf
- Initial Experience of the Library Website and Catalogue
- Browsing the Physical Shelves
- Web Accessibility
- Serendipity
- User Experience
- User Recommendations
- Perceptions of the Virtual Shelf Browse Tool

Where Users Begin a Search

The findings show that users tend to begin their search for information related to academic projects online, with the majority turning to the library website and catalogue. These findings further prove that the library website is the first port of call for the majority of users as was suggested by several works discussed in the literature review (Carr, 2015; Zaid and Zaid, 2017). A study mentioned in the literature review at Indiana University and the University of North Carolina at Chapel Hill found that less than 5% of respondents began their research at the library (Carr, 2015, p. 838). However, in this study no respondents answered that the physical library was their first choice for beginning their research. The
studies cannot be directly compared though as this research was aimed at all users of academic library websites, whereas the US study was only aimed at faculty. This finding highlights the importance of ensuring that library websites are accessible and user friendly, as they may be the first introduction to library services for many users. It is vital that a user comes away from this first encounter with a good impression of the library to reduce a user’s potential library anxiety. It also highlights the importance of research centred on user perceptions of websites and online discovery tools.

Promotion and Measuring Value of the Virtual Shelf

The research findings show that there is little or no promotion of the Virtual Shelf in libraries as a tool to research or find resources. The Systems Librarians are aware of and highlight that the only time they make users aware of it is to help users with a specific query. None of the questionnaire respondents who were aware of it had been shown this feature by a Library staff member. While the literature review showed several examples of the virtual shelf being used to promote library materials, there was no explanation in these works about how the virtual shelf itself could be promoted other than implementing it (Dahlen Sarah P., Watkins Steve G. and Trott Barry, 2013; Proctor and Barstow, 2013). If the library online catalogue offers this feature, it should be highlighted to users. The guide published by Syracuse University Library is one example of this promotion in action as this was published in the ‘News & Events’ section of the website to market it to potential users (Sharkey, 2012).

The findings suggest that if users are aware of the virtual shelf they will use it. Out of the 9 respondents who had awareness of the virtual shelf before this study, only one of these had no previous experience using it. This idea is consistent with the positive responses from those who were not aware of it and who would consider using it in the future to research. When asked about what would deter them from using the virtual shelf browse tool, one user answered that they suspected they may forget about it and would need to be reminded about it. The findings from this research suggest that if the virtual shelf was promoted in academic libraries in a thoughtful and helpful manner, many more users would
engage with it and use it to find resources. However, further research would be needed to test out this hypothesis due to the limited number of participants in this study.

There was no indication from the Systems Librarians that the value of the virtual shelf is measured in any way by their respective libraries. User engagement was not measured by the libraries in terms of numbers of people using the virtual shelf tool. No libraries indicated that they asked users about their opinion of this feature in questionnaires or other means of evaluation. This was noted to be because it is free and therefore the library does not need to justify its existence. However, all features should be measured to ensure that they are adding value to the online catalogue. Equally, it is important to check with users to explore whether this feature may be detrimental to their user experience.

**Initial Experience of the Library Website and Catalogue**

Although there was no specific question regarding users’ first experience of the online catalogue, interviewees and questionnaire respondents brought this up in their answers about using the catalogue. This is one of the advantages of having open questions in a questionnaire. Many mentioned that they found the catalogue difficult to navigate during their first few experiences. One of the interview participants who now works in a library highlighted that the majority of user queries about navigating the catalogue happen at the beginning of a new term and then these queries become less frequent. This suggests that libraries must work to make their catalogues more intuitive. Library staff may also need to include more outreach at the beginning of a student’s academic career to ensure that students know how to navigate the online catalogue.

**Browsing the Physical Shelves**

The researcher was surprised at the findings when users were asked about the efficiency of browsing. The majority of users did not feel that browsing helped them to find the resources they needed. Some users highlighted the disadvantages of browsing in their qualitative answers, particularly that it can overlook books which have been checked out and are not
physically on the shelf. This was a downside to browsing that was highlighted by Barclay in the literature review (Donald A. Barclay, 2010). However, the literature on this topic suggested that users had a romanticised idea of browsing as exemplified by the vitriolic reaction of users and staff at several universities where the act of browsing was threatened by new storage plans. However, it is clear from this research that most users are aware of the disadvantages to browsing when looking for resources. There were some users, however, who answered that they would prefer physical browsing to using the virtual shelf.

One of the physical accessibility barriers to browsing the stacks that was briefly mentioned by Barclay was also noted by one of the interviewees – that some users would not be able to access the highest and lowest shelves. One of the interviewees who could not browse because of a visual impairment believed that this was one of the most challenging things for them when researching. They maintained that browsing helped their colleagues to find relevant materials. These findings suggest that users are aware of the limitations of browsing and that they do not rely on it as their only means of finding relevant information. However, browsing is still seen as an enjoyable aspect of research which users would miss if denied to them as we can see in the literature review.

**Web Accessibility**

This study did not gain a deep insight into the accessibility of academic library websites and catalogues. It did highlight some interesting findings, though further research would be needed to test these hypotheses. An interview with a user with visual impairment suggested that the virtual shelf browse could recreate browsing for those who could not physically browse. If a screen reader was able to read out the titles on the shelf, this could give a browsing experience to users who are excluded from the physical library browsing experience. There were no features of the catalogue or website identified as being disruptive to assistive technologies. This same interviewee surmised that the virtual shelf browse feature would not interrupt assistive technology, as it does not automatically come up and users must click into it.
Although none of the questionnaire respondents answered that they identified as having a disability, one user answered that they used assistive technologies. When asked to expand on this, they explained that they used the browser to change text size of the website to make it easier to use. While this may be considered adaptive technologies rather than assistive technologies, it does align with the idea discussed in the literature review that web accessibility and adaptations to make sites more accessible improve the experience for everyone (Draffan, 2008; Yesilada et al., 2015). However, with only one respondent showing this preference for adaptive technologies, it is not conclusive evidence to prove this theory.

To ensure web accessibility Ball suggests that websites should have information presented in a variety of different formats, as mentioned in the literature review (Ball, 2008, pp. 34–35). Ball asserts that this can also help users for whom a text-based environment is difficult to navigate. In this research, all users were asked would they like to see information presented in more formats on the library websites and catalogues. The overwhelming majority (85%) wished to see information presented in more formats on their academic library website. These findings confirm Draffan’s assertion that generally changes made to ensure that websites are accessible provide benefits for everyone (Draffan, 2008). Academic libraries could possibly consider making videos, podcasts or webinars that help to present information. This research shows that users want library catalogues that are more engaging and user friendly. The aim should be to develop more features to add to catalogues that present information in a format that is not solely text based, such as the virtual shelf browse tool.

**Serendipity**

There was no difference between the number of users who acknowledged having serendipitous discoveries in physical browsing and those who had them while using the catalogue. However, two participants remarked in qualitative answers that they did not have serendipitous discoveries online, with one remarking that the online experience was too ‘tailored’ for accidental discoveries. This is an interesting finding as serendipity may only be a matter of perception as argued by Carr (2015). These two participants may not have had any serendipitous discoveries online because they did not believe the environment
allowed for “accidental” discoveries. The majority of users involved in this research perceived that the virtual shelf allowed or would allow for accidental discoveries in the online environment.

As highlighted by several of the works in the literature review, users are frustrated when they are denied access to the stacks as they feel that browsing and accidental discoveries make their research experience more enjoyable (Donald A. Barclay, 2010; Burton and Kattau, 2013). When libraries must find innovative solutions to deal with the issue of limited storage space for an ever-increasing stock of resources, the virtual shelf browse tool may be something that appeases users and creates the perception of serendipitous discoveries where physical browsing is not possible. This was the strategy employed by Macquarie Library which worked effectively to allay users’ disappointment (Burton and Kattau, 2012). The virtual shelf browse tool may be a compromise for those who feel that encouraging serendipity is irresponsible, as it allows for the perception of serendipity in a controlled information environment.

User Experience

While the majority of users found the website and catalogue easy to use, there is still a significant number of users who are not happy with their experience of searching online using the library website and catalogue. Two-fifths of users do not find the catalogue easy to use and they do not feel that they can easily find the resources they need while using it. As we can see from the findings, the library online discovery tools are often the first interaction users have with the library when embarking on a new search for information or resources. However, users feel that they find what they need more often at the physical library. It is clear from interviews and from qualitative answers that part of the issue with catalogues is that people need to be better educated in how to search. Several users highlight that they do not know where to search or are frustrated by the results of search terms.

Most institutions do offer the option of choosing search zones, where one can choose where they search for information. For example, users may be able to search through the entire Library Resources or just the Catalogue (books) as we can see from Fig 5.1 which shows the Dublin Business School Library search.
Fig 5.1 – DBS Library Catalogue Search, 2018. This allows users to choose if they would like to search through all library resources or through the catalogue (for books or e-books).

Many online catalogues also allow students to filter by subject or choose a discipline as a search zone.

Fig 5.2 – DBS Library Catalogue, 2018. This allows users to choose a discipline or area of study as a search zone.

Users highlighted that they found it frustrating that even when they enter an exact title, it is often not the first result to come up. However, if a user used phrase searching, they would be more likely to find the relevant result efficiently. This issue could be particularly frustrating for those who use assistive technologies such as screen readers as it can be time consuming to tab through the results.
Users found subject browsing challenging when they search for a term and materials whose title includes that term come up first. This is a particularly worrying finding when we consider that Moore’s study of online user engagement from the Hesburgh Libraries at the University of Notre Dame found that the majority of searches were unknown-item searches (Moore, 2016, p. 155). In the search or advanced search of academic library catalogues, there is usually the option to choose whether a user wishes to search for a term in titles, authors or in subject keywords. The latter would obviously be more helpful for users in the early stages of research who wish to learn more about the resources available. However, these findings then suggest that users are unaware of this feature.

Academic library websites and online discovery tools should all offer these options to users, so that they are able to choose search zones, filter and sort through results. These allow a more seamless and efficient user experience and prevent users from getting overwhelmed by the number of results. From the findings, the time necessary to search through resources was noted by many questionnaire users and so is an important issue. Academic library websites and catalogues that are structured with the options to sort and filter in this way should ensure that these options are visible to the users and ensure that users are instructed in how to search using the online discovery tools.

In this study, users highlighted that their initial experiences with the catalogue were challenging because they did not understand how to use it. This suggests that work must be done to make catalogues more intuitive. One way that Ulster University have worked to achieve this is to build instruction into the website in a creative way. When users click into the catalogue, they can click into a feature at the top of the site labelled ‘Take a Tour of the Library Catalogue’. Then users are taken step-by-step through the process of searching for a resource and filtering/sorting the results. This can teach users about using the library catalogue and it requires minimal effort on the part of the users. Users are more likely to be comfortable with this than attending an in-person library class or asking a member of staff for help. This could help to make a user’s initial experience with the library catalogue less frustrating. This is an example of library instruction being provided effectively at the point of need. Academic library websites should explore how they may follow Ulster University’s example and include instruction in their library websites and catalogues.
Fig 5.3 - When a user visits the catalogue of Ulster University, they have the option to “Take a Tour of the Library Catalogue”. Arrow included for emphasis. (University of Ulster Catalogue, no date)
Fig 5.4 & 5.5 - When users “Take a Tour of the Catalogue”, they are guided through the process of searching for resources and filtering the results. Arrows added for emphasis.

The findings from this research highlight that users do not find the catalogues intuitive and are not aware of the most efficient way to search using online discovery tools. Users find search zones difficult to manage and repeatedly highlight that they find it challenging to decide on the appropriate search terms to use. If users were more aware of Boolean terms (and/or/not) and how to better sort and filter through results, this would solve many of the issues they highlighted in this research.

User Recommendations

Many of the deficiencies mentioned by users of the online discovery tools are functions included within the library catalogue, for example finding a specific item by title if a user employs phrase searching. However, it is clear that users are unaware of how to navigate the catalogue and search for information effectively. This suggests an underlying problem of users not having the necessary information skills. As will be discussed in the following chapter, this research has highlighted a need for further information skills instruction and/or a catalogue interface which is more intuitive for users.
Two of the interviewees registered with the disability office had accessibility suggestions for academic library websites: to ensure a good colour contrast between text and background, and to include larger text. Although both of these features can be achieved using the browser functions, it could be nice to adopt them as the default to make sure that academic library websites are welcoming for users with low vision. Other recommendations are regarding the search function of the catalogue, including better options for refinement of results and the ability to search by theme or subject.

Several users wished to have an experience with the catalogue that was tailored to their needs with more recommendations and suggestions based on previous searches. This is something that the University of Leeds has been trying to achieve with their virtual shelf by including a ‘People who borrowed this, also borrowed...” feature (Padgett and Hooper, 2015). This virtual shelf showed recommendations based on what users with similar interests borrowed. Including a feature like this may help to make users’ experience more personal and engaging. The logistics of having such a feature however, have become more complicated due to the General Data Protection Regulation, as it relies on collecting data from users about their previous interactions.
Fig 5.6 - A picture of a Virtual Shelf from University of Leeds library catalogue, showing the “People who borrowed ..., also borrowed...” feature, taken from SierraDNA – Demonstrating the Usefulness of Direct ILS Database Access (Padgett and Hooper, 2015)

Perceptions of the Virtual Shelf Browse Tool

This research suggests that users’ impressions of the virtual shelf browse tool are mostly positive. The majority of users who had no previous experience of using the virtual shelf browse function said they would use it in the future if given the opportunity. However, a third of the respondents were still unsure if they would use it. Factors identified by users
why they may not want to use it in the future were internet speed, a preference for physical browsing, the fact that the virtual shelf does not include online materials and that it has a messy user experience. The researcher included a video in the survey which showed how to find and use the virtual shelf featured in the Dublin Business School online catalogue. The fact that the respondents without prior experience had only the exposure to that one video of one type of virtual shelf is a limitation of this study. All of the users who had used a virtual shelf browse tool before reported that they found it easy to use.

User complaints about the fact that the virtual shelf does not include online materials are valid in relation to the virtual shelf shown in this video. However, some virtual shelves can include only e-books or online materials, while others can include physical materials and online materials on the same virtual shelf. In their work on implementing the virtual shelf in Macquarie, Button and Kattau highlight that extra work can be involved when including online materials as they must all be assigned classification numbers which will allow them to appear on a virtual shelf alongside physical materials. User responses from this study show an interest in using catalogues which offer the ability to virtually browse physical and online materials at the same time.

An important factor for respondents from the questionnaire is the time necessary to find relevant materials using the virtual shelf. When users were asked about whether they would use the virtual shelf browse feature they answered that they would be attracted to using it if they felt it made them find the relevant materials quicker. Slow internet speed or the belief that physical browsing would be quicker were listed as reasons users would be reluctant to use the virtual shelf.

There is a vast difference between some of the virtual shelves employed by academic library catalogues throughout the country. Some represent the majority of books with images of the book covers. There are others where resources are represented by a plain cover with the title of the book “printed” on it. This research focused mainly on whether users felt that the virtual shelf was a worthwhile addition to the online catalogues of academic libraries. It could have investigated further and explored what users would like to see from a virtual shelf or asked users to evaluate several virtual shelves to see which they found engaging and easy to use. One questionnaire respondent noted that they would like to see a virtual
shelf where the spines of books were represented rather than the covers as this would be more similar to the physical browsing experience of the library.

Fig 5.7 – Trinity Library Shelf Browse. This shows an example of a virtual shelf that does not show the book covers, alternatively representing them with the title of the book on a plain background. (Trinity College Dublin Catalogue, no date)

In the next chapter, the conclusions that can be made from the findings and analysis will be presented.
Chapter 6 – Conclusions and Recommendations

Monica Moore suggests that with online discovery tools, once they are implemented and work effectively, there is often a lack of thoughtful promotion, curation and evaluation of these discovery tools (Moore, 2016). As an exploratory study, this research is just the first step on what will hopefully be a journey of evaluating and improving academic library websites and online discovery tools. This chapter will outline the conclusions that can be drawn from the findings of this research. It will suggest recommendations for the library profession to ensure that library websites and catalogues are as accessible and intuitive as possible. It will also explore recommendations for further research to ensure careful evaluation of online discovery tools and general library accessibility.

Conclusions

This chapter will explore whether the findings and discussion have answered the research question and the sub-questions at the heart of this research. As this was an exploratory study that started with a broad exploration of usability and accessibility of academic library websites and online discovery tools, there have been interesting insights into the context of the virtual shelf.

The majority of users involved in the research found the catalogue easy to use and could find what they wanted using the catalogue. However, a significant portion of these users were unsatisfied with academic library websites and their online discovery tools. Many users found it frustrating to understand where to look for information (which database to consult), which search zones to use and which search terms to use to get the most relevant results. Users seemed to find subject browsing difficult in the online environment. In the context of this, we can evaluate the virtual shelf and if users feel it has a positive impact on the online catalogue.

What is the perception of the virtual shelf browse feature of academic library websites?

It is clear from the findings that previous users have positive experiences with this feature and that potential users are interested in this feature. Those who have used it before have
all found it easy to use and the majority find that it makes the catalogue more engaging and easier to navigate. The majority of users with no prior experience of the virtual shelf believed that it would make a catalogue more engaging and easier to navigate. When we look at the wider context, around two-fifths of respondents did not find the catalogue easy to use and did not often find what they needed when using the catalogue. The findings suggest that users think the virtual shelf browse feature is a positive addition to an online discovery tool.

Is the virtual shelf browse tool promoted effectively?

The virtual shelf is something that could be beneficial to users and that users have an interest in using, but it is clear from these findings that it is not promoted or evaluated effectively. Academic libraries who have it in place have implemented it as it is available by default with the user interface they chose to implement. Library staff that were interviewed for this study highlighted it to users only when they came with a specific query. None of the interview participants with disabilities were aware of it before this study. Of the eight questionnaire respondents who had used it before (24% of the total respondents) none of them had been made aware of it by library staff. None of the library staff were aware of any evaluation of user awareness, engagement or perceptions of the virtual shelf by their respective libraries. It is clear that Moore’s hypothesis for discovery tools rings true for the virtual shelf in academic libraries in Ireland: they are not being promoted or evaluated (Moore, 2016).

Do people think it is an effective information retrieval tool?

Users with previous experience using a Virtual Shelf had positive experiences using it and many answered that it helped them to find books. Users without prior experience had a positive impression of it and believed that it could help them pre-plan their visit to the library, find out about books that may not be physically on the shelves and it could allow for subject browsing. This last point was something that several users said they struggled with when navigating the online catalogue. Findings suggest that users may be searching for subjects in the “Title” search zone and getting frustrated to only find materials with that
term in the title. As well as further library instruction, the virtual shelf browse could help users to subject browse. Users were disappointed with the fact that the virtual shelves in academic libraries in Ireland do not include online materials such as e-books or journal articles. However, this is something that some virtual shelves can include as we can see from Macquarie University Library. Overall, the findings suggest that users believe that the virtual shelf browse facilitates users to find relevant materials. However, as these findings only include data from 8 users with previous experience, this only gives a glimpse into user perceptions.

Do users think it allows for holistic accessibility?

This research unearthed some interesting insights into how the virtual shelf browse tool may allow for greater accessibility. The user response to the questionnaire showed that the vast majority (85%) wished to see information presented in more formats on the library website and catalogue. As this is something that can allow for greater holistic accessibility, this could suggest that there is an appetite for more accessible academic library websites and catalogues. The researcher was particularly interested in the suggestion by an interview participant that if screen readers were able to read the title of the books either side, this may give a browsing experience that would be physically impossible for some users to have otherwise. Answers from interviews and from questionnaire respondents highlighted that the virtual shelf would allow users to plan their physical visit to the library, which may be particularly helpful for users who find visiting the library mentally or physically taxing due to a disability. However, this research cannot conclusively answer this question and further research would be advised into features such as the virtual shelf and web accessibility.

Recommendations

The research findings suggest that improvements need to be made to academic library websites and catalogues to ensure that users are satisfied and that they can find the resources they need. The results have highlighted that users want more features like the virtual shelf and that the virtual shelf may be underutilised by the institutions that have
already implemented it. The following are recommendations by the researcher for academic libraries and for further research into this topic.

Recommendations For Academic Libraries

These recommendations were formulated after exploring the findings of the research and taking into account the user recommendations that were collected.

Information Skills Instruction/Library Instruction

This study unintentionally highlighted a lack of information skills among the users who participated. Many users highlighted that they were unsure of what search terms to use or how to search for items. Some users found it difficult to browse by subject, whereas if they were aware of search zones and could tailor their search to look in the subjects of materials rather than the titles, they may find it easier to find relevant material. In person workshops or online tutorials facilitated by librarians could help ensure that users learn to navigate the catalogue.

Presenting Information Online in Different Formats

The findings from this research suggest that users felt that their academic library websites could work on presenting information using a variety of formats. Libraries could work on presenting information in videos, graphics or podcasts. This would aim to make websites and catalogues more engaging, easier to navigate and more accessible for every user. These formats would have to be carefully implemented to ensure that they did not interfere with assistive technologies and that they were correctly tagged. It would be advisable for these features to be evaluated through user engagement metrics or user evaluations to ensure that they are helpful to users.

Suggestions for Improving Virtual Shelves

Several users from this study were disappointed that virtual shelves did not allow them to browse online materials and physical materials at the same time. Where resources allow, more academic websites could try to include online materials in their virtual shelves.
Academic libraries could use virtual shelves to recommend materials to users to ensure their catalogue experience feels tailored and personal to them. There could be further work done to ensure that virtual shelves are more visually engaging and appealing. Some virtual bookshelves represent a book with only a plain cover with the title of the resource printed on this cover. This is in comparison to those who show a small image of the book cover. In a larger library, trying to implement book covers for every single resource may prove difficult and time-consuming. However, academic library websites could experiment with trying new and different ways to represent materials to ensure that their features are as visually engaging as possible as done by booksellers.

Recommendations for Further Study

As this research was exploratory, it highlighted several avenues of research that could be taken to further explore some of the issues in this research.

- Following on from this research, further observational studies would be recommended to gain insights into the difficulties users may have when navigating the library websites and online discovery tools. Often a significant number of users responded that they were unsure or did not know when asked to evaluate a feature of the catalogue or to give opinion on the virtual shelf browse tool. More helpful insights may be gained from giving users a task, asking them to use the catalogue/virtual shelf and gather data in this manner.

- This research did not attain any conclusive results about the experiences from users who access library websites using assistive technologies as only one relevant participant from this population was interviewed. This interviewee had no previous experience with the virtual shelf and so could only surmise as to whether it would complement or disrupt assistive technologies. Further research into this would be recommended, the researcher would be interested in seeing an observational study where a researcher observes users using a variety of assistive software as they navigate academic library websites and catalogues.
• This research touched on the physical inaccessibility of the library shelves, however further exploration could be done into the importance of the library website and catalogue to users who find the library intimidating or for whom the library is physically inaccessible. Users from this research identified that the virtual shelf helps them to plan their visit to the library. For some users with disabilities, this may be a high priority as browsing the stacks may be impossible or physically exhausting. A study solely focused on asking users about their experience with library accessibility – both the physical buildings and the websites – could be beneficial.

• This research highlighted a desire for more engaging features like the virtual shelf, however further research could be done into what kind of features users would like to see implemented. The virtual shelf could also be further evaluated to see what types of virtual shelves suit different academic sites and what would users like to see from virtual shelves. For example, a user from this study suggested they would find the virtual shelf more engaging if the spines of the books were shown and not the covers. They felt this would be more similar to the physical browsing experience in the library.

Overall Conclusion

This research highlighted that a significant portion of users do not find the library websites and online catalogues at their institutions to be user friendly. However, their answers suggest that they are unaware of all the features and functions of these online discovery tools that allow for more fluid navigation. Library websites and online discovery tools must be evaluated to ensure they are intuitive for users and academic libraries must be creative in designing online library instruction. One feature that is implemented by several academic library catalogues to make them more engaging is the virtual shelf. This research focused on evaluated this feature and asking users whether they felt it was a helpful addition to an academic library online catalogue.
The virtual shelf can be utilised to make a library catalogue more engaging, easier to
navigate and, possibly, more accessible. It is however underutilised and under-promoted in
academic libraries in Ireland. As we can see from the examples in the introduction and the
literature review, there are several institutions who have creatively used the virtual shelf to
market materials in the library, to overcome frustration at a lack of physical browsing in
newly restructured libraries and to create a more tailored user experience by
recommending resources. The academic library sites and catalogues here have mostly
employed the virtual shelf by default, without promoting it to users or evaluating user
engagement or perceptions. The findings from users suggest that if they were aware of the
virtual shelf, they would engage with it. The findings from this research show that user
perceptions are positive towards the virtual shelf and towards implementing more engaging
features like this.
Chapter 7 – Personal Reflection Chapter

Introduction

After graduating from my undergraduate in English and Film Studies, I was uncertain whether I wished to pursue further study. I chose to move to China and teach English for 18 months which taught me a lot about what I wanted from a future career. I enjoyed helping and encouraging others and I found that work that involved a variety of tasks was rewarding and engaging. Upon returning China, I was almost certain that I wished to pursue a career in the Library and Information Science field. I applied for the MSc in Information and Library Management in DBS and was fortunate enough to get a short-term contract as a Project Assistant working in Trinity College Dublin’s Book Repository. This meant that I would gain the necessary work experience to apply for the UCD MA course as well. This work in Trinity opened my eyes to the many different roles in the library field and the variety of skills needed. As I had very little experience working with library systems and with IT systems in general, I decided to pursue the DBS MSc as I felt that it was better suited to fill the gaps in my knowledge.

Despite my initial nerves, I really enjoyed the IT related modules throughout this course, especially designing a library website in our Information Technologies module. I enjoyed the problem-solving element to the IT modules, such as Network Resources Management where we would be asked to solve a problem with a network simulation. I found this challenging, but it was very rewarding when I could solve a problem. The course was a good mixture of academic and practical content, which will be very useful for the workplace.

Research Topic

For the Information Technologies module on the course, we were required to evaluate two library websites to see how well they adhered to the World Wide Web Consortium (W3C) standards. For this assignment, I chose to evaluate two library websites directed at users with visual impairments – the National Council for the Blind of Ireland (NCBI) library website and the Royal National Institute of Blind People library website (RNIB). I found the topic of
web accessibility fascinating and it was a concept I had never thoughtfully considered before.

I was inspired by the W3C emphasis on the Internet as being inclusive to all – without accessibility barriers. On a more personal note, a friend of mine lost her sight in secondary school and used a screen reader to navigate her computer and using the internet. My grandfather also lost his sight while I was growing up and never learned to use any assistive technologies which I felt was very limiting for him. For these reasons, my first idea for this research topic was to explore the web accessibility of academic library websites, focusing on whether they facilitated for screen readers and other assistive technologies that users with sight loss may use. This would have involved interviewing users with sight loss about the academic library websites.

In my reading about web accessibility, I was struck by the idea that a site can be made more accessible for all by presenting information in different formats, for example, information may be released in a podcast for those with sight loss, videos should include captions/subtitles for users who are hard of hearing or users whose first language is not being spoken in the video. Then during my course, I came across the Virtual Shelf Browse function which captured my interest. Here was a feature that presented information in a different way, visually with images as opposed to just the text of the shelf number. This feature also recreated the browsing experience of the physical library from anywhere. In my reading about web accessibility, there was a criticism that research on web accessibility was not holistic enough. By focusing on how website features may cater to a certain group of users, the ways in which this feature may features benefit or disrupt other groups of users may be ignored. I decided to pursue this topic and aim to have a holistic evaluation of the virtual browse shelf tool for all users.

Literature Review

From my undergraduate degree, I had previous experience doing a literature review for a dissertation. From both my undergraduate and postgraduate degree, I had been encouraged to question and evaluate every piece of writing. In every presentation and
essay, I tried to critically engage with the topic and highlight weaknesses and strengths of different positions. This all meant that I was comfortable with the idea of a literature review, though it was important to push myself to ensure that I was engaging with the literature at a high level suited to a postgraduate dissertation.

There was limited literature which focused on the virtual shelf browse function and where it did exist it was produced in America and Australia. However, there was plenty of work on physical browsing in libraries, web accessibility and serendipity, all themes I planned to explore with this research.

Research Design

The methodology for this project has changed since my original proposal as it was unfeasible for several reasons. The first being ethics approval as part of my research involved interviewing people with disabilities. The second issue was the feasibility of online focus groups. My original idea was to focus on students in Trinity College Dublin and hold one online focus group for people with disabilities and one for users without disabilities. After I had received approval from DBS to go ahead with my dissertation, I realised that the application for the final ethics committee sitting before summer had passed. I should have investigated and applied for this at the same time as doing my proposal. At the time of my proposal, I had e-mailed the disabilities office asking about the need for ethics approval and had not received a response to that query. Without ethics approval from Trinity, I could not advertise through my proposed channels.

I reached out instead to several other institutions. Dundalk Institute of Technology also required ethical approval, however, I did not receive a response from the ethics committee about this. University College Dublin responded to my request saying that they were too busy to help promote my research as they had many similar requests. However, they said that I did not need ethical approval to advertise informally. As I had received ethical approval from DBS, my details were circulated to students registered with the disability service by the Deputy Librarian who co-ordinates Learner Support. I advertised on Twitter, Facebook and Instagram for participants.
It soon became apparent that there was not enough interest from potential participants to facilitate focus groups. After discussing with my supervisor, I decided to instead interview users with disabilities and use these interviews to inform questionnaires to ask about usability of the library websites in general and the virtual shelf browse function in particular. I advertised informally on Twitter for participants and three participants agreed to be part of the study.

Collecting and Analysing Data

Asking for help from others is something I have always struggled with, something that I identified and reflected on throughout this course particularly in Personal and Professional Development. When attending job interviews, I refrained from asking for help from people who hold similar roles or who work in the organization as I was too afraid of bothering people. For this reason, collecting the data was the toughest challenge of this dissertation research. Reaching out to potential participants, advertising my research and asking for help to find participants was exhausting for me. I was constantly wary of asking too much from others, I spent a lot of time editing and re-reading the survey and e-mails to participants as I was worried about people not taking my work seriously. This slowed the whole process down which was unfortunate as there were already time limitations for this research.

However, the more that I pushed myself to contact others for help, the easier it became. I contacted many people for help throughout this course and particularly throughout the dissertation research – lecturers, co-workers, friends, ex-classmates, as well as people I had never had contact with before. Throughout this course, the importance of networking has been highlighted. In the LIS sector, it is vital to be involved in groups relevant to your particular role so as to get help and support. For example, legal librarians may want to consult with people in similar roles to ensure they are getting a good price for resources when they are negotiating with suppliers. This means that it was vital to learn how to reach out to others politely when asking for help and I feel the dissertation process has allowed me to do this. This will also allow me to more effectively help others when they are in need of support.
Learning Style

In Personal and Professional Development, we completed personal reflection tests to evaluate what type of learners we are. My dominant learning styles are visual and auditory, which means I learn by what I see and hear, rather than by what I do. This could explain why I found the data collection part of this research project so intimidating, as it is not the type of learning that I am comfortable with. My undergraduate dissertation involved researching secondary sources and expanding on those with my own ideas and theories. It involved study, research and critical thought, but it did not involve gathering primary data as with this project.

However, I embarked on this MSc to challenge myself and learn new things. Therefore, this dissertation project has helped me to overcome my discomfort and to accept learning in a different manner. Learning through trial, error and experience is necessary to all work environments. This whole MSc and particularly the dissertation project has involved going outside of my comfort zone. This has made me more confident in my ability to do so, and more prepared to take on a role in the LIS sector.

Personal and Skills Development

When I joined this MSc, I was anxious about the IT related modules. However, I enjoyed these modules and received some of my best grades in these classes. I have certainly expanded my skillset and would enter any new role feeling comfortable working with their website, exploring the user experience. Some of the specific skills I feel I have most improved on are explored in this table.

<table>
<thead>
<tr>
<th>Skill</th>
<th>Relevant Modules</th>
<th>Applying Learning in a Work Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web design &amp; management</td>
<td>Information Technologies &amp; Information Architecture</td>
<td>• In a small library, I could be asked to create and maintain a library website.</td>
</tr>
</tbody>
</table>
| Cataloguing & Classification | Information Organization & Information Architecture | • My understanding of Information Architecture will help me take into consideration user experience and how to correctly tag and store information. | • In my work as a library assistant in a legal library, I was responsible for creating and updating catalogue records for resources.  
• In my upcoming work as a school librarian, I will be responsible for maintaining all the catalogue records. |
| Interview skills | Personal & Professional Development, Management for Information Professionals | • Practising interviews has given me more confidence for job interviews and understanding about what skills to emphasise and how to make a good impression.  
• Management for Information Professionals has helped me to understand the importance of strategy and how best to promote that you are aware of and willing to work to achieve the strategy of a library. |
| Understanding of GDPR | Records Management and Information Rights, Network Resource Management | • Entering the workforce with an understanding of GDPR will help me to be compliant with new |
| Information Literacy Instruction Skills | The Teaching Librarian | • Information skills was very relevant to my role as a library assistant in a legal library as it involved helping trainees and staff with legal research.  
• Teaching IL will be incredibly important in my new role as a school librarian. |
| Time Management Skills | The Dissertation | • My time management skills were tested and honed throughout this entire course, but the dissertation proved to be a huge challenge. As my sister’s wedding was happening the week of the due date, I had always intended to submit a week early and created my initial time plan with this in mind. This was already a tight enough time for a research project, but additional time constraints were added when I accepted a full-time job that would start in August. This required me to change my time plan again to reflect that I would have less time to edit than initially hoped. |

What I Would Change
If I were to embark on this research process all over again, I would make the following changes:

- Apply for ethical approval in Universities or Colleges that used the Virtual Shelf Browse function earlier in the term.
- If I gained ethical approval from a number of these institutions, focus on gaining participants from these institutions only.
- Use observation as part of my research and have users complete tasks using the website and online catalogue and ask them to detail their experiences as they do this. Ensure that some of these users are those who need assistive technology to access the website and online catalogue.
- Complete a focus group or focus groups with users to gather data from them about their experiences and thoughts about the virtual shelf.
References


Appendices

Appendix A – Questionnaire

Perceptions of Academic Library Websites

You are being asked to take part in a research study on academic library websites. This research will ask you specifically about the virtual shelf browse function of the library catalogue. It is not necessary for you to know anything about this before you answer the questions. This research is being carried out as part of a dissertation project for the MSc Information and Library Management in Dublin Business School.

WHAT WILL HAPPEN

In this study, you will be asked to discuss your general experiences using the library website. You will be asked about the virtual shelf browse function – your awareness of it, your experiences of it and your impressions of it. It is not necessary to have any experience or awareness of this function before participating in this study.

TIME COMMITMENT
The study will involve answering this questionnaire which should take no longer than 15 minute.

PARTICIPANTS’ RIGHTS
You may decide to stop being a part of the research study at any time without explanation required from you. You have the right to ask that any data you have supplied to that point be withdrawn / destroyed.

You have the right to omit or refuse to answer or respond to any question that is asked of you.

You have the right to have your questions about the procedures answered (unless answering these questions would interfere with the study’s outcome. A full de-briefing will be given after the study). If you have any questions as a result of reading this information sheet, you can ask me before the study begins. My name is Niamh Gaskin and my e-mail is 10345119@mydbs.ie.

CONFIDENTIALITY/ANONYMITY
The data I collect will be stored on a password protected laptop and backed-up on an encrypted hard drive. It will be available only to myself and my research supervisor. Findings will be presented in my dissertation anonymously.

FOR FURTHER INFORMATION
I or / and Christoph Schmidt-Supprian will be glad to answer your questions about this study at any time. You may contact my supervisor at Christoph.SchmidtSupprian@dbs.ie.

PROJECT SUMMARY:

This project is exploring people’s experiences using online library discovery tools. It aims to discuss the accessibility and usability of academic library websites and the library catalogue. As part of this, it will investigate people’s awareness of the virtual shelf browse function of the library catalogue. The
virtual shelf browse function aims to recreate the experience of browsing in the physical library. This study aims to ask users about their general experiences with the library website, their awareness of the virtual shelf browse function and their impressions of it.

By accepting below, you are agreeing that: (1) you have read and understood the Participant Information, and (2) you are taking part in this research study voluntarily (without coercion). Accept

Perceptions of Academic Library Websites

* Required

Your details

This section will ask about your studies and some demographic questions about you.

Which institution's library website do you use? *

Your answer

What type of user would you describe yourself as? *

- Undergraduate Student
- Postgraduate Student
- Researcher
- Staff
- Other: ____________________________

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What faculty do you belong to?

- School of Arts and Humanities
- School of Business
- School of Engineering and Architecture
- School of Health and Agricultural Sciences
- School of Science
- School of Social Science and Law
- Option 7
- Option 8
- Option 9
- Other:
What type of learner would you describe yourself as? Please tick all that apply.

☐ Visual learner - You learn by seeing and looking

☐ Auditory learner - You learn by hearing and listening

☐ Kinesthetic learner - You learn by touching and doing

☐ I don't know

☐ Prefer not to say

Do you consider yourself to have a disability?

☐ Yes

☐ No

☐ Prefer not to say

Never submit passwords through Google Forms.
Perceptions of Academic Library Websites

Web Accessibility

Do you use assistive technology to access the library website and online catalogue? E.g. screen reader, screen magnification software, speech input etc.

- Yes
- No
- Prefer not to say

If yes, please expand on what you use.

Your answer
Are there features of the library website and online catalogue that interrupt or disrupt your assistive technologies?

- Yes
- No
- I don’t know
- Prefer not to say

If Yes, please tell us about any features that do so here.

Your answer

BACK NEXT

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Perceptions of Academic Library Websites

* Required

Virtual Shelf Browse Tool

This section will ask you about your perceptions of the virtual shelf browse tool. It is not necessary to have any previous knowledge of this function. Several academic library websites in Ireland (including DBS, Trinity, UCD) use this feature. Please watch this video showing the DBS virtual shelf browse tool before answering the next questions. You can use this link to watch in Youtube on full-screen: https://www.youtube.com/watch?v=6NyIgeFR17w

DBS Virtual Shelf Browse

Were you aware of the virtual shelf browse tool before this study? *
Were you aware of the virtual shelf browse tool before this study? *
- Yes
- No
- I don't know

Have you ever used the virtual shelf browse tool before? *
- Yes
- No
- I don't know

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**Perceptions of Academic Library Websites**

### Virtual Shelf Use - Past Experience

This section will ask you about your past experiences of using the Virtual Shelf Browse.

**Did you find the Virtual Shelf Browse tool easy to use?**

- [ ] Yes
- [ ] No
- [ ] I don't know
- [ ] Prefer not to say

**How did you discover the virtual shelf browse function?**

- [ ] A member of the library staff showed it to me
- [ ] A peer showed it to me
- [ ] I discovered it myself
- [ ] Other: 

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Why do you use the Virtual Shelf Browse tool?

Your answer

How much do you agree/disagree with the following statements?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The virtual shelf makes a library catalogue more engaging.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The virtual shelf makes navigating the catalogue easier.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The virtual shelf helps me find things by accident.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Finding things by luck or by accident is an important part of research.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I would like to see library websites feature more formats for presenting information.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Perceptions of Academic Library Websites

Virtual Shelf Use - Without Past Experience

This section will ask you about your perceptions of using the Virtual Shelf Browse.

Would you use the Virtual Shelf Browse tool to find books in the future?

☐ Yes
☐ No
☐ I don't know
☐ Prefer not to say

What would attract you to using the Virtual Shelf Browse in the future?

Your answer

I would like to see library websites feature more formats for presenting information.

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Perceptions of Academic Library Websites

Final Thoughts

Do you have any recommendations for changes or improvements to the library site or catalogue?

Your answer

BACK  SUBMIT

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Appendix B – Web Accessibility Interview Questions

1. When you are looking for a resource or information, where would you go first? (Library website, library in person, Google/search engine)

2. What is your overall experience with using the library website and the online catalogue? Positive/negative/mixed?

3. Do you generally find it easy to use?

4. Have you ever noticed any issues that make the catalogue difficult for you to use?

5. Do you use assistive technology to use the library site and catalogue, e.g. screen reader, speech input software, screen magnification software etc.? If no, you can skip questions 6 & 7.

6. Do you think the library website and catalogue has been designed to facilitate assistive technologies?

7. Are there any features of the site or catalogue that interfere with or disrupt using this technology?

8. Do you usually find what you are looking for using the catalogue?

9. The virtual shelf browse is a tool used by several academic online catalogues. Here is a video that demonstrates using it. https://youtu.be/6NylgeFR17w

   Were you aware of the virtual shelf browse tool before this study? Had you ever used it?

10. Do you use or would you use virtual shelf browsing to find books?

11. Do you think it is/would be helpful?

12. If you do/would use it, why?

13. If you don’t/wouldn’t use it, why not?

14. Do you have accidental discoveries when looking for resources in the library?

15. Do you think that virtual shelf browsing would allow you to find things by luck or accident?
16. Do you have any recommendations for changes or improvements to the library site or catalogue?

Appendix C – System Librarian Interview Questions

1. When did you first implement the virtual shelf browse tool in the library catalogue?
2. Was there a specific reason your institution chose to implement it?
3. Do you have any statistics or metrics for how often the browse shelf function is used?
Appendix D – Tweets Advertising Research

Marie O’Neill
@marie_librarian

I would be very grateful if you could circulate and complete this survey on behalf of @choicelibrarian who is a student on the MSc in Information and Library Management at DBS. Thanks for the support.

Perceptions of Academic Library Websites
You are being asked to take part in a research study on academic library websites. This research will ask you specifically about the virtual shelf browse function of the library catalogue. It is not...

docs.google.com

2:58 PM - 9 Jul 2018 from Dublin City, Ireland

10 Retweets 9 Likes
Are you a student at DBS or UCD registered with the Disability Support Service? I would love to hear your thoughts about the library website & online catalogue for my dissertation research! If you are free & willing to answer some questions, please e-mail me at 10345119@mydbs.ie

9:43 AM · Jun 29, 2018

16 Retweets 5 Likes

Are you a student, member of staff or researcher who uses an academic library website and online catalogue? Please let me know your thoughts on your institution's site for my dissertation research by filling out this questionnaire - thank you!

10:54 AM · Jul 9, 2018

4 Retweets 1 Like
Appendix Fig 1.3 – Researcher Promoting Questionnaire

Niamh Gaskin
@choicelibrarian

Hi @aheadireland Could you please share this with your followers? I'm looking for opinions on accessibility and usability of college library websites. If students could fill out this survey I would really appreciate it.

Perceptions of Academic Library Websites
docs.google.com

1:54 PM · Jul 13, 2018

Appendix Fig 1.4 – Researcher Promoting Questionnaire to AHEAD (Association for Higher Education, Access & Disability)
Help a budding librarian with her academic research - and who knows, maybe make library websites and catalogues easier to use! It's OK if you think we can do better, we won't cry too much when we read her thesis...

twitter.com/choice librarian...